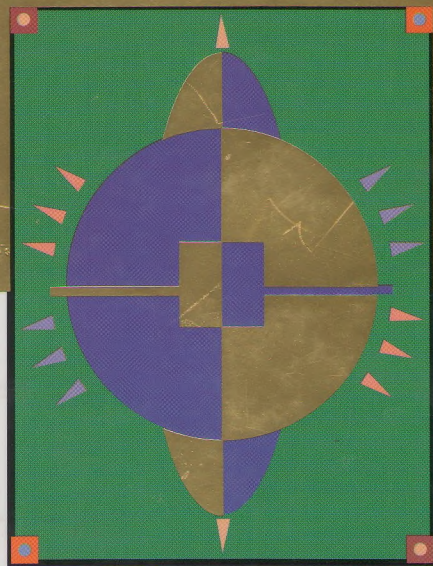


# MANAGEMENT

## QUALITY AND COMPETITIVENESS



JOHN M. IVANCEVICH

■  
PETER LORENZI

■  
STEVEN J. SKINNER

■  
*with*  
PHILIP B. CROSBY

MANAGEMENT  
QUALITY AND COMPETITIVENESS

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## PART OPENER PHOTO CREDITS

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Senior sponsoring editor: *Kurt L. Strand*

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Project editor: *Paula M. Buschman*

Manager, production: *Diane Palmer*

Designer: *Heidi J. Baughman*

Art coordinator: *Mark Malloy*

Art studio: *ElectraGraphics, Inc.*

Photo research coordinator: *Patricia A. Seefelt*

Compositor: *Weimer Graphics, Inc.*

Typeface: *10/12 Times Roman*

Printer: *Von Hoffmann Press*

### Library of Congress Cataloging-in-Publication Data

Ivancevich, John M.

Management : quality and competitiveness / John M. Ivancevich,  
Peter Lorenzi, Steven J. Skinner.

p. cm.

Includes index.

ISBN 0-256-12453-1. — ISBN 0-256-14559-8 (annotated  
instructors' ed.)

1. Decision-making. 2. Management. 3. Quality of products.  
4. Competition. I. Lorenzi, Peter. II. Skinner, Steven J.  
III. Title.

HD30.23.I9 1994

658—dc20

93—30802

*Printed in the United States of America*

3 4 5 6 7 8 9 0 VH 0 9 8 7 6 5 4

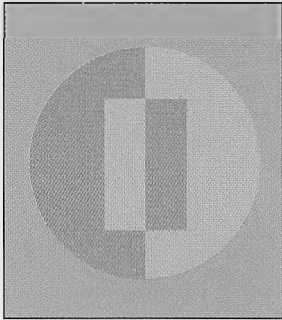
*To Dana Louise, our sun, mountain, and water.*

*To Dena Adrienne Lorenzi, for her love and support. She makes all the late nights on the Mac worthwhile.*

*To Moira, Aaron, and Carrie Skinner, who make it all possible.*

---

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John M. Ivancevich, the Cullen Professor of Management, has spent 19 years at the University of Houston, teaching, conducting research, participating in professional associations, and consulting with many different enterprises in and outside the United States. In his academic career (which includes a B.S. degree from Purdue University and master's and doctor's degrees from the University of Maryland) he has taught management, organizational behavior, and human resource management courses. He has written, coauthored, or coedited over 45 books and published over 130 refereed papers.

During his academic career Dr. Ivancevich has consulted with over 100 firms on such topics as reward system implementation, performance appraisal plans, goal-setting programs, merging divergent organizational cultures, new business start-ups, team building, and leadership training. He's currently involved in a project of presenting free enterprise techniques, knowledge, and tools to management trainees from the Commonwealth of Independent States and Eastern Europe.

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Peter Lorenzi is dean and professor in the College of Business Administration at the University of Central Arkansas. A member of the American Society for Quality Control, the Academy of Management, the Southern Management Association, and the American Assembly of Collegiate Schools of Business, Dr. Lorenzi earned his B.S. and M.B.A. from the State University of New York at Binghamton and his Ph.D. in business administration from The Pennsylvania State University.

Focusing on effective organizational behavior, Dr. Lorenzi has published or presented over 40 academic papers and coauthored *The New Leadership Paradigm: Social Learning and Cognition in Organizations* with Henry P. Sims, Jr. He has taught management development courses and consulted for a variety of regional and Fortune 500 firms. Previous to Central Arkansas, Dr. Lorenzi taught at the University of Kansas and Marquette University. He has had visiting appointments at the University of Wyoming and the University of North Carolina at Chapel Hill. He's currently involved in developing management education programs in southeast Asia, eastern Europe, and Russia and in writing a collegiate primer in total quality management.

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## Steven J. Skinner

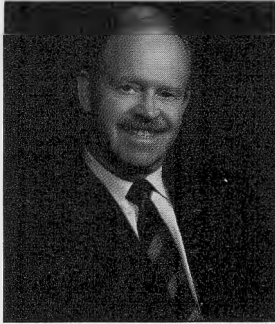
Steven J. Skinner is the Rosenthal Professor in the College of Business and Economics at the University of Kentucky, where he has taught for 13 years. He was previously on the faculty at Illinois State University and was formerly a research administrator for State Farm Insurance Companies. He has also consulted with a variety of large and small firms.

Dr. Skinner is the coauthor of *Business for the 21st Century* (published by Richard D. Irwin) and *The New Banker* (a business trade book published by Irwin Professional Publishing), and author of *Marketing* (a college textbook published by Houghton Mifflin). His research has been published in *Academy of Management Journal*, *Journal of Marketing Research*, *Journal of Retailing*, *Journal of Business Research*, *Public Opinion Quarterly*, and the *Journal of Risk and Insurance*. He is on the editorial review board of the *Journal of Business Research*.

## Philip B. Crosby

Philip B. Crosby began his professional career as a test technician on an assembly line at the Crosley Corporation in Richmond, Indiana. He then became interested in management and in causing quality in an organization. Over the next 27 years he was a reliability engineer at the Bendix Corporation, a quality manager at Martin-Marietta—where he created the zero defects concept—and, for 14 of those years, vice president of ITT Corporation responsible for quality worldwide. Based on this experience, Mr. Crosby developed the concepts and systems that led him to write *Quality Is Free* in 1979. Upon the success of this book, he founded Philip Crosby Associates, Inc. (PCA) in Winter Park, Florida, which became the largest quality management education and consulting firm in the world. In 1985 he made PCA the first consulting firm to go public.

In trying to help managers understand the reality of quality management, Mr. Crosby wrote several other books: *Quality without Tears*, *Running Things*, *The Eternally Successful Organization*, *Leading*, *Let's Talk Quality*, and *Completeness*. In 1991 he retired from PCA and formed Career IV, Inc., to manage his speeches and publications. He has since developed "To Be an Executive, by Choice," a video package to help those who seek successful careers. He now lives in Winter Park, Florida.



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## FOREWORD

by Philip B. Crosby

When I was asked to participate in creating this book I was delighted to accept. I looked at it as an opportunity to reach those who will be managing our world in the 21st century. If those individuals are going to succeed in this challenge, they have to understand how to manage quality as a real part of their professional and personal lives. Most of what comes down as gospel in the teaching of quality is based on conventional wisdom rather than on experience in the real world. But there will not be time to chase fairy dust in the competitive business world we are entering as managers. We have to be certain about what we are doing.

If I've learned nothing else from my 42 years of management experience, I know that an organization's quality (meaning ability to do what it agreed to do) is a direct reflection of the leader's personal integrity and intensity about getting things done properly. The output of a business looks exactly like the attitude of the management. Suppliers, customers, and the general public can read that attitude exactly.

I've also learned that causing quality is a matter of understanding the philosophy behind it, and quality cannot be made to happen by applying some assigned set of rules and regulations. For that reason I have written several books and innumerable articles on the quality philosophy and its application. I also set up the Quality College at Philip Crosby Associates, Inc. (PCA), to teach executives and managers their responsibility to understand quality.

The third thing I've learned is that education and training are what make the difference in companies and, for that matter, individuals. When people understand the requirements of their job and when they know how their job fits into the overall world of their organization, then they can contribute.

All of this happens when managers know that quality is an integral part of the operation, rather than some add-on or a special task done by a little group of people over in the corner. Quality should be taught in college as part of every other subject, not as a separate entity. We need to learn how to do everything right the first time in all fields. We need to learn how to communicate meaningfully with people regardless of the product or service involved. We need to learn how to prevent problems, rather than becoming experts at fixing them, if we want to be thought useful.

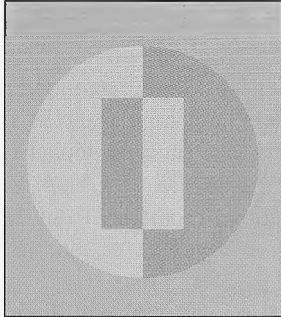
The format chosen for my participation in the book was to read each chapter written by the authors and then write a "reflection" on the subject. I tried to share my experience on each subject through an anecdote or observation. I thought this was the best way to



share with the students. The life of business is mostly relationships and understanding. We learn from those relationships as they grow.

Today many of those who would be business leaders try to pick up pre-packaged components of management thoughts and applications to apply to their organizations, but they are often disappointed in the results. Leaders must deal with ideas and with action. They must develop a personal philosophy of management based on their own experiences as well as the experiences of others. I have tried to help that process of sharing experiences through these reflections. I wish all of you the very best in your careers and your life.

*Philip B. Crosby, Winter Park, Florida*



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## PREFACE

The growing integration of the world economy is causing managers to pay closer attention to human resources, the quality of goods and services, and the need to adapt to change. In the past four decades most firms pursued the “economies of scale” approach to managing organizations. Big corporations, the Fortune 500s, were the preferred way of doing business. As the 1990s move crisply by, however, *big* has become synonymous with inefficient, inflexible, and costly.

Today, *big* has been replaced with concern about competitiveness, globalization, falling trade barriers, computerization, automation, ethical behavior, and total quality management. World interest has shifted to using efficient approaches for managing human resources in all sizes of firms: big, medium, and small. Computers are being used by firms of all sizes. Quality improvements are considered important in a growing number of countries. Examples of ethical behavior are finally beginning to appear in the headlines because customers, clients, and consumers expect managers to treat them honestly, fairly, and with respect. As these changes in managerial practices and marketplace transactions occur, a need to reorient management teaching has become obvious. So management instructional materials must change to keep up with or even to stay ahead of a transforming world.

We believe the job of managing is one of the most exciting, challenging, and personally rewarding positions a person can possibly hold. The manager’s job is critically important because managers make a difference in how our society functions and in the standard of living we enjoy. *Management: Quality and Competitiveness* is about the manager’s job in a changing world. It describes how men and women go about managing so that quality and competitiveness are conveyed as the ultimate goals of managing organizations in any country in the world.

In this text, the student (reader) is considered to be a potential manager. The book’s tone is purposefully positive about the manager’s job. Managerial thinking, practice, and evaluation are themes that are woven into the content, examples, problems, and issues. Managers can’t give “maybe” answers. They usually have to say yes or no and then defend their response. This book attempts to help the reader clearly understand how, why, and when managers make decisions. It will become obvious very early in the book that most managers must carefully diagnose situations, use their abilities, skills, and knowledge to weigh facts and fiction, work with other people, and evaluate the results of their choices every single day. Yes, the job of managing and working with people is difficult. But few careers are as stimulating as that of a manager.

## The Book Concept

During the past three decades business schools have been regarded as educational centers for the development of professional skills for future managers. This important responsibility has placed business educators in the spotlight. Consequently, educators have often been asked whether they're teaching students about what's being talked about by managers, and a number of critics have claimed that what's being taught has little practical relevance. Then in an open letter in the *Harvard Business Review* the leaders of several U.S. corporations reached out and called for a partnership between academia and business in advancing total quality management.

In conceptualizing this book, we listened to the critics, agreed with some of what was being said, and decided that a management book that focuses on relevance, quality, and competitiveness would help students understand the changes taking place in the world around them. Quality and competitiveness are topics that have unusual appeal and interest. Even the nations of Eastern Europe, the People's Republic of China, and the Commonwealth of Independent States understand that, without producing or providing high-quality products and services, they won't be able to compete in the world marketplace.

Instead of simply putting together a text in the traditional way, we decided that the author partnership team should include both academic and quality experts. Since quality was a major part of what we wanted to present, the idea of teaming up with a quality expert became a top priority. We reviewed the quality literature, videos, annual reports, and training materials and talked to publishers, business executives, and training experts. The notion of a text being prepared by an academic/quality expert team appealed to every person who discussed the idea with us.

Our homework and analysis led to the identification of Philip B. Crosby. In our opinion, Phil is America's premier management consultant in the quality area. He has been an executive for 40 years, working for corporations such as Martin-Marietta and ITT. He founded Philip Crosby Associates (PCA) in 1979 and built it into the world's largest management consulting firm. He retired from PCA in 1991 and founded Career IV, Inc., to concentrate on helping executives become better leaders. Phil Crosby had the background, experience, and knowledge to fit our needs for a quality expert. A number of discussions about this text resulted in forming an author team that had real-world experience, teaching experience, dedication to the quality concept, and an interest in providing management knowledge that was current, needed, and relevant. Phil joined our team and has been a guiding light in developing the text. He has become a friend who continually provides straightforward advice. We believe that our unique team, with the able help of our Richard D. Irwin associates, has produced an up-to-date, teachable, and stimulating book. Many management books claim to have a quality theme, elements, or workbook. Their claims may be accurate, but no other management textbook available has America's premier management consultant on quality as part of the author team. Phil Crosby's expertise as an executive, trainer, and consultant makes this a better book.

In this text, the planning, organizing, leading, and control functions are covered with a distinct emphasis on quality and competitiveness issues, problems, and solutions. Contrary to popular belief, we propose that the United States still has a preeminent competitive position in many industries relative to any other nation. In fact, we believe that, in most service industries, American firms have no equals. In part this preeminence is sustained because of how managers do their jobs. It isn't an American birthright to have an advantage in some industries, and there's no guarantee that other nations won't become dominant. Managers in other nations are rapidly catching up to Americans in how they use their skills and knowledge to diagnose situations, to solve problems, to work with other people, and to evaluate their applications. In fact, there are now numerous examples of non-American managers who are more proficient at planning, organizing, leading, and controlling than their American counterparts. Whether the student reading this book is an American or a non-American, he or she will learn that quality and competitiveness

are goals that must become ingrained in the job of managing for organizations to be successful.

Hopefully the book will convince students that traditional thinking about managing within organizations has become obsolete. This book should be a wake-up call that managers must grasp the fact that their job has changed. Quality and competitiveness are no longer luxuries that can be considered after the traditional functions and processes of management are addressed. Quality and competitiveness are the targets that management must hit continually to successfully practice the functions of management.

## Learning Tools

This book attempts to build vocabulary, to improve understanding about the job of management, and to provide applications that illustrate the manager's involvement with other people both inside and outside the organization.

Each chapter is filled with real-world examples and elements to make the reading and learning more enjoyable and more interactive. Thus the student is encouraged to become involved with the chapter content and the elements. In keeping with the spirit of the text, the chapter elements will place in the forefront quality and competitiveness, the global nature of management, the work force's increasing diversity, the ethical context of managing, the relevance of managing effectively in any society, and the role managing will play in the 21st century.

The emphasis on student learning starts with the specific learning objectives that open each chapter. The learning objectives are followed by the various elements listed below, which are designed to reinforce learning and provide real-world applications.

**Opening Quality Issue** Each chapter begins with a real-world story that relates to quality. These vignettes are intended to help students pause and focus on matters that managers constantly have to think about. There are no specific answers provided—only thoughts and dilemmas. A few of the opening quality issues are:

- White-Collar Quality at Campbell's U.S.A.
- The Organization of Tomorrow
- Flexible Manufacturing—The Next Frontier

**Global Exchange** In each chapter the *Global Exchange* highlights a global situation, issue, problem, or decision faced by managers. Examples include:

- Will Artificial Intelligence Give Japan a Competitive Edge?
- Global Network Organizations
- Entrepreneurs Around the World

**Ethics Spotlight** Managers constantly face ethical dilemmas and situations. Ethical standards can be established by an organization, but ethical behaviors are exerted by people. The differences in how people face or see a situation are important to consider when evaluating how well a manager performs. A few of the *Ethics Spotlights* are:

- Are Layoffs Necessary?
- Danger for Sale
- Are Computers Invading Our Privacy?

**Reflections by Philip B. Crosby** Each chapter includes a brief experience or story written by Philip B. Crosby expressly for this textbook. Phil Crosby has consulted with hundreds of firms, worked as a quality vice president, and trained thousands of individuals. The Reflections element provides the reader with Phil Crosby's no-nonsense, straightforward viewpoints. His relevant, real-world-anchored, stimulating discussions

bring the quality and competitiveness theme to life. As the Reflections will illustrate, Phil Crosby insists that quality has to be woven into the very fabric of the operation. He firmly believes that a firm's management cadre can make quality the core of the firm or they can cause the absolute failure of any work and effort to instill quality. As you read the Reflections, think carefully about what Phil Crosby is encouraging future managers to do in terms of quality.

**Quality Benchmarks** Discussions and analyses of quality often include numbers, statistical formats, bar charts, graphs, lists, and brief stories. The Quality Benchmarks will present the like in a brief manner. These are intended to simply raise a thought-provoking issue that's relevant to the chapter material.

**Summary of Learning Objectives** These summaries provide clear, concise views of the learning objectives, giving students a quick reference point for reviewing the major concepts included in the chapter.

**Review, Discussion, and Application Questions** These questions are also keyed to the learning objectives. Students can test themselves in terms of their recall and understanding of the chapter concepts, as well as their ability to apply them in realistic situations.

**Cases** There are two cases in each chapter. One case involves an American firm and setting. The other case involves either a foreign firm or an American firm in a global setting. The cases, like the chapters, deal with dilemmas managers face. There are no "canned" or "right" answers for any of the questions. Instead the cases are intended to help students probe, diagnose, and creatively face dilemmas and problems. Cases include:

- Russian Workers and American Managers
- KFC's Recipe for Global Success
- The Mirage Hotel: A Human Resource Volcano
- Carnival Cruise Lines
- Volkswagen: A Return to Proven Methods.

**Application Exercise** Each chapter includes an *Application Exercise*. These student involvement exercises should increase student self-assessment, self-learning, and team interaction. Each exercise relates to a topic in the chapter. Samples include:

- Rokeach Value Survey
- Starting a Quality Circle
- Evaluating Your Skills to Start and Operate a Business

**Key Terms** Throughout the chapters, glossary entries appear in the margin. These highlight key terms and are part of the vocabulary-building objective. A list of key terms with page references appears at the end of each chapter. A complete glossary is included at the end of the book.

**Supplements** The value of supplements to improve understanding and learning is a major concern of the author team. Thus developing a stimulating, integrative, and user-friendly supplement package was a top priority. As experienced authors and teachers of management, we know how instructors and students benefit from a well-integrated supplement package. Each part of the package was developed with the student and instructor in mind.

## Annotated Instructor's Edition

Prepared by Michael P. Dumler of Illinois State University and Jon Kalinowski of Mankato State University.

The Annotated Instructor's Edition (AIE) reproduces the student text and provides special notes for the instructor in the margin for each chapter. Thus instructors can use the AIE as the basis for their classroom lectures. The following types of annotations appear in each chapter:

- Discussion questions for the Ethics Spotlight and Global Exchange features.
- Real-world examples which allow the instructor to expand on concepts discussed in the text.
- References to color acetates and transparency masters.

## Instructor's Manual

Prepared by Michael P. Dumler of Illinois State University and Jon Kalinowski of Mankato State University.

The perfect companion to the AIE, the Instructor's Manual contains a lecture outline for each chapter as well as answer keys and support materials for all questions, cases, and exercises in the student text. A supplemental case is also provided for each chapter.

## Test Bank

Prepared by George J. Foegen, Metropolitan State College of Denver.

The test bank contains approximately 2,500 true/false, multiple choice, scenario, and essay questions. Each question carries a text page reference and is classified according to level of difficulty.

## Computerized Testing Software

The most recent version of Irwin's test-generation software, this program includes advanced features such as allowing the instructor to add and edit questions on-line, save and reload tests, create up to 99 versions of each test, attach graphics to questions, import and export ASCII files, and select questions based on type, level of difficulty, or key word. The program allows password protection of saved test and question databases, and is networkable. This software will be available for use on IBM, IBM compatibles, and Macintosh computers.

## Videos

A set of ethics videos, created by Arthur Anderson and Company, and a set of quality videos, created by Philip Crosby Associates, Inc., will be available exclusively to adopters of this text. These sets include one ethics and one quality video per part. Numerous additional videos will be available to complement individual text chapters.

## Video Guide

This helpful resource provides a video case and discussion questions for each of the ethics and quality videos, as well as teaching notes for all of the videos accompanying the text.

## Color Acetates and Transparency Masters

Prepared by Tom Duening of the University of Houston.

Transparencies will help the instructor liven up lecture presentations with full-color graphics that reinforce and extend management concepts. The color acetates consist of original materials as well as many of the key figures from the text. In addition, all other text figures and many key tables are reproduced as transparency masters.

## Study Guide

Prepared by Kenneth R. Tillery of Middle Tennessee State University.

The study guide provides a variety of learning tools including chapter overviews, key terms, chapter outlines, and study questions with answer keys. Students who use the study guide will be well prepared for class discussions and exams.

## Irwin Management Skill-Building Exercises

Prepared by Laird Meliea.

This experiential exercise book will give students the opportunity to actually practice the management skills they learn about in the text. An exercise is available to complement every textbook chapter.

## Acknowledgments

Excellent books and supplements don't simply happen. It takes a lot of hard work by the authors, publisher, and reviewers to produce a quality product. The authors had a concept, and Richard D. Irwin, Inc., managers had the confidence to review, help modify, and produce the book. We want to personally thank a number of Irwin partners on this project. Kurt Strand helped steer the entire course. Kurt had faith, interest, patience, and confidence in producing a book that could make a difference in what's taught in a management course. John Black, Bill Setten, and Jeff Sund offered encouragement and ideas. They asked for a top-quality manuscript, supplement package, and presentation.

One Irwin partner stands out as a beacon light showing the way as she removed obstacles and insisted on a package that can make a difference. Laura Hurst Spell was invaluable in guiding this book from its inception to its use in classrooms.

One final thank you is extended to Jeff Cunningham, Publisher, *Forbes* magazine, who expressed interest in the original idea. He also helped us make contact with Phil Crosby.

Our expression of thanks for all the help, suggestions, and reviews includes many people. Reviewers of various drafts and parts of the manuscript included:

Eileen K. Aranda  
*University of Phoenix*

Jeffrey J. Bailey  
*University of Idaho*

Gina Wilson Beckles  
*Bethune-Cookman College*

William H. Bommer  
*Indiana University*

Monica E. Breidenbach  
*De Vry Institute of Technology*

Jeanne G. Buckeye  
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*De Anza College*

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Sue Stewart-Belle  
*Illinois State University*

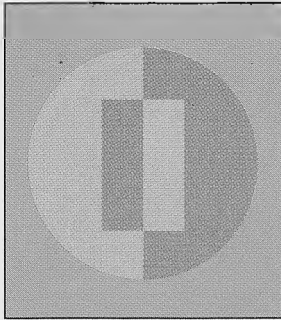
Ron Stone  
*George Mason University*  
Kathleen M. Sutcliffe  
*University of Minnesota*  
Kenneth R. Tillery  
*Middle Tennessee State University*  
Chiang Wang  
*California State University, Sacramento*  
Philip A. Weatherford  
*Embry Riddle Aeronautical University*  
Alexander H. Wittig  
*North Metro Technical Institute*

A special thanks to Tom Duening and Mike Dumler, who made many contributions to the manuscript.

We also would like to thank our assistants, each of whom put up with pressing requests, telephone and FAX messages by the hundreds, mailing schedules, and, at times, specific deadlines. Thank you, Jacque Franco (University of Houston), Ginger Roberts (University of Houston), Ernestine Barnes (University of Kentucky), and Jan Bartley (University of Central Arkansas).

Unfortunately any list of acknowledgments is usually incomplete and inadequate. We hope that everyone who helped or contributed to this book knows that his or her efforts are appreciated. The authors, as with any book, are responsible for not only acknowledgment oversights, but also for any errors in the text. We hope, however, that the concept of zero defects, which Phil Crosby introduced years ago, is reflected throughout the book.



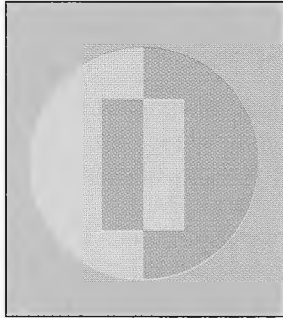


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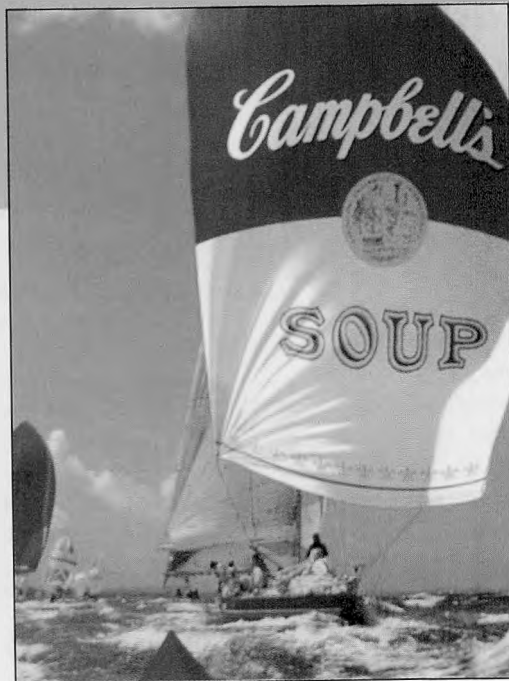
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PART

I

# MANAGING AND THE ENVIRONMENT



CHAPTER 1

The Management Challenge

CHAPTER 2

The Evolution of Management

CHAPTER 3

Environment, Social Responsibility, and Ethics

CHAPTER 4

The Global Management Environment



## CHAPTER

# 1

# THE MANAGEMENT CHALLENGE

*After studying this chapter, you should be able to:*

Define the terms *management*, *competitiveness*, and *quality*.

Explain why a quality focus has become imperative in a globalizing world.

Identify what are called the traditional functions of management.

Describe how competitiveness (at the national level) is impacted by the quality of products produced in a country.

Explain the types of skills that managers need to achieve their goals.

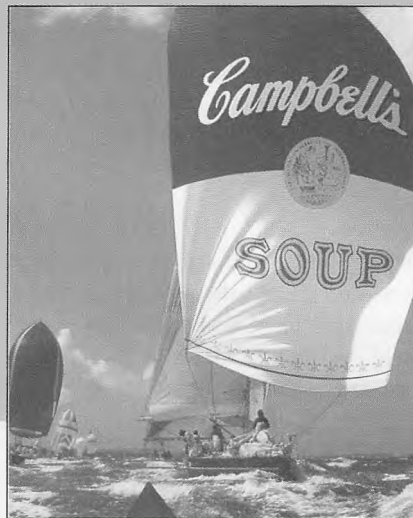
List the types of managers within organizations.

Discuss the suggestion that management's traditional methods must be changed.

Define *zero defects* and tell at what stage of organizational maturity this concept becomes part of a firm's culture.

## WHITE-COLLAR QUALITY AT CAMPBELL'S U.S.A.

Rather than simply continuing to offer their well-intended and wholehearted support of the quality process, top executives are expected to get their hands dirty and put the quality process to work among their own staffs. The latest phase of Campbell's U.S.A.'s quality campaign focuses on administrative or white-collar functions. ■ This phase is called "Quality Proud." Since 1869, when the soup maker was founded by Joseph Campbell and Abram Anderson, quality has been an integral part of its management's corporate vision. In the late 1970s, the company's head of international operations met with quality expert W. Edwards Deming. Shortly thereafter, the firm's first quality circle was formed in Salisbury, Maryland. This first attempt at quality programming was to explore innovative methods of channeling employees' energies, creativity, pride, and professional aspirations. ■ By 1985, Campbell's focus had shifted from pure production to customer satisfaction. It instituted a program called TRIAD, a close-to-the-customer organization structure that localized sales, marketing, and processing operations. At the same time, the company moved to a quality assurance process that eventually involved 600 employee quality circles and 750 quality assurance teams. In 1988 the quality concept was extended to a select supplier program that now involves all company suppliers. By forging new rela-



Courtesy of Campbell Soup Company.

tionships between Campbell's and its suppliers, the program assured the company of the highest levels of quality and delivery standards in the industry. ■ These quality innovations set the stage for the company's latest Quality Proud program. Quality Proud was developed to overcome the perception that the industry's quality efforts were uninspiring at best. In addition, the program aims to ensure that Campbell's quality efforts are strong and will continue. As many companies have discovered, it's often hard to maintain new quality programs, especially during tough economic times. Joshua Hammond of the American Quality Foundation notes that American workers generally are reticent to speak up as many quality

programs require. He says that Americans prefer to jump into projects without much prior planning—the opposite of the quality approach and the Shewart cycle of plan, do, check, act. ■ Campbell's circumvented the problem of motivation by heavily involving senior management. Initially senior management met to discuss Quality Proud's corporate and competitive implications. Managers were encouraged to begin viewing their responsibilities and careers and to expand their knowledge and skills across disciplines and functional areas. ■ One fundamental premise of Quality Proud is that the basic tenets of quality and statistical process control are as applicable to administrative and support functions as they are to manufacturing and operational functions. The program also places quality on the minds of everyone in the firm and bases merit pay and raises on measurable progress. For example, 25 percent of each manager's bonus is determined by whether pre-established quality goals and business plans have been attained. ■ Quality Proud ultimately is based in the history of the Campbell's organization and on the belief that to offer the consumer less than total system quality is less than ethical. At Campbell's, Quality Proud brings the ethical beliefs implicit in the corporate culture to bear on every task performed and every service rendered. Quality ties responsibility to actions, not just to policies.

The Campbell's example sets up the quality concept as a centerpiece for this chapter and the remainder of this book. Managers have historically played a significant role in Western organizations and must now be at the forefront in Eastern Europe and other developing countries. A nation's economic strength is tied to managers' talents, knowledge, and understanding. The exact mix of needed talent is changing. This chapter blends the traditional thinking about management with a new, needed emphasis on quality and competitiveness. The study and practice of management have moved beyond simply presenting the principles of planning, organizing, controlling, and leading. It now focuses on understanding and coping with competition and the demands for better-quality products and services. This change in emphasis to global competition and quality is highlighted in this chapter and throughout the book.

Here's a little story to help us begin. On an aircraft carrier on the high seas, a little blip suddenly appeared in the radar screen. The admiral on the carrier instructed the radio operator, "Tell that ship to change its course 15 degrees." A message came back on the radio. "You change your course 15 degrees." The admiral said, "Tell that ship that we are the United States Navy and to change its course 15 degrees." Again the message came back, "You change your course 15 degrees." Now flustered, the admiral himself got on the radio and said, "I am an admiral in the U.S. Navy. Change your course 15 degrees." The word came back, "You change your course 15 degrees—I am a lighthouse."

This parable reflects the views presented throughout this text. We believe that managers in the United States—once the undisputed power of the high seas of economic competition—must shift their course. Organizations, management practices, and management education must all be changed to meet the challenges of our increasingly globalized world. A new pattern of transacting business, operating organizations, and servicing customers has emerged throughout the world. U.S. managers must learn new skills, adapt traditional techniques, and become much more flexible to cope with competition from other nations and foreign managers. To be competitive, American institutions must become revitalized and committed to quality.

Rather than focusing on U.S. problems such as soaring national debt, crime, and legal and health care costs, not to mention a deteriorating infrastructure, we'll focus on management. These significant problems all require management and leadership, but they aren't the focus of this book. The United States today is still the country the rest of the world emulates. By most measures, the past 50 years have shown solid economic achievement for the United States in total growth, industrial production, job creation, and increase in personal income. But this achievement has slowed down in the past 10 years. Japan, Germany, and a handful of other nations have competed effectively with the United States. In the past 50 years, the militarily vanquished (Japan and Germany) and economically weak (South Korea, Taiwan, Hong Kong, and Singapore) have become economic powers.

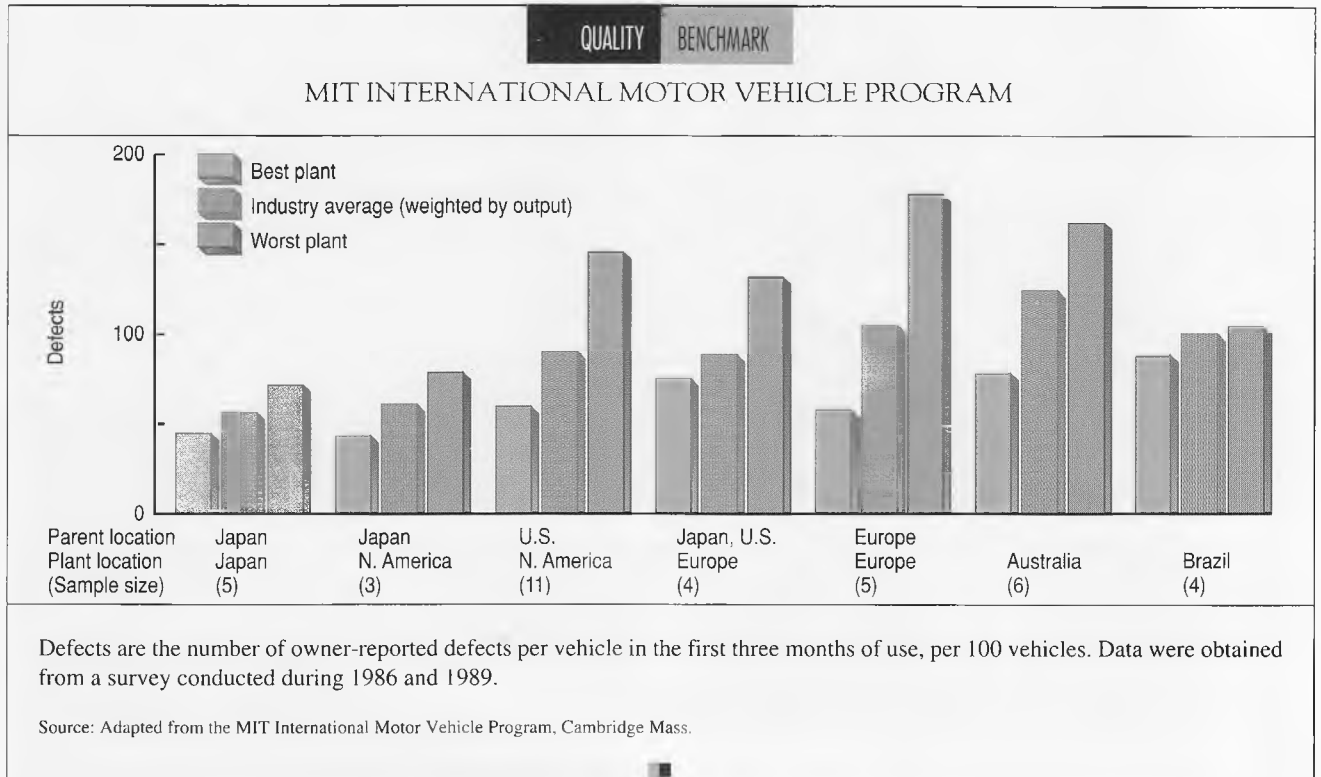
## ■ COMPETITIVENESS

Japan and Germany's emergence as major economic powers has led to much discussion of competitiveness. Can the United States compete effectively with these new powers? First, let's define national **competitiveness** as

*the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its citizens.<sup>1</sup>*

Then we can alter this national definition to fit an individual organization such as IBM, Nike, The Limited, or General Electric by inserting the company's name for *nation* and the words *employees and owners* for *citizens*. Our new, company-specific definition of competitiveness converts the focus to the factory, office, or shop. How effectively can workers produce a car? Can they produce a high-quality product with the resources on

The degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its citizens.



hand? Is one firm's service better than service from the business across the street or across the ocean?

Since World War II the world has been shrinking. Transportation systems have speeded up. Telecommunications advances have linked all parts of the world electronically. National companies serving domestic markets have accepted the reality of a global marketplace. Global interconnectedness is the result of the shrinking world.

Two significant events have set the stage for the rest of the 1990s and our entry into the 21st century. First, due to growing foreign competition, *quality* became a major competitive approach. Excellent products and services became the standard established in Japan as well as Singapore, Germany, and France. Table 1-1 illustrates eight high-technology product categories where quality is driven by global competition. U.S. performance in these industries depends on products' quality.

The Soviet Union and Eastern Europe's collapse in the early 1990s is the second significant event. Their political and social collapse uncovered poor-quality products and services and environmental degradation. The Commonwealth of Independent States and other Eastern European countries must address the quality factor if they are ever to become world-class competitors.

Chapter 21 details the link between quality and competitiveness in terms of technology and innovation. Quality's importance in a rapidly globalizing world appears throughout the book. Whether to improve quality is no longer an option for firms that want to remain competitive. The only option is how to properly manage the shift to quality so that opportunities to remain competitive are taken in a timely fashion.

To be globally competitive, managers must be aware of competition, allocate time and attention to quality, and maintain an organizational environment conducive to innovation. In the United States, Japan, Germany, and elsewhere, competition is maintained via sound management with an emphasis on quality. It is not enough to think in terms of only applying management principles. Competition is now so intense that it stimulates a more aggressive approach to managing employees and improving quality. Unfortunately,

TABLE 1-1  
Percentage Share of Global Exports, High-Technology Products, 1980, 1989

		Microelectronics		Computers		Telecommunications		Aerospace	
Ranking	1980	1989	1980	1989	1980	1989	1980	1989	
1	United States (18.3)	Japan (22.1)	United States (38.6)	United States (24.0)	West Germany (16.7)	Japan (29.7)	United States (47.6)	United States (45.8)	
2	Japan (13.2)	United States (21.9)	West Germany (11.5)	Japan (17.5)	Sweden (15.3)	West Germany (9.5)	United Kingdom (19.7)	West Germany (12.5)	
3	Singapore (10.1)	Malaysia (8.9)	United Kingdom (10.4)	United Kingdom (9.0)	United States (10.9)	United States (8.8)	West Germany (9.1)	United Kingdom (10.9)	
4	Malaysia (8.9)	South Korea (7.4)	France (8.6)	West Germany (6.9)	Japan (10.3)	Sweden (8.1)	France (6.0)	France (10.2)	
5	West Germany (8.4)	West Germany (5.8)	Italy (6.6)	Taiwan (5.8)	Netherlands (9.3)	Hong Kong (6.3)	Canada (4.4)	Canada (4.4)	
		Machine Tools and Robotics		Scientific/Precision		Medicine and Biologicals		Organic Chemicals	
Ranking	1980	1989	1980	1989	1980	1989	1980	1989	
1	West Germany (25.8)	Japan (23.8)	United States (28.3)	United States (25.2)	West Germany (16.7)	West Germany (15.6)	West Germany (19.1)	West Germany (17.0)	
2	United States (14.1)	West Germany (20.8)	West Germany (18.1)	West Germany (18.5)	Switzerland (12.5)	Switzerland (12.2)	United States (13.9)	United States (15.5)	
3	Japan (11.3)	United States (12.1)	United Kingdom (9.4)	Japan (12.9)	United Kingdom (12.0)	United States (12.2)	Netherlands (10.9)	France (8.7)	
4	Switzerland (9.1)	Italy (10.0)	France (8.0)	United Kingdom (9.6)	France (11.9)	United Kingdom (11.8)	France (10.7)	Netherlands (8.1)	
5	Italy (8.7)	Switzerland (8.4)	Japan (7.1)	France (5.6)	United States (11.4)	France (10.3)	United Kingdom (8.4)	United Kingdom (7.2)	

Source: U.S. Central Intelligence Agency, *Handbook of Economic Statistics*, 1990, CPAS 90-10001 (Washington, D.C.: U.S. Government Printing Office, 1990), p. 162.

rising competition can result in unethical behavior. The Ethics Spotlight illustrates this danger. Managers must learn how to compete ethically with domestic and foreign firms.

## Competitiveness and Ethics

Ethics and competitiveness are inseparable. No society can compete globally while its people are stealing from each other, with every squabble ending in litigation or with threats that the end of our way of living is close at hand. Some Americans have turned the competitiveness issue into a litmus test of economic loyalty, by urging us to “buy American.” The United States is the bastion of democracy, free enterprise, and confidence. When we’re told to buy American, is it an ethical imperative, a moral obligation, or a patriotic assignment?<sup>2</sup>

Technological prowess is no longer synonymous with good old Yankee know-how. But America remains one of the world’s most innovative countries, as seen from its success in many high-tech businesses from satellites to software. The United States spends more on science than any other country; its scientists publish more scientific papers than the European Community and Japan combined.

So why is there a call to buy American? Are Americans making these calls knowledgeable about global economy? What is an American product? Secretary of Labor Robert B. Reich believes that almost any product weighing more than 10 pounds and costing more than \$10 is a global composite, combining parts or services from many different

## ETHICS SPOTLIGHT

## THE INTELLIGENCE-GATHERING CHOICE

Competition has created combative adversaries in many industries. No-holds-barred competition for human resources, ideas, innovations, data, and market information has led to a host of illegal behavior and unethical procedures to gain an upper hand. Beating “them” (e.g., a competitor, the Japanese, the government, the Internal Revenue Service) is an obsession in some organizations.

It came as a shock to a large U.S. manufacturer of medical supplies when a Japanese competitor, Kokoku Rubber Industry, was boosting output at a new plant in Kentucky. The U.S. firm had to cut prices drastically as it struggled to survive. Kokoku had gathered information (intelligence) for years from legal sources (newspapers) about its U.S. competitor. Kokoku used information gathering to gain an edge and beat the competition.

Intelligence involves gathering information about competitors and customers. It ranges Kokoku’s methods (reading, filing, and analyzing published reports and data) to illegal spying. The heat of competition unfortunately has spawned more and more illegal and unethical intelligence gathering.

Companies have been known to sift through competitors’ garbage to find information. Others have instructed executives (using disguised names or positions) to take competitors’ plant tours just to acquire information. Kellogg has stopped granting plant tours because competitors were observing and collecting information on manufacturing technology.

Is intelligence gathering necessary? Most firms would state that gathering intelligence in a legal manner is part of management’s fiduciary responsibility to its employees, shareholders, and customers.

Ethical methods of intelligence gathering include review of public documents, financial report analysis, legitimate employment interviews with people who worked for a competitor, attending trade fairs, market surveys, and analyzing competitors’ products and service.

Unethical intelligence gathering has taken many routes: bribery, planting spies in a competitor’s business, wire tapping, theft, blackmail, and extortion. Cordis Corporation, a Miami-based heart pacemaker manufacturer, introduced a superior product. Sales, however, worsened. Cordis management was baffled by the lack of positive response to its superior product, but found that competitors were offering physicians cars, boats, and trips to use their pacemakers. Cordis responded by increasing educational support for doctors, by adding salespeople so that more time could be spent explaining the product to physicians, and by giving doctors additional medical equipment if they purchased the pacemakers. This dramatically increased sales. Cordis took the high road and responded to unethical behavior with a set of steps that by most standards were ethical.

Intelligence gathering is now part of competition. But will the methods be ethical or unethical? Each person making a decision on how to conduct intelligence gathering must answer this question.

Source: Adapted from Richard S. Teitelbaum, “The New Race for Intelligence,” *Forbes*, November 2, 1992, pp. 104–7; and Patrick E. Murphy and Gene R. Lacznack, “Emerging Ethical Issues Facing Marketing Researchers,” *Marketing Research*, June 1992, pp. 6–11.

nations. Today talking about buying American is a deceptive statement. If you want to buy American, you can’t drive a Chevrolet Lumina sedan (assembled in Canada), eat at Burger King (British-owned), or watch a Columbia Pictures movie (Japanese-owned). A Chrysler Eagle Summit made at Mitsubishi’s Diamond-Star Motors plant in Normal, Illinois, contains 52 percent U.S. parts, while a Toyota Camry made in Georgetown, Kentucky, has 74 percent American parts. What constitutes an American part? The question can become ridiculous. Is it where the ore was mined or where the steel was forged?

The buy American argument is hard to resolve. Making it a patriotic issue seems far-fetched in a rapidly globalizing world. “Which is better,” Reich asks, “a product involving 100 workers, 80 of whom are in Singapore making \$100 a month or 20 of whom are in Tennessee making \$500 a week?” Or a product in which 80 jobs are in the United States paying minimum wages or 20 in Japan involving high-tech research and development paying good wages? Location means jobs and standard of living.

## Quality Standards and the Baldrige Award

Managing effectively is important in achieving or sustaining competitive advantages. Certainly a host of national problems need to be solved to make the United States more competitive globally. However management and managers also must ethically address competition among firms. Quality appears to be a competitive standard that managers



need to continuously address. With the support of American industry, in 1988 Congress established the Malcolm Baldrige National Quality Award. This award stresses that American managers need to pay more attention to the quality of products and services that their enterprises sell or provide. (See this chapter's appendix.) U.S. companies that excel in quality achievement and quality management receive the award. Past winners include Globe Metallurgical Inc., IBM Rochester, Federal Express, and Milliken Co.

Congressman Don Fuqua (D-Florida) first introduced a bill to establish a national quality award in 1986. This later became the Baldrige Award, whose purpose is to stimulate American business, government, and other organizations to attain excellence through improved and superior quality. The award was named after Secretary of Commerce Malcolm Baldrige, who constantly wanted to improve the U.S. competitive position in the world.

*Malcolm Baldrige was nominated as secretary of commerce by President Ronald Reagan on December 11, 1980, and confirmed by the United States Senate on January 22, 1981.*

*During his tenure, Baldrige played a major role in developing and carrying out administration trade policy. He took the lead in resolving difficulties in technology transfers with China and India. Baldrige held the first cabinet-level talks with the Soviet Union in seven years, which paved the way for increased access by U.S. firms to the Soviet market. He was highly regarded by the world's preeminent leaders.*

*Leading the administration's effort to pass the Export Trading Company Act of 1982, Baldrige was named by the president to chair a cabinet-level trade strike force to search out unfair trading practices and recommend ways to end those practices. He was the leader in the reform of the nation's antitrust laws.*

*Baldrige's award-winning managerial excellence contributed to long-term improvement in the economy and the efficiency and effectiveness of government. Within the Commerce Department, Baldrige reduced the budget by more than 30 percent and administrative personnel by 25 percent.*

*Baldrige worked during his boyhood as a ranch hand and earned several awards as a professional team roper on the rodeo circuit. He was Professional Rodeo Man of the Year in 1980 and was installed in the National Cowboy Hall of Fame in Oklahoma City in 1984.*

*Malcolm Baldrige died July 25, 1987, in a rodeo accident in California. His service as secretary of commerce was one of the longest in history. He was possibly the most colorful secretary of commerce and one of the most beloved.<sup>3</sup>*

The Baldrige Award is only a few years old, yet it has stimulated debate over its impact on organizational practices and customer satisfaction.<sup>4</sup> The award was designated (1) to raise enterprise leaders' consciousness level regarding quality and (2) to provide a comprehensive framework for measuring businesses' quality efforts. On both counts, the Baldrige Award has been exceptionally good. Yet some critics urge expanding the judging criteria to include innovation, financial performance, ethics, and environmental management.<sup>5</sup>

As with any new award or change, there are going to be critics. It's generally agreed, however, that the Baldrige Award has focused more attention on quality among business leaders, government officials, academics, and administrators in nonprofit organizations. The award's criteria have influenced American management's 21st-century agenda like no other quality idea, technique, or program.

## ISO 9000

ISO 9000 is a quality guideline established by the International Organization for Standardization (ISO). The European Community has set formal quality standards such as ISO 9000 as a baseline for designing products and receiving certification that products meet these quality standards. These standards indicate whether manufacturing plants and service organizations implement and document sound quality procedures.

Fifty trading countries, including the United States, now use ISO 9000. It's expected that certification based on these international quality standards will eventually become mandatory for most manufacturers seeking global markets. Companies that don't adopt



Source: U.S. Navy Blue Angels.

U.S. manufacturers making products for the Federal Aviation Administration will now have to meet the European Community's ISO 9000 quality standards.

the ISO 9000 standards risk their ability to trade with foreign partners. Manufacturers in the United States making products for the National Aeronautics and Space Administration, Department of Defense, Federal Aviation Administration, and Food and Drug Administration must meet ISO 9000 standards, discussed further in Chapter 17.

Awards and standards are excellent as stimuli, but it's managers and workers who create competitive, high-quality products and services. The United States must compete through its human resources, technology, and innovations. If we had to choose which is more crucial, the answer would be human resources—the managers and workers in organizations.

## ■ MANAGEMENT AND MANAGERS DEFINED

### organization

An administrative and functional structure that can be as small as a one-person operation or as large as over 1 million employees.

### managers

The individuals who guide, direct, or oversee the work and performance of other individuals or nonmanagers.

The three dominant world economies—the United States, Japan, and Germany—are propelled by organizations operated by managers. An **organization** can be a one-person operation or have over 700,000 employees, like General Motors. The urban industrial economy that emerged in the United States in this century relied on extensive investments in both machine and human capital. **Managers** helped to plan, organize, lead, and control the organizations that led to the urban industrial economy. Today they direct or oversee the work and performance of other individuals, nonmanagers.

**Management as a Process** Have you ever said, “This is a poorly managed firm,” “Management is totally incompetent,” or “Management is really on top of everything”? If so, what did your statements mean? They imply that (1) management is some type of work and (2) sometimes the activities are performed quite well and sometimes not so well.

Management is a *process* involving certain functions and work activities that managers must perform to achieve an enterprise's goals. Managers use principles in managing that guide them in this process.

**Management as a Discipline** Designating management as a discipline implies that it's an accumulated body of knowledge that can be learned by study. Thus management

is a subject with principles, concepts, and theories. We study management to understand these principles, concepts, and theories and to learn how to apply them in the process of managing.

**Management as People** Whether you say, “That company has an entirely new management team” or “She’s the best manager I’ve ever worked for,” you’re referring to the people who guide, direct, and thus manage organizations. The word *management* used in this manner refers to the people (*managers*) who engage in the process of management. Managers are the people primarily responsible for seeing that work gets done in an organization.

The perspective of management as people has another meaning. It refers to and emphasizes the importance of the workers whom managers work with and manage in accomplishing an organization’s objectives. People are an organization’s lifeblood. Without people, there’s no such thing as a profitable firm or a successful new product launch.

**Management as a Career** “Joe Cardenas is on the fast track in our quality improvement division. He has held three management positions and is now, after 10 years, being promoted to the vice president level.” Joe has moved through a sequence of jobs on a career path. He has a management career.

The different meanings and interpretation of the term *management* can be related as follows: *People* who wish to have a *career* as a manager must study the *discipline* of management as a means toward practicing the *process* of management. Thus, we define **management** as the process undertaken by one or more persons to coordinate the work activities of other persons to achieve high-*quality* results not attainable by any one person acting alone.

#### management

The process undertaken by one or more persons to coordinate other persons' activities to achieve high-quality results not attainable by any one person acting alone.

## ■ QUALITY

The definition of management includes the term *quality*. The quality concept will be at the core of this entire book. A Gallup survey of top executives showed that they viewed improving product and service quality as the most critical challenge facing companies.<sup>6</sup> These executives ranked quality improvement ahead of such issues as product liability, government regulations, and labor relations. Quality is now viewed as a major weapon in restoring and improving the United States’ global competitive position. But note that *quality* is a globally accepted term and practice. The Global Exchange on page 12 points out the international flavor of the original quality pioneers.

The word *quality* seems to trigger a multitude of definitions, so selecting a single definition is difficult. Table 1–2 presents an array of definitions, each of which is concise and meaningful. There seems to be no single correct or best definition. Each firm needs to develop its own company-specific definition. For the purpose of this text, we will use the following definition: **Quality** is the totality of features and characteristics of a product or service that bear on the ability to satisfy stated or implied needs.<sup>7</sup> This definition suggests that quality must conform to requirements to satisfy the needs of users or anyone in contact with the product or service.

### Eight Dimensions of Quality

Author and Harvard professor David A. Garvin developed a meaningful conceptual view of quality.<sup>8</sup> He suggested that a product or service’s quality is composed of the eight dimensions in Table 1–3.

Garvin’s eight dimensions broaden the perspective of the quality concept. Customers, managers, engineers, line operators, and clerks at every level of an organization’s hierarchy must be involved in enhancing and managing quality. As renowned quality expert W. Edwards Deming explains top managers’ role in improving quality,

#### quality

The totality of features and characteristics of a product or service that bear on the ability to satisfy stated or implied needs.

TABLE 1-2  
Definitions of Quality

Definitions of quality are personal and idiosyncratic. These concise, clear, and meaningful definitions are arranged by category of focus.

**1. Manufacturing-based**

"Quality [means] conformance to requirements."

*Philip B. Crosby*

"Quality is the degree to which a specific product conforms to a design or specification."

*Harold L. Gilmore*

**2. Customer-based**

"Quality is fitness for use."

*J. M. Juran*

"Total Quality is performance leadership in meeting customer requirements by doing the right things right the first time."

*Westinghouse*

Quality is meeting customer expectations. The Quality Improvement Process is a set of principles, policies, support structures, and practices designed to continually improve the efficiency and effectiveness of our way of life.

*AT&T*

"You achieve customer satisfaction when you sell merchandise that doesn't come back and a customer who does."

*Stanley Marcus*

**3. Product-based**

"Differences in quality amount to differences in the quantity of some desired ingredient or attribute."

*Lawrence Abbott*

"Quality refers to the amount of the unpriced attribute contained in each unit of the priced attribute."

*Keith B. Leffler*

**4. Value-based**

"Quality is the degree of excellence at an acceptable price and the control of variability at an acceptable cost."

*Robert A. Broh*

"Quality means best for certain customer conditions. These conditions are (a) the actual use and (b) the selling price of the product."

*Armand V. Feigenbaum*

**5. Transcendent**

"Quality is neither mind nor matter, but a third entity independent of the other two . . . even though Quality cannot be defined, you know what it is."

*Robert Pirsig*

"A condition of excellence implying fine quality as distinct from poor quality . . . Quality is achieving or reaching the highest standard as against being satisfied with the sloppy or fraudulent."

*Barbara W. Tuchman*

Source: *Fortune*, March 22, 1993, p. 21; and V. Daniel Hunt, *Quality in America* (Homewood, IL: Business One Irwin, 1992), p. 21.

*The job of top management is not supervision, but leadership. Management must work on sources of improvement, the intent of quality of product and of service, and on the translation of the intent into design and actual product. The required transformation of Western style of management requires that managers be leaders.<sup>9</sup>*

## Philip B. Crosby and Zero Defects

Philip B. Crosby, who has taught more than 1,500 companies about quality, believes that it's management's responsibility to improve quality. He introduced the **zero defects** concept as a way of making management believe that it doesn't have to accept defects. He proposes that no defects are acceptable. Crosby suggests that top management must make the commitment about zero defects and quality for the entire company. He proposes

### zero defects

A concept proposed by Philip Crosby whereby management believes that no defects are acceptable.

## GLOBAL EXCHANGE

## PIONEERS IN QUALITY

On June 24, 1980, NBC-TV aired "If Japan Can...Why Can't We?" The program examined how, from the ashes of World War II, Japan has risen to become an economic powerhouse. The show set America on a course to discover, rediscover, and incorporate quality. Long before NBC-TV broadcast it, a number of international pioneers had explained, discussed, and promoted quality. Their contributions have bettered products and services while encouraging leaders across all industries to make new commitments to quality.

- B. A. Fisher (British scientist and statistician) developed speedier and more productive crop-growing methods in the early 1900s.
- Walter A. Shewhart (American physicist) transformed Fisher's methods into a quality control discipline for factories.
- W. Edwards Deming (American mathematician and physicist) began making an impact in Japan in 1950. His view—published in *Out of the Crisis*—is based on 14 points including 3 quality ingredients: continual improvement, constancy of purpose, and profound knowledge.
- Philip B. Crosby (American businessman and consultant) created the zero-defects movement at Martin Marietta in the 1960s and promotes the concept of doing it correctly the first time, which he states was used in the mid-1930s at Western Electric. He worked for ITT as vice president for quality and wrote the best selling *Quality Is Free* in 1979.
- J. M. Juran (American engineer and lawyer) first described his methods of total quality control in Japan in 1954. He claims that the three most important items in a quality program are that the top people be in charge, that people be trained in how to manage for quality, and that quality be improved at an unprecedented pace.
- Kaoru Ishikawa (Japanese businessman and consultant) instituted quality control circles in 1962 in Japan. His father (Ichiro Ishikawa) arranged for Deming to present quality ideas to Japanese leaders in 1950.
- Genichi Taguchi (Japanese consultant) produced the concept referred to as the Taguchi Loss Function: The further away a product is from being perfect, the greater the loss will be from defects. (In contrast, the traditional view is that there's no loss so long as parts are within engineering specifications. For example, a part should be 500 millimeters wide, but the engineer states that if it's 495 to 505 millimeters wide, it's good enough.)
- Armand V. Feigenbaum (American businessman) was in charge of quality at General Electric. He developed the concepts of the cost of quality and total quality control beginning in the 1940s. He stressed the importance of the customer defining quality.

These and other quality gurus are widely published and some are often found on the lecture circuit. Hopefully, 10 years from now a list of globally oriented business leaders who implemented quality programs that met the test of time can be assembled.

Source: Adapted from R. Ray Gehani, "Quality Value-Chain: A Meta-Synthesis of Frontiers of Quality Movement," *Academy of Management Executive*, 27, no. 2, 1993, pp. 29–42; Lloyd Dobyns and Clare Crawford-Mason, *Quality or Else* (Boston: Houghton Mifflin, 1991), pp. 52–87; Ronald Yates, "Prophet of Boom," *Chicago Tribune Magazine*, February 16, 1992, pp. 16, 18, 20 and 22; and "The Quality Imperative," *Business Week* (bonus issue), October 25, 1991.

TABLE 1–3

Garvin's Dimensions of Quality

1. **Performance**—a product's/service's primary operating characteristic (e.g., a car's acceleration performance, the comfort of a user using long-wear contact lenses).
2. **Features**—add-ons or supplements (e.g., the student study guide for a course, power locks on a car).
3. **Reliability**—A probability of not malfunctioning or breaking down for a specified period of time (e.g., a 5-year, 60,000-mile warranty).
4. **Conformance**—the degree to which a product's design and operating characteristics meet established standards (e.g., a product test shows that the product is within 0.001 inches of the standard).
5. **Durability**—a measure of a product's life (e.g., 10 years).
6. **Serviceability**—the speed and ease of repair (e.g., a panel that can be replaced by an untrained user).
7. **Aesthetics**—a product's look, feel, taste, and smell (e.g., a rose has a delicate feel, a desired color, and a distinctive scent).
8. **Perceived quality**—quality as viewed by a customer, client, or student (e.g., a parent uses a disposable diaper because it's sanitary, convenient, and reasonably priced).

establishing quality improvement teams, quality measures for every activity, training in quality management, quality councils, and even a zero-defects day. The zero-defects day signals employees that the company has a new standard of quality.<sup>10</sup>

Table 1-4 presents Crosby's grid, which is a first step in determining a firm's current quality management profile. Six measures on the left examine the management's current style. Across the top are five levels or stages of quality management maturity. Stage I (Uncertainty) to Stage V (Certainty). Crosby believes that only at Stage V is conformance to a zero-defect culture (a set of beliefs, rituals, norms, and values) held throughout the firm. He believes that if the job is done correctly the first time (zero defects), quality's cost will be reduced to its lowest possible level.

The premise proposed by Crosby is that when managers practice the process of management (planning, organizing, controlling, and leading), they must include the quality concept. Quality must be considered, discussed, and learned like management's traditional functions. For example, a plan to develop and market a new product is

TABLE 1-4  
Crosby's Quality Management Maturity Grid

Measurement Categories	Stage I: Uncertainty	Stage II: Awakening	Stage III: Enlightenment	Stage IV: Wisdom	Stage V: Certainty
Management understanding and attitude	Fails to see quality as a management tool.	Supports quality management in theory but is unwilling to provide the necessary money or time.	Learns about quality management and becomes supportive.	Participates personally in quality activities.	Regards quality management as essential to the company's success.
Quality organization status	Quality activities are limited to the manufacturing or engineering department and are largely appraisal and sorting.	A strong quality leader has been appointed, but quality activities remain focused on appraisal and sorting and are still limited to manufacturing and engineering.	Quality department reports to top management. Its leader is active in company management.	Quality manager is an officer of the company. Prevention activities have become important.	Quality manager is on the board of directors. Prevention is the main quality activity.
Problem handling	Problems are fought as they occur and are seldom fully resolved; "fire-fighting" dominates.	Teams are established to attack major problems, but the approach remains short-term.	Problems are resolved in an orderly fashion, and corrective action is a regular event.	Problems are identified early in their development.	Except in the most unusual cases, problems are prevented.
Cost of quality as percentage of sales	Reported: unknown. Actual: 20%.	Reported: 5%. Actual: 18%.	Reported: 8%. Actual: 12%.	Reported: 6.5%. Actual: 8%.	Reported: 2.5%. Actual: 2.5%.
Quality improvement actions	No organized activities.	Activities are motivational and short-term.	Implements the 14-step program with full understanding.	Continues the 14-step program and starts Make Certain.	Quality improvement is a regular and continuing activity.
Summation of company quality posture	"We don't know why we have quality problems."	"Must we always have quality problems?"	"Because of management commitment and quality improvement programs, we are identifying and resolving our quality problems."	"We routinely prevent defects from occurring."	"We know why we don't have quality problems."

Source: Adapted from Philip B. Crosby, *Quality Is Free* (New York: McGraw-Hill, 1979).

incomplete without attention to quality dimensions such as conformance, performance, reliability, and perceptions of customers.

## ■ THE PROCESS OF MANAGEMENT PLUS QUALITY

The process of management usually consists of basic *management functions*. The traditional process of management identifies the functions as *planning, organizing, and controlling*, linked together by *leading*. Planning determines *what* results the organization will achieve; organizing specifies *how* it will achieve the results; and controlling determines *whether* the results are achieved.

### Planning

#### planning

The function of management that determines an organization's objectives and establishes the appropriate strategies for achieving those objectives.

The planning function is the capstone activity of management. **Planning** activities determine an organization's objectives and establish appropriate strategies for achieving them. A top-priority planning objective must be quality. The organizing, leading, and controlling functions all derive from planning in that these functions carry out the planning decisions.

Managers at every level of the organization do planning. Through their plans, managers outline what the organization must do to be successful. While plans may differ in focus, they all concern achieving short- and long-term organizational goals. The authors of this text propose that short- and long-term quality goals must be paramount concerns. If quality goals are achieved, related goals (such as improved market share, cost containment, and return on investment) are easier to accomplish. Taken as a whole, an organization's plans are the primary tools for preparing for and dealing with changes in its environment.

Strategy is a multidimensional concept that provides a firm with direction, a sense of unity, and purpose. It's the integrative blueprint for the organization. Strategy gives rise to the plans that assure that quality and other goals are accomplished. Strategy is intended to achieve a sustainable competitive advantage over competitors. Strategy serves to obtain a match between the firm's external environment and internal capabilities. If a competing firm raises its quality, then the firm's strategy must address that environmental force.<sup>11</sup>

### Organizing

#### organizing

The function of management that assigns the tasks identified during planning to individuals and groups within the organization so that objectives set by planning can be achieved.

After managers develop a strategy, objectives, and plans to achieve the objectives, they must design and develop an organization that can accomplish the objectives. Thus, the organizing function is to create a structure of task and authority relationships that improves and sustains quality.

The **organizing** function takes the tasks identified during planning and assigns them to individuals and groups within the organization so that objectives set by planning can be achieved. Organizing, then, involves turning plans into action. The organizing function also provides an organizational structure that enables the organization to function effectively as a cohesive whole and to achieve quality objectives.

### Leading

#### leading

A function of managers who, by directing and motivating, influence organization members to perform in ways that accomplish the organization's objectives.

Sometimes called *directing* or *motivating*, **leading** involves influencing organization members to perform in ways that accomplish the organization's objectives. As Deming pointed out, managers must be leaders who guide the way to improve product and service quality through workers' efforts.

The leading function focuses directly on the employees in the organization, since its major purpose is to channel human behavior toward organizational goals such as im-

proved quality. Effective leadership is important in organizations. Some managers especially must develop this skill as global competitiveness grows.

## Controlling

### controlling

A function of management that makes sure that the organization's actual performance conforms with the performance that was planned for it.

Finally, a manager must make sure that the organization's actual performance conforms with the performance that was planned for it. This **controlling** function of management requires three elements: (1) established *standards* of performance, (2) *information* that indicates deviations between actual performance and the established standards, and (3) *action* to correct performance that doesn't meet the standards. Simply speaking, the purpose of management control is to make sure the organization stays on the quality path that it planned to follow.

The four functions of management must be learned in the context of quality improvement and maintenance. Management functions and quality are related and shouldn't be separated. Performance of one function depends on the performance of the other functions. A plan requires leaders, an organization, and control to be properly carried out. If a plan fails to incorporate quality considerations, it will only be a matter of time until failure becomes the reality.

The Ford Edsel's failure highlights this point.<sup>12</sup> Plans for the Edsel's entry into the medium-price auto field were elaborate. The 1950s saw a growing trend toward medium-price cars: Pontiac, Oldsmobile, Buick, and Dodge. Marketing research led Ford to introduce the Ford Edsel in 1958. But a \$350 million loss on the Edsel resulted from such factors as a recession, poor promotion, and changing consumer preferences for even smaller cars. However, lack of quality was the Achilles heel of Ford's plans for the Edsel. Production was rushed to get the Edsel to market on schedule before numerous defects had been cleared up. Brakes failed, oil leaked, there were rattles, and the car didn't start properly. Edsel owners were driving an inferior product. Before these defects were corrected, the car became known as a lemon. The Edsel's poor quality became the storyline in many jokes, the standard for poor quality to many Americans.



Source: David Le Bon/TSI.

Lack of attention to quality led to Ford's \$350 million loss on the Edsel.



## REFLECTIONS BY PHILIP B. CROSBY

## THE MANAGEMENT CHALLENGE: QUALITY AND COMPETITIVENESS

Getting an organization to do things right the first time is obviously a good idea. Naturally it's cheapest to do something only once. Along those lines, it seems apparent that happy customers are a company's primary objective. Yet the conventional way of managing isn't automatically tilted toward these objectives. Management is full of "old wives tales"—ideas that are accepted as true without investigation. Management has its own agenda which is usually very short-term oriented.

Executives used to tell me that I would bankrupt the company if I insisted on getting everything perfect. They had a vision of work slowing to a crawl while each step was inspected and tested several times. They talked about the perils of babying the customer. They wanted to grant permission to deliver materials and services that weren't absolutely correct—merely fit to be used.

People who talk about the good old days, when everything was done better have selective memories. Nothing was made right the first time years ago—it was reworked until it was acceptable, which was part of the plan. Management knew in its heart that the problem was the workers so they kept making systems to reduce labor's effect. This discouraged people and led to a self-fulfilling prophecy of even more separation of the work force from product and service quality. I found myself trying to explain the people to the management and vice versa.

One day, when I was a quality engineer, I was asked to attend the monthly management review and say a few words about quality. I put on my good suit and appeared at the proper time, sitting in the back of the room. The meeting began with the comptroller breaking down revenue by product line and services. There was an animated discussion about each item, particularly those not meeting their objectives. Charts and discussions on profitability, inventory, employee compensation, purchasing, accounts receivable, and debt followed for three hours. Then the personnel director presented a new hospitalization plan. Next the indus-

trial relations director talked about labor negotiations and the possibility of a strike. Then there was a pause.

The general manager checked his watch and noted that they had "invited Phil Crosby to come and talk about quality."

"We've used up most of the time, Phil," he said. "Could you limit your remarks to five minutes or so?"

I noticed that the attendees were busily putting their papers away and checking things out with each other. This wasn't going to be an attentive group, I thought, but I nodded and stood up.

When they quieted down I smiled and said, "Quality can be measured by money also. If we add up the expenses of doing things wrong and over—like rework, customer service, inspection, excess inventory, unplanned overtime, accounts receivable overdue, engineering change notices, purchasing change notices, and such—it comes to over 20 percent of revenue. These are my figures put together

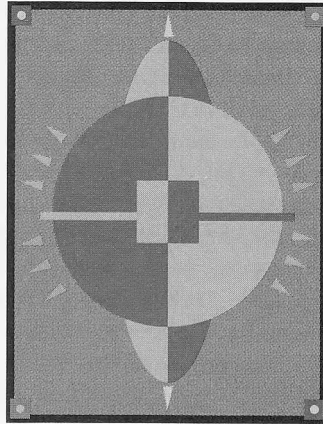
without benefit of the accounting department, but I think if they're calculated properly the number will be much higher. Roughly the price of nonconformance, as I call it, is five times the pretax profit I saw reported earlier. Thank you."

When I sat down the group just stared at me. The general manager turned to the comptroller. "Five times pretax profits?" he asked.

"Anyway," said the comptroller, "I've mentioned it before."

The meeting continued for another hour and ended with the *price of nonconformance* (PONC) becoming a regular part of the accounting and reporting process. From that moment on, management's interest in quality was focused; the old beliefs disappeared and were replaced by management attention on a management subject. They reduced the PONC expense by half in a year just by changing their attitude and attacking problems that measurement showed to be important. They even started talking to their employees.

Measure quality by money, not by statistics. Be real.



Planning, organizing, leading, and controlling were all done at Ford. These functions were followed to the letter—a textbook example of “how to manage a product from an idea to the market.” Unfortunately, quality wasn’t the primary objective or the driving focal point in the management process. The Edsel clearly illustrates the need to integrate the functions of management with an overriding quality umbrella.

## ■ MANAGERS

A successful manager possesses certain qualities in applying skills and carrying out various managerial roles. A study by Harbridge House, a Boston consulting firm, identified 10 qualities of a successful manager regardless of age, sex, industry, organization size, or corporate culture.<sup>13</sup>

1. *Provides clear direction.* An effective manager needs to establish explicit goals and standards for people. Managers must communicate group goals, not just individual goals. The manager must involve people in setting these goals and not simply state them to workers. Managers must be clear and thorough in delegating responsibility.
2. *Encourages open communication.* Managers must be candid in dealing with people. They must be honest and direct. “People want straight information from their bosses,” the study says, “and managers must establish a climate of openness and trust.”
3. *Coaches and supports people.* This means being helpful to others, working constructively to correct performance problems, and going to bat with superiors for subordinates. This last practice “was consistently rated as one of the most important aspects of effective leadership,” says Robert Stringer, senior vice president of Harbridge House.
4. *Provides objective recognition.* Managers must recognize employees for good performance more often than they criticize them for problems. Rewards must be related to the quality of job performance, not seniority or personal relationships. “Most managers don’t realize how much criticism they give,” the study says. “They do it to be helpful, but positive recognition is what really motivates people.”
5. *Establishes ongoing controls.* This means following up on important issues and actions and giving subordinates feedback.
6. *Selects the right people to staff the organization.* Attracting and selecting the best people in terms of skills and competencies to accomplish the firm’s mission and goals.
7. *Understands the financial implications of decisions.* This quality is considered important even for functional managers, such as those in personnel/human resources and research and development, who have no direct responsibility for the profit margin.
8. *Encourages innovation and new ideas.* Employees rate this quality important in even the most traditional or conservative organizations.
9. *Gives subordinates clear-cut decisions when they’re needed.* “Employees want a say in things,” the report says, “but they don’t want endless debate. There’s a time to get on with things, and the best managers know when that time comes.”
10. *Consistently demonstrates a high level of integrity.* The study shows that most employees want to work for a manager they can respect.

## ■ TYPES OF MANAGERS

The history of Dell Computers in Austin, Texas, reveals management’s evolution from one entrepreneur (Michael Dell) to a team of many managers with many subordinates. The development of different types of managers is a result of this evolution. Let’s assume that the firm is successful, and the manager decides to add some new products and sell

FIGURE 1-1  
Vertical Specialization of the  
Management Process

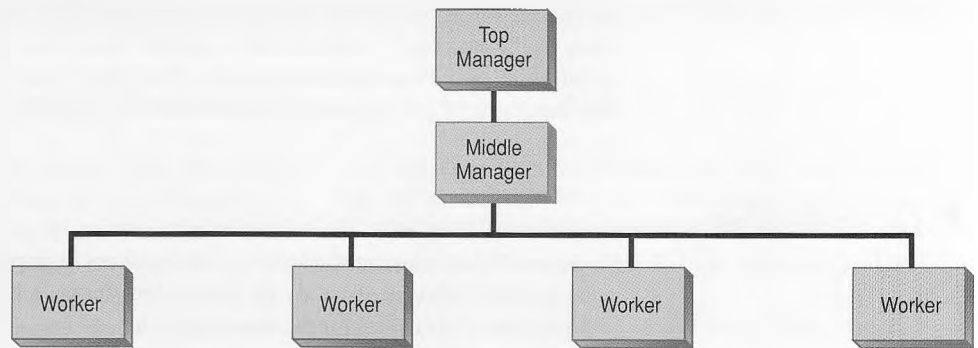
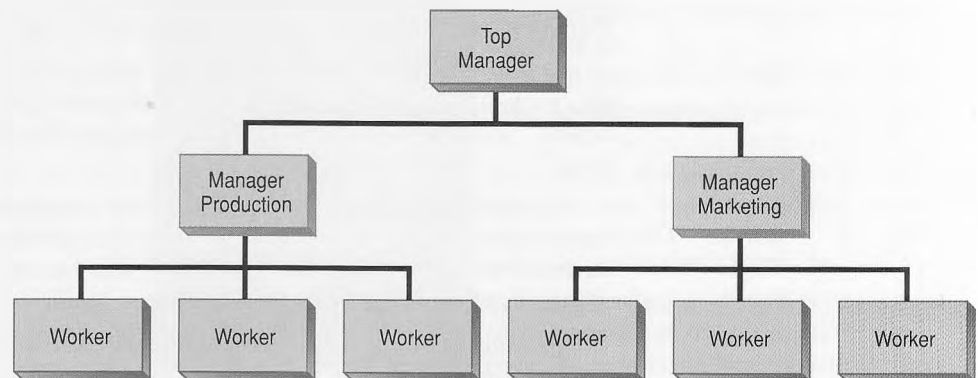


FIGURE 1-2  
Horizontal Specialization of the  
Management Process



them to new markets. As the manager becomes overworked because of his or her job's increased complexity, he or she may decide to specialize *vertically* by assigning the task of supervising subordinates to another person (Figure 1-1) or *horizontally* by assigning certain tasks, such as production or marketing, to another person (Figure 1-2). Whichever method is chosen, the management process is now shared, specialized, and thus more complex.

## First-Line Management

These managers coordinate the work of others—workers—who aren't themselves managers. People at the **first-line management** level are often called *supervisors*, *office managers*, or *foremen*. The first-line manager may oversee the work of blue-collar workers, salespeople, accounting clerks, or scientists, depending on the subunit's particular tasks (for example, production, marketing, accounting, or research). First-line managers are responsible for the organization's basic work and are in daily or near-daily contact with workers. They must work with their own workers and with other first-line supervisors whose tasks are related to their own.

## Middle Management

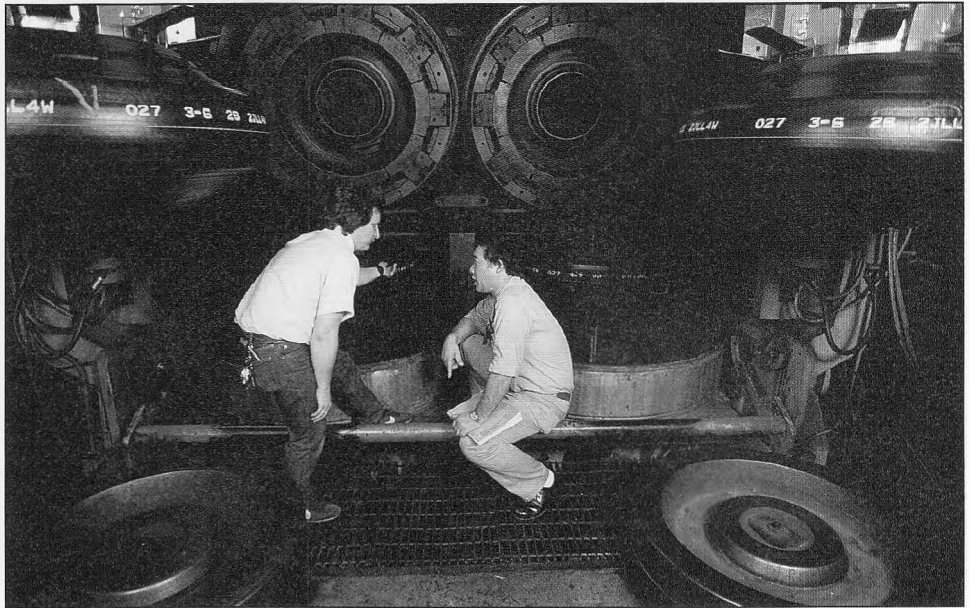
The middle manager is known in many organizations as the department manager, plant manager, or director of operations. Unlike first-line managers, those in **middle management** plan, organize, lead, and control other managers' activity; yet, like

### first-line management

Managers, also known as supervisors, office managers, or foremen, who coordinate the work of others who aren't managers (subordinates).

### middle management

Managers, also known as departmental managers, plant managers, or directors of operations, who plan, organize, lead, and control other managers' activities and who themselves are subject to a supervisor's managerial efforts.



Source: Milt and Joan Mann/Cameramann International, Ltd.

First-line managers are frequently in contact with workers. Here a supervisor discusses technical issues with a worker at Bridgestone Tires in La Vergne, Tennessee.

first-line managers, they're subject to the managerial efforts of a superior. The middle manager coordinates the work activity (for example, marketing) of a subunit.

In the past ten years many middle managers in firms such as Sears, General Motors, Xerox, IBM, and General Dynamics have been laid off. Organizations like these have downsized the management cadre especially at the middle management level. Changes in the environment, competitive pressures, cost overruns, lost market share, and inefficiencies in operations have resulted in the move to downsize. The shrinkage of management in large companies is expected to continue into the 21st century.

## Top Management

A small cadre of managers (usually including a chief executive officer, president, or vice president) constitutes **top management**. Top management is responsible for the performance of the entire organization through the middle managers. Unlike other managers, the top manager is accountable to none other than the owners of the resources used by the organization.<sup>14</sup> Of course, top-level managers depend on the work of all their subordinates to accomplish the organization's goals and mission.

The designations *top*, *middle*, and *first-line* classify managers on the basis of their vertical rank in the organization. Completing a task usually requires completing several interrelated activities. As these activities are identified, and as the responsibility for completing each task is assigned, that manager becomes a functional manager.

As the management process becomes horizontally specialized, a functional manager is responsible for a particular activity. The management functions in a manufacturing firm could include quality and operations, marketing, and accounting.

Thus, one manager may be a first-line manager in quality and operations, while another may be a middle manager in marketing. The function refers to what *activities* the manager oversees as a result of horizontal specialization of the management process. A manager's **management level** refers to the *right to act and use resources* within specified limits as a result of vertical specialization of the management process.

### top management

A small cadre of managers, usually including a CEO, president, or vice president, that is responsible for the performance of the entire organization through the middle managers.

### management level

The right to act and use resources within specified limits as a result of vertical specialization of the management process.

## MANAGERIAL SKILLS

### skill

An ability or proficiency in performing a particular task.

### technical skills

The ability to use specific knowledge, techniques, and resources in performing work.

### analytical skills

The ability to use specific approaches or techniques in solving managerial problems.

### computer skills

The ability to use computer software applications and have a conceptual understanding of how computers work.

Regardless of the level at which managers perform, they must learn and develop many skills.<sup>15</sup> A **skill** is an ability or proficiency in performing a particular task. Various skills classifications are important in performing managerial roles.

### Technical Skills

**Technical skills** are the ability to use *specific* knowledge, techniques, and resources in performing work. Accounting supervisors, engineering directors, and nursing supervisors need technical skills to perform their management jobs. Technical skills are especially important at the first-line management level, since daily work-related problems must be solved. The technical skill of measuring quality performance is especially important for firms competing with international companies. The array of techniques available to managers working on quality improvement includes control charts, cause-and-effect diagrams, Pareto charts, and quality action plans, which are discussed in detail in the appendix to Chapter 17 (Seven Tools of Quality Control).

### Analytical Skills

**Analytical skills** involve using scientific approaches or techniques such as materials requirement planning, inventory control models, activity-based cost accounting, forecasting, and human resource information systems to solve management problems. In essence, they're the ability to identify key factors, to understand how they interrelate, and to realize their roles in a situation. Analytical skill is actually an ability to diagnose and evaluate. It's needed to understand the problem and to develop a plan of action. Without analytical proficiency, there's little hope for long-term success.

### Decision-Making Skills

All managers must make decisions or choose from among alternatives. The quality of these decisions determines their effectiveness. Managers' decision-making skill in selecting a course of action is greatly influenced by their analytical skill. Poor analytical proficiency inevitably results in poor decision making.

John J. Welch, chairman and CEO of General Electric, is credited with exceptional analytical and decision-making abilities. In his first seven years as CEO, Welch's major decisions produced massive changes at GE. He eliminated 100,000 jobs and sold billions of dollars worth of GE businesses, taking the company out of the housewares and television industries. He moved GE into high-tech manufacturing and other higher-risk, though more profitable, industries. Welch acquired RCA Corporation, cut the number of layers in GE's structure, and set high objectives for GE's businesses (number 1 or 2 standing in their respective markets). Some observers believe that his decisions have transformed GE into an able, fleet-footed competitor.<sup>16</sup>

### Computer Skills

Managers with **computer skills** have a conceptual understanding of computers and, in particular, know how to use the computer and software to perform many aspects of their jobs. Computer ability is a valuable managerial skill. In one study of 100 personnel directors from America's largest corporations, 7 of every 10 directors believed that computer skills are important, very important, or essential for advancement in management.<sup>17</sup>

Computer abilities are important since computers can substantially increase a manager's productivity. In minutes computers can perform tasks in financial analysis, human resource planning, and other areas that otherwise take hours—even days—to complete. The computer is exceedingly helpful for decision making as it instantly places at a man-

ager's fingertips a vast array of information in a flexible, usable form. Software enables managers to manipulate the data and perform "what if" scenarios, looking at the projected impact of different decision alternatives. Hoffman-Roche, a Swiss pharmaceutical firm, is one of a growing number of companies that has developed a decision support system to help its executives make pricing and market development decisions.<sup>18</sup> Chapter 8 details the use of decision support systems for decision making.

## People Skills

Since managers must accomplish much of their work through other people, their ability to work with, communicate with, and understand others is vital. **People skills** are essential at every organizational level of management; they reflect a manager's leadership abilities.

Effective communication—the written and oral transmission of common understanding—is critical to success in every field, but it's crucial to managers who must achieve results through others' efforts. **Communication skills** involve the ability to communicate in ways that other people understand and to seek and use feedback from employees to ensure that you're understood.

Lewis Lehr, chairman and CEO of 3M, emphasizes open communication among managers and employees. Lehr spends six months of every year away from 3M's headquarters in St. Paul, Minnesota, visiting the company's numerous plants. There, he participates in question-and-answer sessions with employees. Lehr believes that frequent communication is the only way to build employee trust and cooperation which is essential to 3M's success. He also requires that executives who run 3M operations frequently visit with media, government, and education officials in their regions to talk about 3M.<sup>19</sup>

## Conceptual Skills

**Conceptual skills** consist of the ability to see the big picture, the complexities of the overall organization, and how the various parts fit together. Conceptualizing how each part of the organization fits and interact together to accomplish goals and operate in an ever changing environment is needed to keep an organization focused.

Many CEOs combine analytical and conceptual skills in developing long-range plans for their companies. Both enable a CEO to look forward and project how prospective actions may affect a company 5, 10, or even 20 years in the future. At Matsushita, a Japanese electronics corporation, Chairman Konosuke Matsushita has used considerable conceptual and analytical skills in developing a 250-year plan for his company.<sup>20</sup>

While the preceding skills are all important, each one's relative importance will vary according to the level of the manager in the organization. Figure 1–3 illustrates the skills required at each level. For example, note that technical and human relations skills are

### People skills

The ability to work with, communicate with, and understand others.

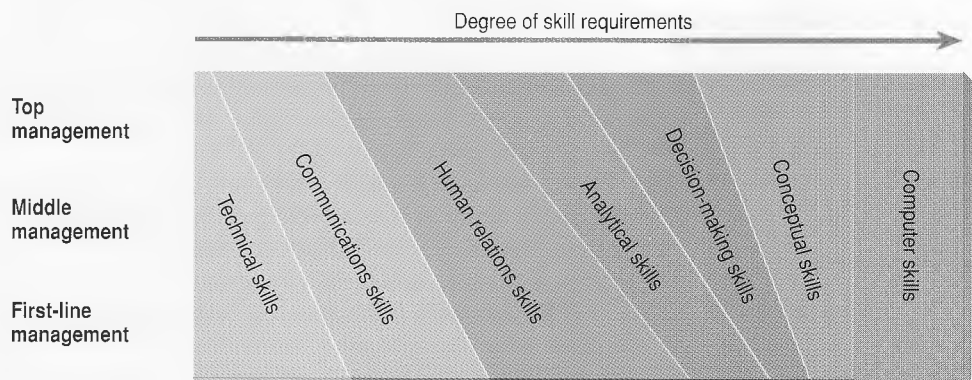
### Communication skills

The ability to communicate in ways that other people understand and to seek and use feedback from employees to ensure that one is understood.

### Conceptual skills

Visualizing how each part of an organization fits and interacts together to accomplish goals and objectives.

FIGURE 1–3  
Managerial Skills and  
Management Level





Source: Matsushita Electronic.

Konosuke Matsushita, Chairman of Matsushita Electronic, has used considerable conceptual skills in developing a 250-year plan for his company.

more important at lower levels of management. These managers have greater contact with the work being done and the people doing the work. Communication and computer skills are equally important at all levels of management. Analytical skills are slightly more important at higher levels of management where the environment is less stable and problems are less predictable. Finally, decision-making and conceptual skills are extremely critical to top managers' performance. Top management's primary responsibility is to make decisions that are implemented at lower levels.

## ■ MANAGERIAL ROLES

### role

A behavior pattern expected of an individual within a unit or position.

A **role** is a behavior pattern expected of an individual within a unit or position. One of the most frequently cited studies of *managerial roles* was conducted by Henry Mintzberg. He observed and interviewed five chief executives from different industries for a two-week period. He determined that managers serve in ten different but closely related roles.<sup>21</sup> Figure 1–4 indicates that the 10 activities can be placed into the three roles: interpersonal roles, informational roles, and decisional roles.<sup>22</sup>

### Interpersonal Roles

#### interpersonal roles

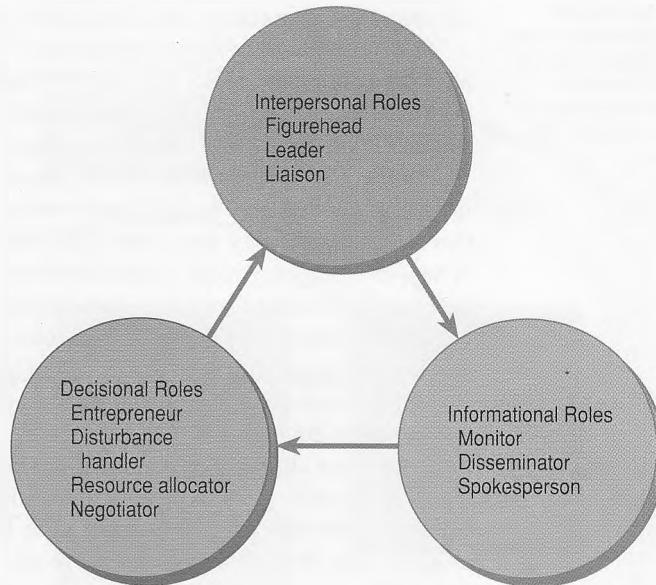
The figurehead, leader, and liaison roles assumed by managers that subsequently enable them to perform informational and decisional roles.

The three **interpersonal roles** of figurehead, leader, and liaison grow out of the manager's formal authority and focus on interpersonal relationships. By assuming these roles, the manager can also perform informational roles which, in turn, lead directly to performing decisional roles.

All managerial jobs require some duties that are symbolic or ceremonial in nature. Examples of the *figurehead role* include a college dean who hands out diplomas at graduation, a manager who attends the wedding of a worker's daughter, and the mayor of Houston who presents the key to the city to a NASA space shuttle crew.

The manager's *leadership role* involves directing and coordinating subordinates' activities. At some time in the history this may involve staffing (hiring, training, promoting, dismissing) and motivating workers. The leadership role also involves controlling, or making sure that things are going according to plan.

FIGURE 1-4  
Mintzberg's 10  
Management Roles



The *liaison role* involves managers in interpersonal relationships outside their area of command. This role may involve contacts both inside and outside the organization. Within the organization, managers must interact with numerous other managers and other individuals. They must maintain good relations with the managers who send work to the unit as well as those who receive work from the unit.

## Informational Roles

**Informational roles**  
The roles assumed by managers that establish them as the central point for receiving and sending non-routine information.

The **informational role** establishes the manager as the central point for receiving and sending information. As a result of the three interpersonal roles just discussed, managers build a network of interpersonal contacts. These contacts aid them in gathering and receiving information as a monitor and transmitting that information as the disseminator and spokesperson.

The *monitor role* involves examining the environment to discover information, changes, opportunities, and problems that may affect the unit. Formal and informal contacts developed in the liaison role are often useful here. The information gathered may concern competitive moves that could influence the entire organization, such as observing young people at a mall wearing a new fashion that suggests a change in a product line.

The *disseminator role* involves providing important or privileged information to subordinates. During a lunch conversation a firm's president learns that a large customer is upset because of quality defects in the firm's products. Returning to the office, the president asks the vice president of operations and quality about the quality problem. He also instructs the vice president to personally assure him of the quality of the orders sent to the customer.

In the *spokesperson role*, the manager represents the unit to other people. This representation may be internal when a manager makes the case for salary increases to top management. It may also be external when an executive represents the organization's views on a particular issue of public interest to a local civic organization.

## Decisional Roles

Developing interpersonal relationships and gathering information are important, but they aren't ends in themselves. They serve as the basic inputs to the process of decision mak-



### Decisional roles

The roles assumed by managers that establish them as decision makers after receiving interpersonal and informational input. Other decisional roles include entrepreneur, disturbance handler, resource allocator, and negotiator.

ing. Some people believe **decisional roles**—entrepreneur, disturbance handler, resource allocator, and negotiator—are a manager's most important roles.

The *entrepreneur role's* purpose is to improve the unit. The effective first-line supervisor continually seeks new quality improvement methods to boost his or her unit's performance. A bank president is continually planning changes that will improve banking services. The effective marketing manager continually seeks new customer tastes.

In the *disturbance handler role*, managers make decisions or take corrective action in response to pressure beyond their control. Usually decisions must be made quickly, so this role takes priority over other roles. The immediate goal is to bring about stability. When an emergency room supervisor responds quickly to a local disaster, a plant manager reacts to a strike, or a first-line manager responds to a breakdown in a key piece of equipment, they're dealing with disturbances in their environments. They must respond quickly and must return the environment to stability.

In the *resource allocator role*, a manager decides who'll get what resources (money, people, time, equipment). Invariably, there aren't enough resources to go around, so the manager must allocate scarce goods in many directions. Resource allocation, therefore, is one of the manager's most critical decisional roles. A first-line supervisor must decide whether to set up overtime schedules or hire part-time workers. A worker with three projects must decide how much time to spend on each project daily. The president of the United States must decide whether to allocate more to defense and less to social programs.

In the *negotiator role*, managers must bargain with other units and individuals to obtain advantages for their unit. Negotiations may concern work, performance, objectives, resources, or anything else influencing the unit. A sales manager may negotiate with the production department over a special order for a large customer. A first-line supervisor may negotiate for new work schedules for workers, while a top-level manager may negotiate with a labor union representative.

Mintzberg suggests that recognizing these 10 roles serves three important functions. First, they help explain the job of managing while emphasizing that all the roles are interrelated. Neglecting one or more of the roles hinders the manager's total progress. Second, a team of employees can't function effectively if any of the roles is neglected. Teamwork in an organizational setting requires that each role be performed consistently. Finally, the 10 roles' magnitude points out the importance of managing time effectively if managers are to successfully perform each of the 10 roles.

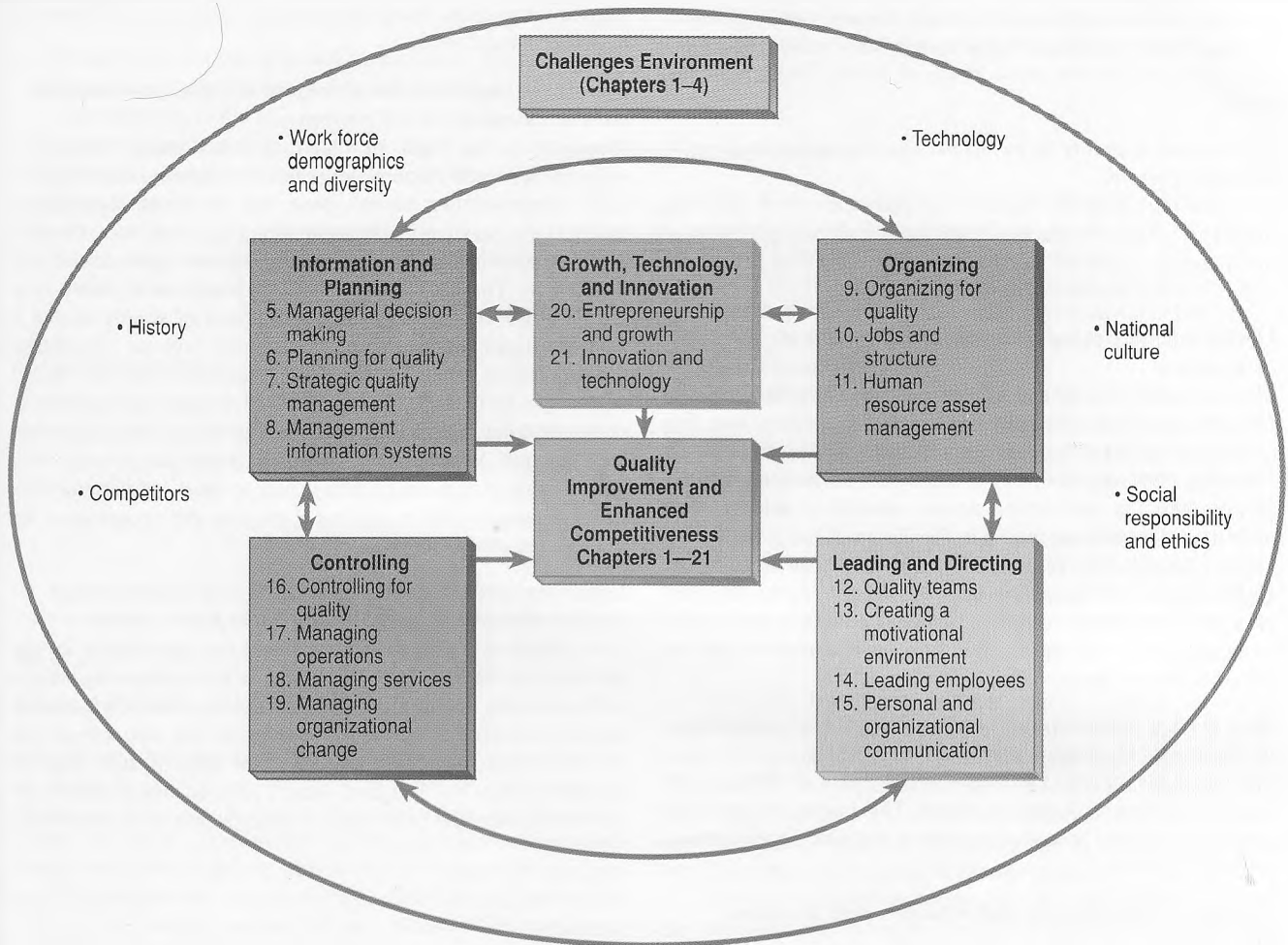
## ■ PLAN FOR THE BOOK

The lighthouse parable at the beginning of the chapter portrays what this book intends to accomplish. Management is a process, a discipline—it's in a constant state of change. Managers at all levels—top, middle, and lower—performing the interpersonal, informational, and decision roles must be well grounded in understanding and applying principles of quality improvement. This book proposes that, if quality is maintained and/or improved, the organization has a greater opportunity to remain competitive. Although the American auto industry has lost market share to foreign competitors, imagine where it would be today if quality improvement programs weren't initiated at General Motors, Ford, and Chrysler.

Peter Drucker, a management scholar and philosopher, aptly describes what managers do on the job.

*Managers practice management. They do not practice economics. They do not practice quantification. They do not practice behavior science. These are tools for the manager . . . As a specific discipline, management has its own basic problems. . . . Specific approaches. . . . distinct concerns. . . . a man who only knows the skills and techniques, without understanding the fundamentals of management, is not a manager. He is, at best, only a technician.*<sup>23</sup>

FIGURE 1-5  
Plan for this Book



We don't want to provide only technical tools in this book. Instead, readers should understand how management, competition, and quality are inextricably linked. There are tools and techniques that can make this linkage successful and productive. However, like Drucker, we believe that knowledge and appreciation of the fundamentals is the important point.

Figure 1-5 graphically presents this book's format. The core theme of the book is the management of quality and competitiveness. Chapters are established on the basis of the four traditional functions of management: planning, organizing, leading, and controlling. It will become evident that these functions are interrelated and that each plays a role in improving an enterprise's quality and competitiveness. Quality of products and services simply does not happen without a distinct strategy, plans, organization, control mechanisms, and leadership. As you read, analyze, and discuss the chapter content, think about the lighthouse parable.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Define the terms management, competitiveness, and quality.*

This chapter defines a number of key terms used throughout the book. **Management** is the process undertaken by one or more

persons to coordinate the activities of other persons to achieve high-quality results not attainable by any one person acting alone. **Competitiveness** at the organizational level is defined as the

degree to which a company can, under free and fair market conditions, produce goods and services that meet the test of international markets while simultaneously maintaining or expanding the real incomes of its employees and owners. **Quality** is defined as the totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

*Explain why a quality focus has become imperative in a globalizing world.*

U.S. industry has finally begun to recognize the cost of relegating quality to a separate function. Only by integrating quality in all management processes, all systems, and all practices can quality improvement continuously occur.

*Identify what are called the traditional functions of management.*

The traditional functions of management are all needed, and they must be practiced efficiently. However, we propose that they must be practiced with quality improvement as the primary goal. **Planning** involves activities that lead to the determination of objectives and the appropriate actions needed to achieve these objectives. **Organizing** results in the design of the structure that clarifies the authority, responsibility, and tasks in an organization. **Controlling** is the managerial activity that assures that the work or operation proceeds according to plan. **Leading** involves influencing others in the organization in ways that result in the accomplishment of goals.

*Describe how competitiveness at the national level is impacted by the quality of products produced in a country.*

Survival is the impetus for quality improvement, so foreign competition challenges American firms. The improved quality of goods and services means being able to compete better domestically and globally.

*Explain the types of skills that managers need to achieve their goals.*

To compete and perform their jobs, managers need technical, analytical, decision-making, computer, people, communication, and conceptual skills.

*List the types of managers within organizations.*

Managers are typically categorized as first-line (supervisors), middle, and top (vice president and above). The level and title suggest where in the hierarchy the person works as well as whom he works for and with.

*Discuss the suggestion that management's traditional methods must be changed.*

Management has been viewed as a rather static, technique-oriented approach emphasizing rules, procedures, and policies. U.S. enterprises that haven't been able to create high-quality products and services increasingly went out of business. Competition became intense and consumers became sophisticated and demanding. The static, by-the-book approach won't work in a changing world. The nondynamic emphasis of simply stating a plan and organizing to accomplish the plan without considering the "messiness" of the real world is doomed to fail. The world is messy in that there's little certainty of what the competition is or will be doing, although consumers want the best buy and value they can get. Whether the product is American, French, or a global composite doesn't really matter to most consumers. This new era suggests that management must be alert, responsive, up to date, and able to move quickly.

*Define zero defects and tell at what stage of organizational maturity this concept becomes part of the firm's culture.*

Zero defects is a performance standard that specifies to do the job correctly the first time. The emphasis is on preventing defects rather than just finding them and fixing them. Crosby's five-stage quality management maturity grid suggests that zero defects can become a part of a firm's culture at the most mature stage of certainty (Stage V). The firm doesn't have quality problems except in very unusual cases because defects have been prevented.

## KEY TERMS

analytical skills, 20  
communication skills, 21  
competitiveness, 4  
computer skills, 20  
conceptual skills, 21  
controlling, 15  
decisional roles, 23  
first-line management, 18  
informational roles, 23

interpersonal roles, 22  
leading, 9  
management, 9  
management level, 19  
managers, 9  
middle management, 18  
organization, 9  
organizing, 14  
people skills, 21

planning, 14  
quality, 10  
role, 21  
skill, 20  
technical skills, 20  
top management, 19  
zero defects, 11

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is the difference between a national view and an organizational view of competitiveness?
2. At what level in the management hierarchy would managers be concerned about quality issues?
3. How can managers performing the roles described by Mintzberg address the quality and competitiveness concepts?
4. Name some international pioneers of quality who have encouraged increased attention to quality.

### Understanding

5. Was it necessary to establish a Malcolm Baldrige National Quality Award in the United States? Explain.
6. Some individuals state that intense competition forces them to consider or use questionable practices to compete. Do you accept or support this position on ethics? Why?

7. Is it possible to institute a production plan that has or doesn't permit any defects in the manufacturing process? Explain.

### Application

8. Visit a service organization and prepare a brief report on the services that it provides that would improve a customer's satisfaction with the business.
9. Interview two or three managers and ask them to describe how they plan, organize, control, and lead. Can they describe these functions without your helping them or giving them examples? Why?
10. What are the four best products that you purchased in the past three months? What characteristics encouraged you to cite them as the best? Do any of these characteristics fit Garvin's eight quality dimensions in Table 1-3?

## CASE 1-1

### Competition: Fact and Fiction

"Declinism" has been persistent in America ever since the first oil shock in 1973 shook the self-confidence characterizing the country after the second World War. Since then, Japanese companies' success in highly visible markets such as consumer electronics and cars, together with a flood of imported products from dozens of other countries, has added support forecasts of America's economic decline. In the 1980s doom mongering became not just the specialty of a few vocal Jeremiahs, but positively fashionable.

Now, with a recession dragging on longer than expected, to say that American business can no longer compete and that Americans have lost their ability to innovate is no longer controversial—it's conventional wisdom. The belief that American business is no longer competitive is wrong. Thousands of American firms, both big and small, remain among the most competitive and innovative in the world. The danger is that remedies designed to cure a supposed decline in competitiveness will actually help bring one about.

American firms lead in a slew of technology-based industries: computer software and hardware of all types, microprocessor chips, aerospace, pharmaceuticals, biotechnology, new materials, energy, and environmental control. American companies that are world beaters in these fields include General Electric, Microsoft, Apple, Motorola, Cypress Semiconductor, Intel, Cray Computer, Compaq, Exxon, Dow, Merck, Eli Lilly, Bristol-Myers Squibb.



Even the Japanese agree that America remains ahead in many leading high tech industries. When the Japanese government's Economic Planning Agency surveyed 110 critical technologies in 1991, it concluded that American firms dominated 43 of them, Japanese firms 33, while European and others the remaining 34. Clearly, American firms continue to innovate. Whether they'll stumble in the future is another matter.

Outside such high-tech industries, it's also possible to identify plenty of world-beating American firms among consumer goods companies: Procter & Gamble, Philip Morris, and Johnson & Johnson are among the world's best. Walt Disney is another American "brand" that can hold its own against any entertainment company. Time-Warner, squeezed as it is by self-inflicted debts, makes plenty of money exporting Madonna records and reruns of American soap operas. In fact, American firms dominate the world's entertainment industry. American firms and television programs are finding new markets in Eastern Europe and Southeast Asia, as well as new media outlets, such as satellite television.

Service industries are another area in which America has world-class companies, though many services aren't internationally traded, making international comparisons difficult. But where they are, such as the fast-food industry, America reigns supreme. There are no European or Japanese fast-food chains to rival McDonald's, Pizza Hut, or Kentucky Fried Chicken.

One big international service industry in which America remains a clear leader is construction engineering—the building of sophisticated plants. Well-trained work forces have made

Bechtel, Fluor, Parsons, and Jacobs successful around the globe. "Whenever there is an open competition overseas, an American firm tends to win," says Joseph Jacobs, founder of Jacobs Engineering.

Merely listing America's many successful companies may be missing a genuine average decline, as well as avoiding an important point: some of these firms now import as much as they make at home. Worry about America's loss of competitiveness tends to center on its trade deficit. In fact, this has shrunk significantly (from \$160 billion in 1987 to an estimated \$72 billion in 1991). In any case, a trade deficit, by itself, says nothing about a country's competitiveness. That requires deeper examination.

Far from being uncompetitive in manufacturing, America is actually one of the industrial world's cheapest producers of many goods. This is partly due to the cheap dollar, which has fallen by half from its 1985 value against the yen and the deutsche mark. But, just as important, America has the highest level of productivity of the big OECD economies. Data on absolute productivity are always years out of date, but a study using OECD figures show that in the mid-1980s America produced almost twice as much for every labor-hour worked, across the entire economy, as Japan. One reason for this is Japan's notoriously inefficient services. But even in manufacturing, America's output per labor-hour was roughly the same as Japan's and 50 percent higher than Germany's.

But, claim the doom sayers, even if this is true, America's productivity is growing more slowly than other countries', so Japan is now pulling ahead and Germany is rapidly closing the gap. False. America's productivity growth for its entire economy (the figures most commonly waved around) has been the slowest of the big industrial economies in each of the past three decades,

but productivity is difficult to measure in services, which account for a larger percentage of America's output than other countries'. Figures for manufacturing alone tell a different story. America did have slower productivity growth in manufacturing than Japan and Europe in the 1960s and 1970s, but America's productivity spurred in the 1980s, growing by an average of 3.4 percent a year, faster than both Japan and Germany's growth.

The best and brightest people from other countries have regularly sought to make their fortunes in America. After dipping below Japan's share of international patent applications in the late 1980s, the United States registered 30 percent of all international patent applications by 1990, while Japan registered 24 percent. Skilled immigrants from Europe and Asia have played a big part in building many of America's high-tech industries. An estimated one third of the engineers working in Silicon Valley were born in Asia. Growing numbers of these Chinese, Korean, and Indian engineers are establishing their own firms in California with the help of money from family and contacts abroad. If such firms succeed, they'll help keep America competitive. In any high-tech rivalry with Japan or other East Asian countries, one Wall Street banker predicts, "America will win because our Asians will beat their Asians." There's no reason to be alarmed about that.

## Questions

1. What role has quality played in Japan's success in globally competitive markets?
2. Why is it inaccurate to conclude that American firms, large and small, are no longer globally competitive?
3. Why should Americans not be complacent about global competition?

## ■ CASE 1-2

### Russian Workers and American Managers

Managing is a difficult job throughout the United States. Managers have trouble satisfying everyone—their peers, subordinates, and superiors. If American managers have a difficult job, Russian managers may face the impossible. In Russian enterprise, managers confront poor machinery, a lack of raw materials, and a work force whose work ethic has been suppressed since the 1917 revolution. But opportunities to locate plants, offices, and buildings in Russia are so attractive to American and other investors that learning about Russian management thinking and practice has become important.

Polaroid Corporation has a circuit board plant about 60 miles south of Moscow in Obninsk. The plant produces about 70,000 circuit boards a month for the company's instant cameras. In the plant, Polaroid has introduced new equipment and cleanliness that still surprise Russians. After all, old equipment and messy work areas have been the rule for over 75 years in the Russian republic.

American managers staff a number of key positions in the Obninsk plant, which has the reputation of being efficient and

able to produce high-quality circuit boards. In other plants that are still state-controlled and managed by Russians, the circuit board defect rate is 10 percent. Zero defects is considered an impossible goal. In the Obninsk plant, the defect rate is one half of 1 percent. Not yet at zero defects, the plant is still trying.

Is it the technology, the management, the work force's morale, or all these factors that have made the Obninsk plant a success story? The Russian economy must produce many more Obninsk examples to turn itself around. The boards produced at the plant have resulted in discussion about customer satisfaction, fun in the workplace, and reasonably priced products. Ten years ago such issues were of no concern to plant managers in what was then Soviet Union.

The joint American-Russian venture has resulted in 24,000 cameras sold in Russia. However, it's estimated that over 2.4 million cameras could be sold. Demand for high-quality, reasonably priced cameras is strong. Lines form early every morning at Polaroid's shop. Sales personnel have been trained by Polaroid to be courteous and responsive. These sales characteristics, like the sparkling plant, are new experiences in Russia. Of course, there are many other new thoughts and events occurring in Russia.

For years, Soviet workers were depicted by the Western press as loafers and thieves. Polaroid executives heard these depictions before setting up the Obninsk plant. However, after meeting some Russian workers, they decided that clean workplaces, equitable pay, and teamwork would be effective in Russia. Polaroid pays workers almost twice the average of Moscow factory workers. This has led to high demand to work for Polaroid as well as workers who respond to incentive pay plans.

Years of central command control in the Soviet Union appear to have devastated the economy, but haven't dampened Russian workers' enthusiasm for work, quality products, and learning. Managing the Russians has been a delightful experience for American expatriates in Obninsk. Still, skeptics question

whether Russian managers can take over key positions and operate the plant without any American managerial guidance. There's also the issue of whether concern about quality is genuine. How long will this concern for quality last?

### Questions

1. What roles must an American manager practice in the Russian Obninsk plant?
2. Should Polaroid use Russian managers in all managerial positions? Why?
3. How will competition influence American managers' managerial practices in the Obninsk plant?

## ■ APPLICATION EXERCISE

### Managerial Behavior Assessment: A Look at Yourself

Below are 20 general statements that managers are likely to use in various situations. Indicate how often you would behave as asked by each statement. As a reader, you may actually be working as a manager or you might be a student. If you're a student, think about how you would behave or how you do behave on projects when you serve as manager.

Place a number from 1 to 9 in the space for each statement. There are no right or wrong answers.

1	2	3	4	5	6	7	8	9
Not very often			Not often			Occasionally		Very often

When (If) I work as a manager, I (will):

- \_\_\_\_\_ 1. Carefully set clear goals for the group.
- \_\_\_\_\_ 2. Represent the group with enthusiasm to outsiders.
- \_\_\_\_\_ 3. Carefully review the group's performance.
- \_\_\_\_\_ 4. Intervene to handle internal conflicts.
- \_\_\_\_\_ 5. Attempt to receive the best work schedules for my group.
- \_\_\_\_\_ 6. Motivate the group to perform at optimum level.

- \_\_\_\_\_ 7. Examine the group's past and present performance.
- \_\_\_\_\_ 8. Transmit relevant information to the group.
- \_\_\_\_\_ 9. Positively influence how top managers view the group.
- \_\_\_\_\_ 10. Find opportunities for the group to excel.
- \_\_\_\_\_ 11. Take on difficult projects with risks so that the group can make an impact.
- \_\_\_\_\_ 12. Make sure that the group is represented at important social events.
- \_\_\_\_\_ 13. Pass along relevant group information to top managers.
- \_\_\_\_\_ 14. Discipline individuals who purposefully disrupt the group.
- \_\_\_\_\_ 15. Reward good performers equitably.
- \_\_\_\_\_ 16. Bring recognition to outstanding group members.
- \_\_\_\_\_ 17. Provide needed time, materials, or resources upon member's(s') request.
- \_\_\_\_\_ 18. Provide needed data to help members complete a project.
- \_\_\_\_\_ 19. Represent the group when requests for information are made.
- \_\_\_\_\_ 20. Help group members with other groups' and outsiders' requests.

Source: Exercise is based on the Mintzberg management role study and description.

### Scoring the Self-Assessment

Place all your scores in the appropriate space. Divide the total by 2 to calculate the average.

**Figurehead**

#12 \_\_\_\_\_

#19 \_\_\_\_\_

Total \_\_\_\_\_

**Monitor**

#3 \_\_\_\_\_

#7 \_\_\_\_\_

Total \_\_\_\_\_

**Interpersonal**

Leader	Liaison
#1 _____	#2 _____
#6 _____	#20 _____
Total _____	Total _____

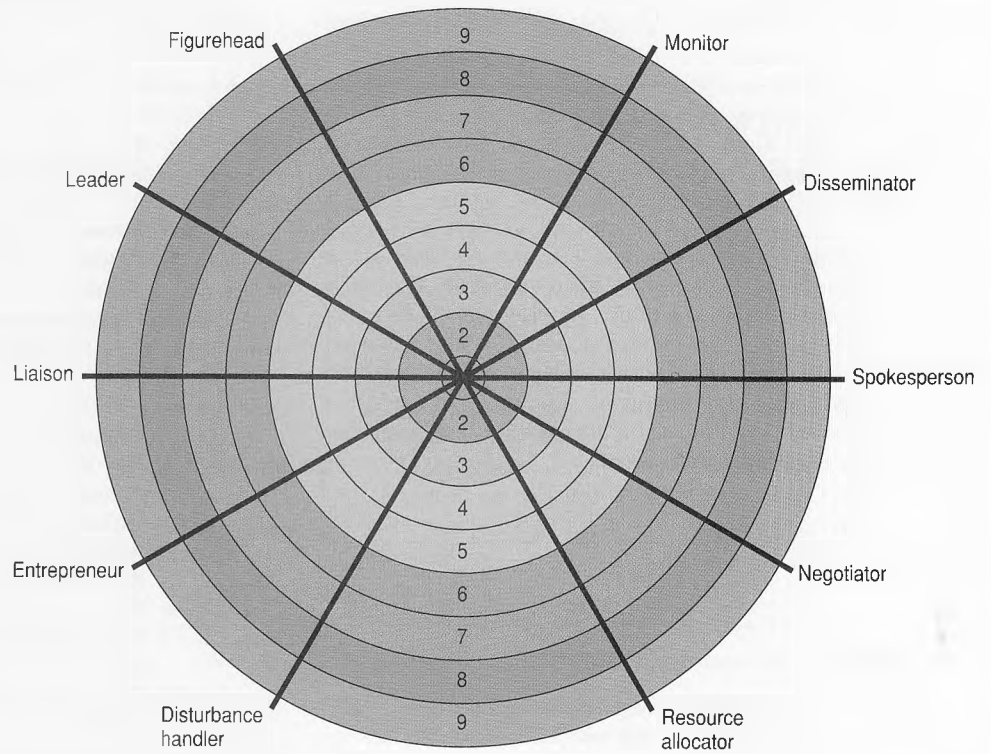
**Informational**

Disseminator	Spokesperson
#8 _____	#9 _____
#18 _____	#13 _____
Total _____	Total _____

	<i>Decisional</i>		
	Disturbance handler	Resources allocator	Negotiator
Entrepreneur	#4 _____	#15 _____	#5 _____
#10 _____	#4 _____	#15 _____	#5 _____
#11 _____	#14 _____	#17 _____	#16 _____
Total _____	Total _____	Total _____	Total _____

### Your Profile: A Picture

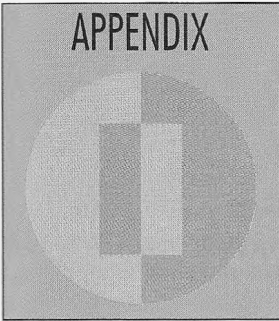
Fill in your average scores in the Mintzberg role profile diagram.  
Connect the scores with a color pen to show your patterns.



Would the people working with you (subordinates, classmates, friends) rate you the same way? Try this exercise with someone who works with you. Plot that person's profile for you. What does it show?

## APPENDIX

# THE BALDRIGE AWARD



## National Institute of Standards and Technology (NIST)

Responsibility for the Award is assigned to the Department of Commerce. NIST, an agency of the Department's Technology Administration, manages the Award Program.

NIST's goals are to aid U.S. industry through research and services; to contribute to public health, safety, and the environment; and to support the U.S. scientific and engineering research communities. NIST conducts basic and applied research in the physical sciences and engineering and develops measurement techniques, test methods, and standards. Much of NIST's work relates directly to quality and to quality-related requirements in technology development and technology utilization.

## American Society for Quality Control (ASQC)

ASQC assists in administering the Award Program under contract to NIST.

ASQC is dedicated to the advancement of the theory and practice of quality control and the allied arts and sciences. ASQC is recognized as the worldwide leader in the development, promotion, and application of quality-related information technology for the quality profession, private sector, government, and academia. ASQC recognizes that continuous quality improvement will help the favorable repositioning of American goods and services in the international marketplace.

## Award Recipients

The recipients of the Award in the first four years have shared information on their successful quality strategies with hundreds of thousands of companies, education institutions, government agencies, health care organizations, and others. By sharing their strategies, Award recipients have made enormous contributions to building awareness of the importance of quality to improving national competitiveness. This sharing has encouraged many other organizations to undertake their own quality improvement efforts.

The Malcolm Baldrige National Quality Award is an annual Award to recognize U.S. companies that excel in quality management and quality achievement.



## The Award Promotes:

- Awareness of quality as an increasingly important element in competitiveness.
- Understanding of the requirements for quality excellence, and
- Sharing of information on successful quality strategies and the benefits derived from implementation of these strategies.

## Award Participation

The Award has three eligibility categories:

- Manufacturing companies.
- Service companies.
- Small businesses.

Up to two Awards may be given in each category each year. Award recipients may publicize and advertise their Awards. In addition to publicizing the receipt of the Award, recipients are expected to share information about their successful quality strategies with other U.S. organizations.

Companies participating in the Award process submit applications that include completion of the Award Examination.

## Award Examination Review

The Award Examination is based upon quality excellence criteria created through a public-private partnership. In responding to these criteria, each applicant is expected to provide information and data on the company's quality processes and quality improvement. Information and data submitted must be adequate to demonstrate that the applicant's approaches could be replicated or adapted by other companies.

The Award Examination is designed not only to serve as a reliable basis for making Awards but also to permit a diagnosis of each applicant's overall quality management.

All applications are reviewed and evaluated by members of the Malcolm Baldrige National Quality Award Board of Examiners. When Board members are assigned to review applications, business and quality expertise is matched to the business of the applicant. Accordingly, applications from manufacturing companies are assigned primarily to Board members with manufacturing expertise, and service company applications are assigned primarily to those with service expertise. Strict rules regarding real and potential conflicts of interest are followed in assigning Board members to review applications.

## Core Values and Concepts

The Award Criteria are built upon these core values and concepts:

- Customer-driven quality.
- Leadership.
- Continuous improvement.
- Full participation.
- Fast response.
- Design quality and prevention.
- Long-range outlook.
- Management by fact.
- Partnership development.
- Public responsibility.

Brief descriptions of the core values and concepts follow.

## Customer-Driven Quality

Quality is judged by the customer. All product and service attributes that contribute value to the customer and lead to customer satisfaction and preference must be addressed appropriately in quality systems. Value, satisfaction, and preference may be influenced by many factors throughout the customer's overall purchase, ownership, and service experiences. This includes the relationship between the company and customers—the trust and confidence in products and services—that leads to loyalty and preference. This concept of quality includes not only the product and service attributes that meet basic requirements. It also includes those that enhance them and differentiate them from competing offerings. Such enhancement and differentiation may include new offerings, as well as unique product-product, service-service, or product-service combinations.

Customer-driven quality is thus a strategic concept. It is directed toward market share gain and customer retention. It demands constant sensitivity to emerging customer and market requirements, and measurement of the factors that drive customer satisfaction. It also demands awareness of developments in technology, and rapid and flexible response to customer and market requirements. Such requirements extend well beyond defect and error reduction, merely meeting specifications, or reducing complaints. Nevertheless, defect and error reduction and elimination of causes of dissatisfaction contribute significantly to the customers' view of quality and are thus also important parts of customer-driven quality. In addition, the company's approach to recovering from defects and errors is crucial to its improving both quality and relationships with customers.

## Leadership

A company's senior leaders must create clear and visible quality values and high expectations. Reinforcement of the values and expectations requires their substantial personal commitment and involvement. The leaders must take part in the creation of strategies, systems, and methods for achieving excellence. The systems and methods need to guide all activities and decisions of the company and encourage participation and creativity by all employees. Through their regular personal involvement in visible activities, such as planning, review of company quality performance, and recognizing employees for quality achievement, the senior leaders serve as role models reinforcing the values and encouraging leadership in all levels of management.

## Continuous Improvement

Achieving the highest levels of quality and competitiveness requires a well-defined and well-executed approach to continuous improvement. Such improvement needs to be part of all operations and of all work unit activities of a company. Improvements may be of several types: (1) enhancing value to the customer through new and improved products and services; (2) reducing errors, defects, and waste; (3) improving responsiveness and cycle time performance; and (4) improving productivity and effectiveness in the use of all resources. Thus, improvement is driven not only by the objective to provide better quality, but also by the need to be responsive and efficient—both conferring additional marketplace advantages. To meet all of these objectives, the process of continuous improvement must contain regular cycles of planning, execution, and evaluation. This requires a basis—preferably a quantitative basis—for assessing progress, and for deriving information for future cycles of improvement.

## Full Participation

Meeting the company's quality and performance objectives requires a fully committed, well-trained, and involved work force. Reward and recognition systems need to reinforce full participation in company quality objectives. Factors bearing upon the safety, health, well-being, and morale of employees need to be part of the continuous improvement

objectives and activities of the company. Employees need education and training in quality skills related to performing their work and to understanding and solving quality-related problems. Training should be reinforced through on-the-job applications of learning, involvement, and empowerment. Increasingly, training and participation need to be tailored to a more diverse work force.

### Fast Response

Success in competitive markets increasingly demands ever-shorter product and service introduction cycles and more rapid response to customers. Indeed, fast response itself is often a major quality attribute. Reduction in cycle times and rapid response to customers can occur when work processes are designed to meet both quality and response goals. Accordingly, response time improvement should be included as a major focus within all quality improvement processes of work units. This requires that all designs, objectives, and work unit activities include measurement of cycle time and responsiveness. Major improvements in response time may require work processes and paths to be simplified and shortened. Response time improvements often “drive” simultaneous improvements in quality and productivity. Hence it is highly beneficial to consider response time, quality, and productivity objectives together.

### Design Quality and Prevention

Quality systems should place strong emphasis on design quality—problem prevention achieved through building quality into products and services and into the processes through which they are produced. Excellent design quality may lead to major reductions in “downstream” waste, problems, and associated costs. Design quality includes the creation of fault-tolerant (robust) processes and products. A major design issue is the design-to-introduction cycle time. To meet the demands of ever-more rapidly changing markets, companies need to focus increasingly on shorter product and service introduction time. Consistent with the theme of design quality and prevention, continuous improvement and corrective actions need to emphasize interventions “upstream”—at the earliest stages in processes. This approach yields the maximum overall benefits of improvements and corrections. Such upstream intervention also needs to take into account the company’s suppliers.

### Long-Range Outlook

Achieving quality and market leadership requires a future orientation and long-term commitments to customers, employees, stockholders, and suppliers. Strategies, plans, and resource allocations need to reflect these commitments and address training, employee development, supplier development, technology evolution, and other factors that bear upon quality. A key part of the long-term commitment is regular review and assessment of progress relative to long-term plans.

### Management by Fact

Meeting quality and performance goals of the company requires that process management be based upon reliable information, data, and analysis. Facts and data needed for quality assessment and quality improvement are of many types, including: customer, product and service performance, operations, market, competitive comparisons, supplier, employee-related, and cost and financial. Analysis refers to the process of extracting larger meaning from data to support evaluation and decision making at various levels within the company. Such analysis may entail using data individually or in combination to reveal information—such as trends, projections, and cause and effect—that might not be evident without analysis. Facts, data, and analysis support a variety of company pur-

poses, such as planning, reviewing company performance, improving operations, and comparing company quality performance with competitors’.

A major consideration relating to use of data and analysis to improve competitive performance involves the creation and use of performance indicators. Performance indicators are measurable characteristics of products, services, processes, and operations the company uses to evaluate performance and to track progress. The indicators should be selected to best represent the factors that determine customer satisfaction and operational performance. A system of indicators tied to customer and/or company performance requirements represents a clear and objective basis for aligning all activities of the company toward common goals. Through the analysis of data obtained in the tracking processes, the indicators themselves may be evaluated and changed. For example, indicators selected to measure product and service quality may be judged by how well they correlate with customer satisfaction.

## Partnership Development

Companies should seek to build internal and external partnerships, serving mutual and larger community interests. Such partnerships might include those that promote labor–management cooperation such as agreements with unions, cooperation with suppliers and customers, and linkages with education organizations. Partnerships should consider longer-term objectives as well as short-term needs, thereby creating a basis for mutual investments. The building of partnerships should address means of regular communication, approaches to evaluating progress, means for modifying objectives, and methods to accommodate to changing conditions.

## Public Responsibility

A company’s customer requirements and quality system objectives should address areas of corporate citizenship and responsibility. These include business ethics, public health and safety, environment, and sharing of quality-related information in the company’s business and geographic communities. Health, safety, and environmental considerations need to take into account the life cycle of products and services and include factors such as waste generation. Quality planning in such cases should address adverse contingencies that may arise throughout the life cycle of production, distribution, and use of products. Plans should include problem avoidance and company response if avoidance fails, including how to maintain public trust and confidence. Inclusion of public responsibility areas within a quality system means not only meeting all local, state, and federal legal and regulatory requirements, but also treating these and related requirements as areas for continuous improvement. In addition, companies should support—within reasonable limits of their resources—national, industry, trade, and community activities to share non-proprietary quality-related information.

## Criteria Framework

The core values and concepts are embodied in seven categories, as follows:

- 1.0 Leadership.
- 2.0 Information and analysis.
- 3.0 Strategic quality planning.
- 4.0 Human resource development and management.
- 5.0 Management of process quality.
- 6.0 Quality and operational results.
- 7.0 Customer focus and satisfaction.

The framework connecting and integrating the categories is given in the figure on page 36.

The framework has four basic elements:

**Driver** Senior executive leadership creates the values, goals, and systems, and guides the sustained pursuit of quality and performance objectives.

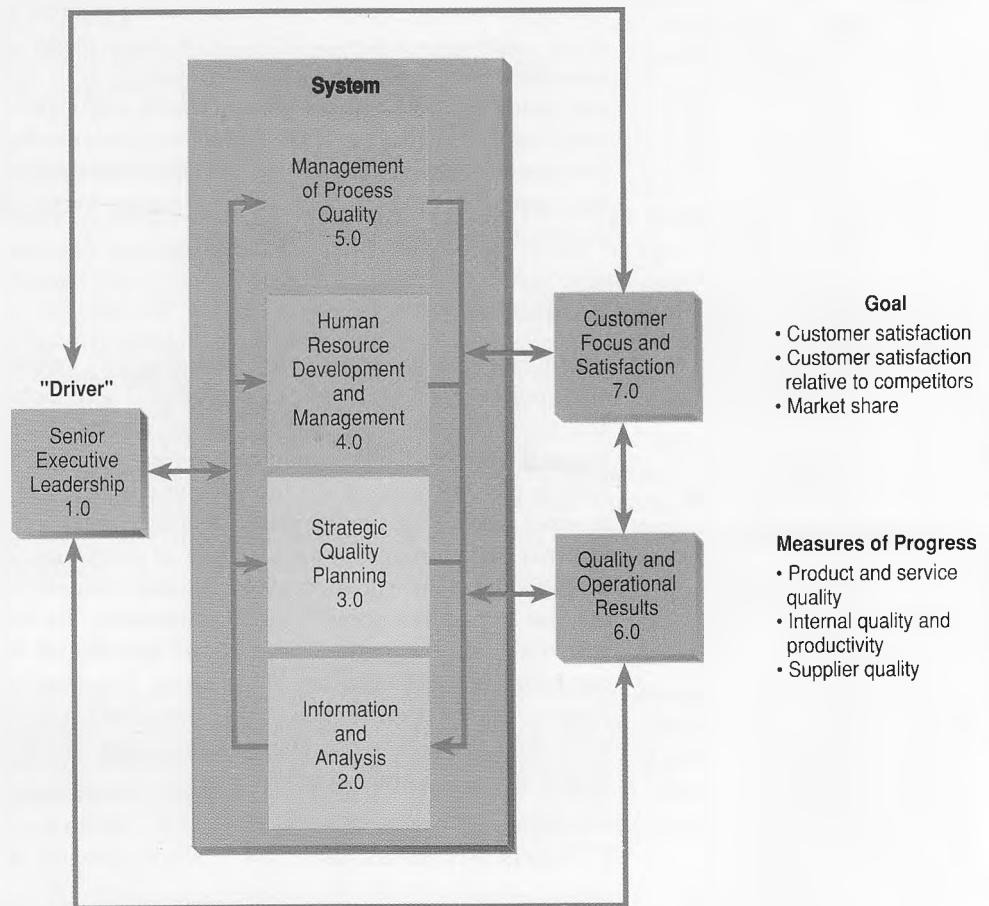
**System** System comprises the set of well-defined and well-designed processes for meeting the company's quality and performance requirements.

**Measures of Progress** Measures of progress provide a results-oriented basis for channeling actions to delivering ever-improving customer value and company performance.

**Goal** The basic aim of the quality process is the delivery of ever-improving value to customers.

The seven Criteria categories shown in the figure are further subdivided into Examination Items and Areas to Address. These are described below.

Baldrige Award Criteria Framework (Dynamic Relationships)



**Examination Items** In all, there are 28 Examination Items among the seven Examination Categories. Examination Categories each contain two or more Examination Items. Each Item focuses on a major element of an effective quality system. All information submitted by applicants is in response to the specific requirements given within these Items. Each Item is assigned an Examination point value. Item titles and point values are enumerated on page 35.

## Linkage of the Award Criteria to Quality-Related Corporate Issues

***Incremental and Breakthrough Improvement*** Use of nonprescriptive, results-oriented Criteria and key indicators are intended to focus on *what* needs to be improved. This approach helps to ensure that improvements throughout the organization contribute to the organization's overall purposes. In addition to supporting creativity in approach and organization, results-oriented Criteria and key indicators encourage "breakthrough thinking"—openness to the possibility for major improvements as well as incremental ones. However, if key indicators are tied too directly to existing work methods, processes, and organizations, breakthrough changes may be discouraged. For this reason, analysis of operations, processes, and progress should focus on the selection of and the value of the indicators themselves. This will help to ensure that indicator selection does not unwittingly contribute to stifling creativity and preventing beneficial changes in organization.

Benchmarks may also serve a useful purpose in stimulating breakthrough thinking. Benchmarks offer the opportunity to achieve significant improvements based on adoption or adaptation of current best practice. In addition, they help encourage creativity through exposure to alternative approaches and results. Also, benchmarks represent a clear challenge to "beat the best," thus encouraging major improvements rather than only incremental refinements of existing approaches. As with key indicators, benchmark selection is critical, and benchmarks should be reviewed periodically for appropriateness.

***Financial Performance*** The Award Criteria address financial performance via three major avenues: (1) emphasis on quality factors and management actions that lead to better market performance, market share gain, and customer retention; (2) emphasis on improved productivity, asset utilization, and lower overall operating costs; and (3) support for business strategy development and business decisions.

The focus on superior offerings and lower costs of operation means that the Criteria's principal route to improved financial performance is through requirements that seek to channel activities toward producing superior overall value. Delivering superior value—an important part of business strategy—also supports other business strategies such as pricing. For example, superior value offers the possibility of price premiums or competing via lower prices, which may enhance market share and asset utilization, and thus may also contribute to improved financial performance.

Business strategy usually addresses factors in addition to quality and value. For example, strategy may address market niche, facilities location, diversification, acquisition, export development, research, technology leadership, and rapid product turnover. A basic premise of the Award Criteria is that quality principles support the development and evaluation of business decisions and strategies, even though many factors other than product and service quality must be considered. Examples of applications of the Criteria to business decisions and strategies include:

- Quality management of the information used in business decisions and strategy—scope, validity, and analysis.
- Quality requirements of niches, new businesses, export target markets.
- Quality status of acquisitions—key benchmarks.
- Analysis of factors—societal, regulatory, economic, competitive, and risk—that may bear upon the success or failure of strategy.
- Development of scenarios built around possible outcomes of strategy or decisions including risks of failures, probable consequences of failures, and management of failure.

- Lessons learned from previous strategy developments—within the company or available through research.

The Award Criteria and evaluation system take into account market share, customer retention, customer satisfaction, productivity, asset utilization, and other factors that contribute to financial performance. However, the Criteria do not call for aggregate financial information such as quarterly or annual profits in evaluation of applications for Awards. This exclusion is made for several reasons—technical, fairness, and procedural:

- Short-term profits may be affected by such factors as accounting practices, business decisions, write-offs, dividends, and investments.
- Some industries historically have higher profit levels than others.
- The time interval between quality improvement and overall financial improvement depends upon many factors. Nor would this interval likely be the same from industry to industry or even for companies in the same industry.
- The Award Criteria measure performance relative to rigorous, customer-oriented, company-performance criteria. Though improved quality may improve a company's financial performance, its financial performance depends also on the quality performance of competitors—which the Award process cannot measure directly. The inclusion of aggregate financial indicators in evaluations would place at a disadvantage many applicants in the most competitive businesses.
- Financial performance depends upon many external factors, such as local, national, and international economic conditions and business cycles. Such conditions and cycles do not have the same impact on all companies.
- Some companies would not participate in the Award process if required to provide more detailed financial information.

***Invention, Innovation, and Creativity*** Invention, innovation, and creativity—discovery, novel changes to existing practices or products, and imaginative approaches—are important aspects of delivering ever-improving value to customers and maximizing productivity. While state of technology may play a key role in corporate involvement in research leading to discovery, innovation and creativity are crucial features in company competitiveness and can be applied to products, processes, services, human resource development, and overall quality systems.

The Award Criteria encourage invention, innovation, and creativity in all aspects of company decisions and in all work areas:

- Nonprescriptive criteria, supported by benchmarks and indicators, encourage creativity and breakthrough thinking as the channel activities toward purpose, not toward following procedures.
- Customer-driven quality places major emphasis on the “positive side of quality,” which stresses enhancement, new services, and customer relationship management. Success with the positive side of quality depends heavily on creativity—usually more so than steps to reduce errors and defects which tend to rely more on well-defined quality techniques.
- Human resource utilization stresses employee involvement, development, and recognition, and encourages creative approaches to improving employee effectiveness, empowerment, and contributions.
- Continuous improvement and cycles of learning are integral parts of the activities of all work groups. This requires analysis and problem solving everywhere within the company.
- Strong emphasis on cycle time reduction in all company operations encourages companies to analyze work paths, work organization, and the value-added contri-

bution of all process steps, thus fostering change, innovation, and creative thinking in how work is organized and conducted.

- Strong emphasis on cycle time and design encourages rapid introduction of new products and services, including those based on new concepts emerging from research areas.
- Quality and quality improvement requirements are deployed to all work units, including research, development, and other groups which have responsibility for addressing future requirements. For such groups, measures and indicators are expected to reflect quality, productivity, and effectiveness appropriate to the exploratory nature of their activities.
- Focusing on future requirements of customers, customer segments, and customers of competitors encourages companies to think in terms of attributes and, hence, innovative and creative ways to serve needs.



CHAPTER

2

THE EVOLUTION OF MANAGEMENT

*After studying this chapter, you should be able to:*

List some of the influential management thinkers and describe their contributions.

■

Differentiate between the efficiency emphasis of the classical approach to management and the people emphasis of the behavioral approach to management.

■

Describe what Frederick W. Taylor meant by the term *scientific methods*.

■

Describe the decision and information sciences approach.

■

Describe the systems approach.

■

Explain the significance of the contingency approach to management.

■

Describe Tom Peters, William Ouchi, and Michael Porter's contributions to management practice.

■



The history of management goes back thousands of years. McDonald's didn't have thousands of years of history, but Ray Kroc used his knowledge, experience, and wisdom to not let changing tastes, demographics, and competitors take market share away. He insisted on continuous improvement, innovation, and quality. This historic legacy remains a part of the fundamental strategies developed and implemented at McDonald's.

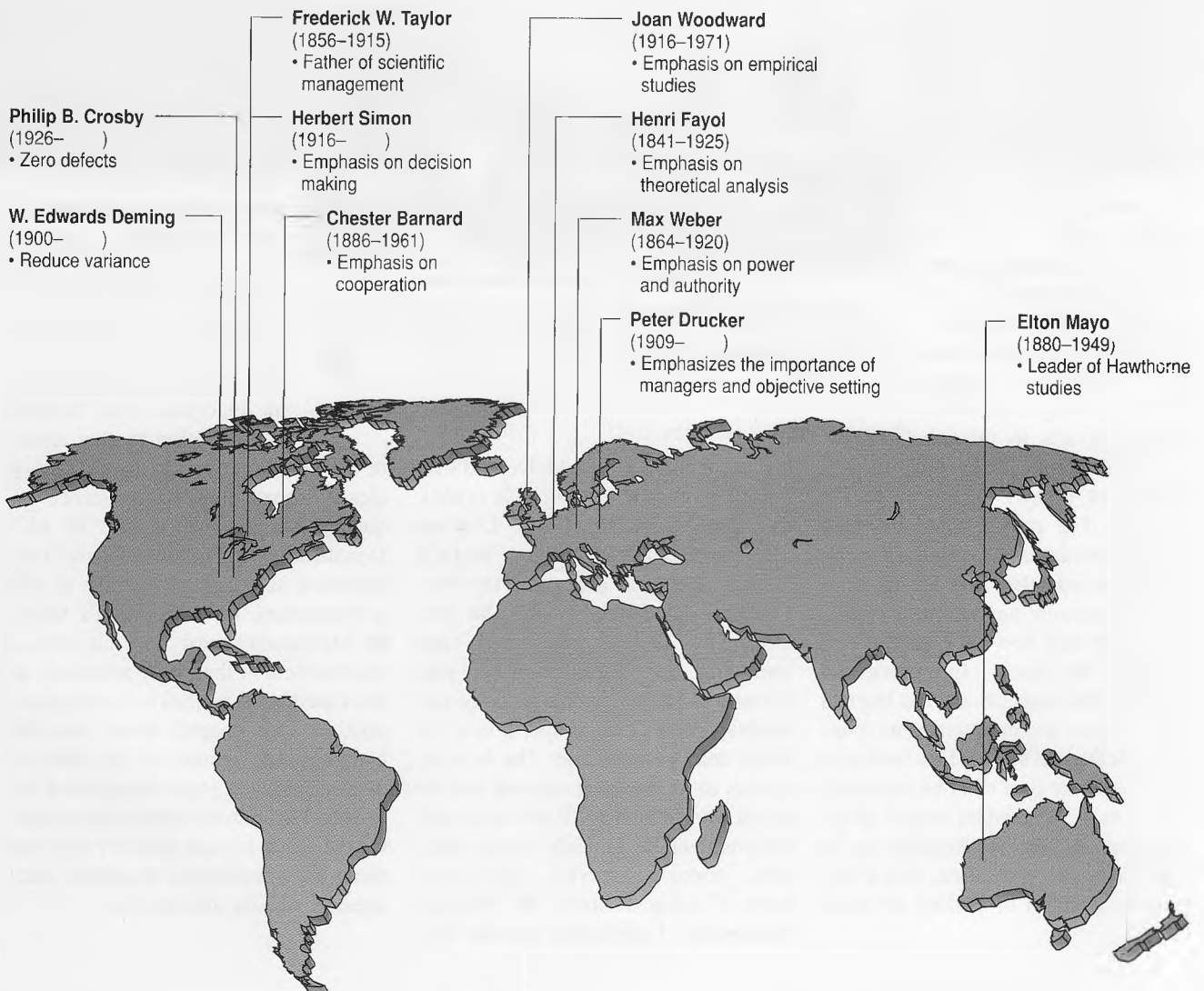
Knowledge of past management history offers insight into how managerial theory and practice has evolved. Here a historical perspective is valuable.

*Historical perspective is the study of a subject in light of its earliest phases and subsequent evolution. Historical perspective differs from history in that the object of historical perspective is to sharpen one's vision of the present, not the past.<sup>1</sup>*

This chapter presents a concise, informative historical perspective of management. A number of contributors, approaches, and practices of the past provide insight, lessons, and techniques to current managers attempting to improve in quality and competitiveness. Interestingly, contributors have come from around the world. As Figure 2-1 shows, management as we know and practice it today has a global flavor.

FIGURE 2-1

## Modern Management Is a Global Affair: Selected Contributors to Management Theory



## ■ MANAGEMENT: A FIELD OF STUDY

The systematic recording and reporting of management practice is primarily a 20th-century phenomenon. Yet the most magnificent feat of management practice and the applications of management principles is probably the construction of the Egyptian pyramids. The planning, organizing, leading, and control functions were applied to the work of over 100,000 people constructing the great pyramid of Cheops in 4000 B.C. Remember, there was no modern technology to move heavy stones great distances, and there were no laws about the length of the workday or safety procedures.

Although trials and tribulations of management today aren't as dramatic as what faced the Egyptians thousands of years ago, management still offers plenty of excitement and challenges. These challenges were launched with the Industrial Revolution, particularly in the United Kingdom in the mid-1700s. The Industrial Revolution shifted manufacturing to a factory setting from a household setting. One individual who recognized the significance of human resources was Robert Owen (1771–1858), a Scottish factory owner who refused to use child labor, which was a common practice of this era. Owen also emphasized good working conditions, cooperation, and tolerance for differences in worker capabilities. Andrew Ure (1778–1857) also recognized the importance of human resources. He provided workers with tea at breaks, medical treatment, and sickness payments. Owen and Ure saw the importance of human beings in producing products. Workers were considered to be more than simply cogs or a factor of necessary input. Workers were the livelihood of factories and, if treated well, could perform excellently.

Modern societies depend on human resources within organizations to provide the goods and services customers seek. These organizations, large and small, are headed by one or more individuals designated “managers.” Even the sole proprietor of a business is a manager. It's the cadre of managers and the workers who have, since the Industrial Revolution, created organizations of all sizes that enhance the standard of living and quality of life in societies around the world.

Managers are the people who allocate society's resources to various (often competing) ends. Managers have the authority and responsibility to build safe or unsafe prod-



Source: New Lanark Conservation Trust.

An early photograph of workers at the model industrial village of New Lanark, near Glasgow, which was managed by Robert Owen.

ucts, seek war or peace, build or destroy cities, and clean up or pollute the environment. Managers establish the conditions under which we're provided jobs, incomes, lifestyles, products, services, protection, health care, and knowledge. It would be difficult to find anyone in a developed or developing nation who's neither a manager nor affected by a manager's decisions.

### Peter Drucker (1909– )

Born in Austria, Peter Drucker was educated as a lawyer and worked as a journalist in Germany. He's now an educator, consultant, and philosopher. His work emphasizes managers' importance in organizational societies. Managers must always make economic performance the top priority. Drucker's central issue is how best to manage a business so that it's successful over time.

Drucker has argued that profits aren't business's major objective:

*There is only one valid definition of business purpose: to create a customer. . . . What the business thinks it produces is not of first importance—especially not to the future of the business and to its success. What the customer thinks he is buying, what he considers “value” is decisive—it determines what a business is, what it produces, and whether it will prosper.<sup>2</sup>*

Drucker considers the present era of management to be a period of transformation. The modern organization must be organized for constant changes. He proposes that to stay current and up to speed, management must engage in three practices. The first is continuing improvement of everything the organization does (the process the Japanese refer to as *kaizen*). Continuous improvement in services, product design, and product use has to become part of daily organizational life. Second, every organization must learn to exploit its knowledge. Taking the knowledge and developing one product after another from the same invention is one of Japanese business's most successful practices. Finally, every firm must innovate. Every organization can accomplish these practices only by acquiring the most essential resource: qualified, knowledgeable people.<sup>3</sup>

In today's organizations individuals who weren't trained as managers often find themselves in managerial positions. Many people presently training to be teachers, engineers, accountants, musicians, salespersons, artists, physicians, or lawyers will one day earn their livings as managers. They'll manage schools, accounting firms, symphonies, sales organizations, museums, hospitals, and government agencies. The United States and other countries are organizational societies that rely on managers to manage work, operations, and people to efficiently accomplish goals. Because the growth in the number and size of organizations is relatively new in history, the study of management is also relatively new.

Even newer than the study of management is the application at a growing list of institutions and enterprises such as Xerox, Motorola, IBM, Wal-Mart, Nike, The Limited, Corning Glass Works, Hewlett-Packard, Oregon State University, and Methodist Hospital (Houston) of what's called *total quality management (TQM)*.<sup>4</sup> It's both a philosophy and a set of guiding concepts, principles, and practices that represent the foundation of organizations that strive to continuously improve. TQM applies human resources and quantitative tools for improving all of the processes occurring within an organization and for meeting customers' current and future needs. It integrates the functions of management, technical and analytical tools, and continuous improvement practices. TQM addresses the quality of management as well as the management of quality. It involves everyone in the organization (managers and workers) in a long-term practice to develop processes that are customer-oriented, flexible, and responsive and that constantly improve quality.

W. Edwards Deming, an American statistician, has taught many managers around the world about total quality management as a system. Deming proposes 14 points of total quality management that (Table 2–1) reveals an emphasis on learning, worker in-

TABLE 2-1

## Deming's 14 Points of Total Quality Management

1. *Create constancy of purpose for improvement of product and service.* Deming suggests a radical new definition of a company's role: Rather than to make money, it's to stay in business and provide jobs through innovation, research, constant improvement, and maintenance.
2. *Adopt the new philosophy.* Americans are too tolerant of poor workmanship and sullen service. We need a new religion in which mistakes and negativism are unacceptable.
3. *Cease dependence on mass inspection.* American firms typically inspect a product as it comes off the assembly line or at major stages along the way; defective products are either thrown out or reworked. Both practices are unnecessarily expensive. In effect, a company is paying workers to make defects and then to correct them. Quality comes not from inspection but from improvement of the process. With instruction, workers can be enlisted in this improvement.
4. *End the practice of awarding business on price tag alone.* Purchasing departments customarily operate on orders to seek the lowest-priced vendor. Frequently, this leads to low-quality supplies. Instead, buyers should seek the best quality in a long-term relationship with a single supplier for any one item.
5. *Improve constantly the system of production and service.* Improvement isn't a one-time effort. Management is obligated to continually look for ways to reduce waste and improve quality.
6. *Institute training.* Too often, workers have learned their job from another worker who was never trained properly. They're forced to follow unintelligible instructions. They can't do their jobs well because no one tells them how to do so.
7. *Institute leadership.* The supervisor's job isn't to tell people what to do nor to punish them but to lead. Leading consists of (1) helping people do a better job and (2) learning by objective methods who needs individual help.
8. *Drive out fear.* Many employees are afraid to ask questions or to take a position, even when they don't understand what their job is or what's right or wrong. They will continue to do things the wrong way or not do them at all. Economic losses from fear are appalling. To ensure better quality and productivity, people must feel secure.
9. *Break down barriers between staff areas.* Often a company's departments or units are competing with each other or have goals that conflict. They don't work as a team so they can solve or foresee problems. Worse, one department's goals may cause trouble for another.
10. *Eliminate slogans, exhortations, and targets for the work force.* These never helped anybody do a good job. Let workers formulate their own slogans.
11. *Eliminate numerical quotas.* Quotas take into account only numbers, not quality or methods. They're usually a guarantee of inefficiency and high cost. To hold their jobs, people meet quotas at any cost, without regard to damage to their company.
12. *Remove barriers to pride of workmanship.* People are eager to do a good job and distressed when they can't. Too often, misguided supervisors, faulty equipment, and defective materials stand in the way of good performance. These barriers must be removed.
13. *Institute a vigorous program of education and retraining.* Both management and the work force must be educated in the new methods, including teamwork and statistical techniques.
14. *Take action to accomplish the transformation.* A special top management team with a plan of action is needed to carry out the quality mission. Workers can't do it on their own, nor can managers. A critical mass of people in the company must understand the 14 points.

Source: Adapted from W. Edwards Deming, *Out of the Crisis*, 2nd ed. (Cambridge, Mass.: MIT Center for Advanced Engineering Study, 1986); and Lloyd Dobyns and Clare Crawford-Mason, *Quality or Else* (Boston: Houghton Mifflin, 1991).

volvement, leadership, and continuous improvement. Deming remarks, "People are born with intrinsic motivation. . . . People are born with a need for relationships with other people and with a need to be loved and esteemed by others. . . . One is born with a natural inclination to learn and to be innovative. One inherits a right to enjoy his work."<sup>5</sup> The 3 key ingredients of these 14 points, according to Deming, are continual improvement, constancy of purpose, and profound knowledge.

## ■ THE CLASSICAL MANAGEMENT APPROACH

A critical problem facing managers at the turn of the 20th century was how to increase the efficiency and productivity of the work force. The effort to resolve these issues marked the beginning of the study of modern management. It was eventually labeled *the classical approach*, as is usually the case with the beginning effort of every field of study.

We believe that the classical approach to management can be best understood by examining it from two perspectives based on the problems each perspective examined.

One perspective, *scientific management*, concentrated on lower-level managers dealing with everyday problems of the workforce. The other perspective, *classical organization theory*, concentrated in top-level managers dealing with the everyday problems of managing the entire organization. For management students, the classical approach's contributions are critical. These insights, in fact, constitute the core of the discipline of management and the process of management and comprise a major part of this book. Let's briefly examine each perspective.

## Scientific Management

At the turn of the 20th century, business was expanding and creating new products and new markets, but labor was in short supply. Two solutions were available: (1) substitute capital for labor or (2) use labor more efficiently. **Scientific management** concentrated on the second solution.

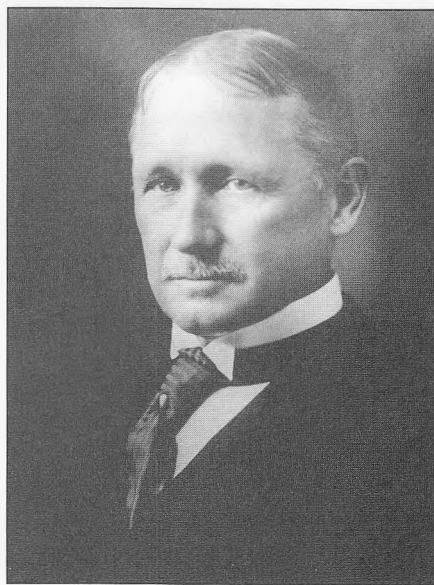
### scientific management

Practices introduced by Frederick W. Taylor to accomplish the management job. Taylor advocated the use of scientific procedures to find the one best way to do a job.

**Frederick Winslow Taylor (1856–1915)** F. W. Taylor, called the Father of Scientific Management, was an engineer by training. He joined Midvale Steel Works as a laborer and rose through the ranks to become a chief engineer.<sup>6</sup> Taylor believed that management's principal object should be to secure the maximum prosperity for the employer, coupled with the maximum prosperity of each employee. The mutual interdependence of management and workers was a common message he expressed.

Taylor's view of "science" insisted upon the systematic observation and measurement of worker activities. He was driven by the notion of applying science to answer questions about efficiency, cooperation, and motivation. Taylor believed that inefficient rules of thumb of management inevitably lead to inefficiency, low productivity, and low-quality work. He recommended developing a science of management, the scientific selection and development of human resources, and personal cooperation between management and workers. Taylor believed that conflict among employees would obstruct productivity and so should be eliminated.

Taylor advocated maximum specialization of labor. He believed the person should become a specialist and master of specific tasks. Also, he assumed that increased efficiency would result from specialization. Taylor was unhappy with anything short of the



Source: Stevens Institute of Technology; Hoboken, N.J.

Frederick Winslow Taylor, the "Father of Scientific Management." He believed in the interdependence of management and workers.

one best way. He searched through the use of scientific methods for the one best way to manage.

Taylor tried to find a way to combine the interests of both management and labor to avoid the necessity for sweatshop management. He believed that the key to harmony was seeking to discover the one best way to do a job, determine the optimum work pace, train people to do the job properly, and reward successful performance by using an incentive pay system. Taylor believed that cooperation would replace conflict if workers and managers knew what was expected and saw the positive benefits of achieving mutual expectations.<sup>7</sup>

To the modern student of management, Taylor's ideas may not appear to be insightful. Given the times in which he developed them, however, his ideas were lasting contributions to how work is done at the shop floor level. He urged managers to take a more systematic approach in performing their job of coordination. His experiments with stopwatches and work methods stimulated many others at that time to undertake similar studies.<sup>8</sup>

Interestingly, if scientific management were evaluated in terms of its impact on management practice at the time of its development, it would receive a low grade. While some firms adopted scientific management, Taylor and his followers' methods were largely ignored. One cause of the seeming failure was Taylor and other scientific management supporters' failure to understand fully the psychological and sociological aspects of work. For example, scientific management made the implicit assumption that people are motivated to work primarily by money. In the late 19th century, this was undoubtedly a valid assumption. To assume this today, however, is far too simplistic.

## Classical Organization Theory

Another body of ideas developed at the same time as scientific management. These ideas focused on the problems faced by top managers of large organizations. Since this branch of the classical approach focused on the management of organizations (while scientific management focused on the management of work), it was labeled *classical organization theory*. Its two major purposes were (1) to develop basic principles that could guide the design, creation, and maintenance of large organizations and (2) to identify the basic functions of managing organizations.

An area receiving little mention in early classical literature was ethics within the work setting. Managers were involved in efficiency and applying the principles of management, but weren't considered promoters of an ethical society. Today, however, firms and managers are involved in promoting ethical behavior, as the Ethics Spotlight illustrates.

Engineers constitute many of the prime contributors to scientific management; numerous practicing executives were the major contributors to classical organization theory.

**Henri Fayol (1841–1925)** A French mining engineer by training, Henri Fayol (1841–1925) eventually became a managing director of a French mining and metallurgical combine, Commentary-Fourchamboult-Decazeville. Besides many articles on administration, his most famous writing was the book, *General and Industrial Management*, translated by Constance Storrs and first issued in 1949.<sup>9</sup> Fayol outlined an organization's activities into six categories:

1. Technical (production, manufacturing).
2. Commercial (buying, selling).
3. Financial.
4. Security (protecting property and persons).
5. Accounting.
6. Managerial (planning, organizing, commanding, coordinating, and controlling).

These six categories in varying degrees are essential and present in all organizations.



## ETHICS SPOTLIGHT

## TOTAL ETHICS AT TRAIDCRAFT

Simply having a code of ethics doesn't make a business ethical. Neither does an ethical response in reaction to consumers' demands or to political pressure. Instead, argues Richard Evans (external affairs director of Traidcraft Plc.), the ethics movement in business should be motivated by a vision of "total ethics" on the order of the total quality and zero defects movements. Evans says that to develop total ethics, managers must be trained and encouraged to get out of the habit of viewing ethical strategy in terms of responses to internal and external threats to the business. Managers must be encouraged to take an active role in creating an ethical society.

Evans has developed a new total ethics program for Traidcraft, a limited company selling craft products from Bangladesh. Begun in 1979, it seeks to redress the imbalance in wealth and opportunity between people in developing countries and people in the rich industrialized countries. In its first 12 years, the company sold more than \$20 million worth of products from the Third World.

Evans points out that the Traidcraft view is that "businesses are not distinct social entities, but merely activities of society as a whole." In addition, the company believes that "business plays a major social role in human development: through the way people at work are taught to, and then enabled to, fulfill their economic role in society or in its effects on those it excludes from an economic role."

To take into account this broad social responsibility, Traidcraft operates with the interests of multiple stakeholders in mind. Evans said, "If business is regarded as an activity of

society, we can define a much larger number and range of stakeholders than the shareholders with the financial interest." Stakeholders Traidcraft takes into account include lenders, creditors, employees, managers, government, consumers, suppliers, and others.

The company's total ethics culture was created within its overall mission:

Traidcraft promotes practical service and partnership for change, which will characterize the organization that puts people before profits.

Evans states that total ethics is manifest in Traidcraft's business practices as it aims to be one of the agencies that will change society through the nature and manner of its business activity. Its founders and directors do not claim to know what is best for society and have, therefore, encouraged the participation of all stakeholders in developing the company objectives and have made its policies and practices open for public scrutiny.

Public demand for ethical business practices has deep roots in western ethical traditions. With the complex and competitive new global marketplace, a new view of total ethics founded on continuous improvement and taking the views of various stakeholders into account seems to be a workable alternative.

Source: Adapted from Richard Evans, "Business Ethics and Changes in Society," *Journal of Business Ethics* 10 (1991), pp. 871-76; and David Vogel, "Business Ethics: New Perspectives on Old Problems," *California Management Review*, 33, no. 4 (1991), pp. 101-17.

**Principles of Management** Fayol proposed 14 principles to guide the thinking of managers in resolving problems (Table 2-2). He never recommended total obedience to the principles but suggested that a manager's "experience and sense of proportion" should guide the degree of application of any principle in a particular situation. As with scientific management, the reader should keep in mind the time in which Fayol developed his principles and his intent. He probably was the first major thinker to address problems of managing large-scale business organizations, which were a relatively new phenomenon then.

**Functions of Management** Fayol was perhaps the first individual to discuss management as a process with specific functions that all managers must perform. He proposed four management functions.

1. **Planning.** Fayol believed that managers should (1) make the best possible forecast of events that could affect the organization and (2) draw up an operating plan to guide future decisions.
2. **Organizing.** Fayol believed that managers must determine the appropriate combination of machines, material, and humans necessary to accomplish the task.
3. **Commanding.** In Fayol's scheme, commanding involved directing the subordinates' activities. He believed that managers should set a good example and have direct, two-way communication with subordinates. Finally, managers must continually evaluate

TABLE 2-2  
Fayol's 14 Principles  
of Management

1. *Division of work.* Specialization of labor is necessary for organizational success.
2. *Authority.* The right to give orders must accompany responsibility.
3. *Discipline.* Obedience and respect help an organization run smoothly.
4. *Unity of command.* Each employee should receive orders from only one superior.
5. *Unity of direction.* The efforts of everyone in the organization should be coordinated and focused in the same direction.
6. *Subordination of individual interests to the general interest.* Resolving the tug of war between personal and organizational interests in favor of the organization is one of management's greatest difficulties.
7. *Remuneration.* Employees should be paid fairly in accordance with their contribution.
8. *Centralization.* The relationship between centralization and decentralization is a matter of proportion; the optimum balance must be found for each organization.
9. *Scalar chain.* Subordinates should observe the formal chain of command unless expressly authorized by their respective superiors to communicate with each other.
10. *Order.* Both material things and people should be in their proper places.
11. *Equity.* Fairness that results from a combination of kindness and justice will lead to devoted and loyal service.
12. *Stability and tenure of personnel.* People need time to learn their jobs.
13. *Initiative.* One of the greatest satisfactions is formulating and carrying out a plan.
14. *Esprit de corps.* Harmonious effort among individuals is the key to organizational success.

both the organizational structure and their subordinates, and they shouldn't hesitate to change the structure if they consider it faulty, or to fire incompetent subordinates.

4. *Controlling.* Controlling ensures that actual activities are consistent with planned activities. Fayol didn't expand the idea except to state that everything should be "subject to control."

## Authority of Management

Born in Germany, Max Weber (1864–1920) studied law and then entered an academic career at Berlin University. He studied and reported on the theory of authority structures in organizations. He made a distinction between power (the ability to force people to obey) and authority (where orders are voluntarily obeyed by those receiving them). In an authority system, those in the subordinate role (workers) see the issuing of directives by those in the authority role (managers) as legitimate.

The first mode of exercising authority is based on the qualities of the leader. Weber used the Greek term *charisma* to mean any quality of the individual's personality that sets him apart from ordinary people. A second mode of exercising authority is through precedent and usage. Managers in such an interpretation have authority by virtue of the status and the position they've achieved or inherited.

Weber believed that the "bureaucratic" organization is the dominant institution in society because it's the most efficient. Precision, speed, unambiguity, continuity, unity, and strict subordination are results of bureaucratic arrangements. As used by Weber, **bureaucracy** refers to a management approach based on formal organizational structure with set rules and regulations that relies on specialization of labor, an authority hierarchy, and rigid promotion and selection criteria.

### bureaucracy

An organizational design that relies on specialization of labor, a specific authority hierarchy, a formal set of rules and procedures, and rigid promotion and selection criteria.

## Contributions and Limitations of the Classical Approach

The greatest contribution of the classical approach was that it identified management as an important element of organized society. Management has, if anything, increased in importance in today's more global and competitive world. Advocates of the classical approach believe that management—like law, medicine, and other occupations—should be practiced according to principles that managers can learn. It's these principles that managers in Central and Eastern Europe and in the Commonwealth of Independent

States (e.g., Russia, Latvia, Belarus, etc.) must now learn to compete with the West and around the world.

The identification of management functions such as planning, organizing, leading, and controlling provided the basis for training new managers. How management functions are presented often differs, depending upon who's presenting them. But any listing of management functions acknowledges that managers are concerned with *what* the organization is doing, *how* it's to be done, and *whether* it was done.

Contributions of the classical approach, however, go beyond the important work of identifying the field of management and its process and functions. Many management techniques used today (for example, time and motion analysis, work simplification, incentive wage systems, production scheduling, personnel testing, and budgeting) are derived from the classical approach.

One major criticism of the classical approach is that the majority of its insights are too simplistic for today's complex organizations in a constantly changing world. Critics argue that scientific management and classical organization theory are more appropriate for the past, when most organizations' environments were stable and predictable. The changing environment, shifting workers' expectations, increasing competition, growing diversity of the work force, rising government regulations, and changing public responsibility and ethical expectations of society today are discussed in the next chapter. The total ethics approach at Traidcraft would be a surprising philosophy in the early days of classical management thinking.

## ■ THE BEHAVIORAL APPROACH

The behavioral approach to management developed partly because practicing managers found that the ideas of the classical approach didn't lead to total efficiency and workplace harmony. Managers still encountered problems because subordinates didn't always behave as they were supposed to. Thus, interest in helping managers become more efficient grew.

The behavioral approach to management has two branches. The first branch, the *human relations approach*, became popular in the 1940s and 1950s. The second branch, the *behavioral science approach*, became popular in the 1950s and still receives a great deal of attention today.

### The Human Relations Approach

The term **human relations approach** focuses on individuals working in group settings. Managers and workers are studied in terms of what occurs with the group.

An Australian, Elton Mayo (1880–1949) has been called the founder of both the human relations and the industrial sociology movements. The research work that he directed at Harvard University showed the importance of groups in affecting individuals' behavior at work.

Mayo's initial interests were in fatigue, accidents, and labor turnover, and their effect on rest pauses and physical conditions of work. He was responsible for the most famous and highly publicized management studies at the Hawthorne works of the Western Electric Company in 1927–32 (detailed below).

Mayo's writings and thinking led to a fuller realization and understanding of the human factor in work situations. Central to this was the discovery of the informal group as an outlet and source of motivation for workers. His work also led to an emphasis on the importance of an adequate upward-flowing communication system.

A prominent human relations contributor was Hugo Munsterberg (1863–1916), a German psychologist and philosopher. He published a book that linked scientific management and human behavior. Mary Parker Follett (1868–1933), another contributor to the human relations approach, laid the foundation for studies in group dynamics, conflict management, and political processes in organizations.

**human relations approach**  
An approach describing how managers interact with subordinates. Attention is focused on the individual worker's needs, goals, and expectations.

Followers of this approach believe that to develop good human relations, managers must know why their workers behave as they do and what psychological and social factors influence them.

Students of human relations bring to management's attention the important role individuals play in determining an organization's success or failure. They try to show how the process and functions of management are affected by differences in individual behavior and the influence of groups in the workplace. Thus, while scientific management concentrates on the job's *physical* environment, human relations concentrates on the *social* environment.

Human relations experts believe that management should recognize employees' needs for recognition and social acceptance. They suggested that, since groups provide members with feelings of acceptance and dignity, management should look upon the work group as a positive force that could be utilized productively. Therefore, managers should be trained in people skills as well as technical skills.

## The Behavioral Science Approach and the Hawthorne Studies

Other individuals who were university trained in the social sciences such as psychology, sociology, and cultural anthropology began to study people at work. They had advanced training in applying the scientific approach to the study of human behavior. These individuals have become known as *behavioral scientists*, and their approach is considered to be distinct from the human relations approach.

Individuals using the **behavioral science approach** believe that workers are much more complex than the "economic man" described in the classical approach or the "social man" described in the human relations approach. The behavioral science approach concentrates more on the nature of work itself and the degree to which it can fulfill the human need to use skills and abilities. Behavioral scientists believe that an individual is motivated to work for many reasons in addition to making money and forming social relationships.

As mentioned above, the **Hawthorne studies** (1927–1932, in a Western Electric Plant) are the most famous in management literature.<sup>10</sup> The company (which manufactured equipment for the telephone company) was known for its concern for its employees' welfare. It had maintained high standards in wages and hours. The study's original aim was to determine the relationship between intensity of illumination and two groups of workers' efficiency, measured in output. The intensity of light under which one group worked was varied, but was held constant for the other group.

No simple relations were found between experimental changes in the intensity of illumination and observed changes in the rate of output. The researchers were unable to isolate changes in output resulting from the change in illumination. They concluded that the workers were providing a "psychological" reaction to the lighting changes. That is, they were reacting the way they thought the experimenters wanted them to react. This is called a **Hawthorne effect**.

The researchers then set up a relay assembly test room experiment. Six women were selected to work on assembling telephone relays in the test room. The women were studied over a long period of time as working conditions were altered (e.g., method of payment, rest period length). There were 12 different changes introduced. It was determined that, in each experimental period, output was higher than the preceding one.

The researchers concluded that changes and improvement in output were less affected by any of the 12 changes in work conditions that were introduced than by the attitudes of the six work team individuals. The cohesiveness and friendships among the team members were found to be significant. The group developed leadership and a common purpose—an increase in the output rate.

The Hawthorne studies pointed out that workers are motivated by more than economic factors. Workers' attitudes are affected by their feelings about each other and a common purpose. Today this is a commonsense thought, but in 1927–1932, it wasn't a

### Behavioral science approach

Using the techniques, attitudes, and opinions of psychologists, sociologists, and anthropologists to study and understand individuals in the workplace.

### Hawthorne studies

The most famous studies ever conducted in the field of management. Done at Western Electric's Hawthorne plant in a suburb of Chicago.

### Hawthorne effect

The tendency of people being observed in a research effort to react differently than they would otherwise.

common belief.<sup>11</sup> The research was conducted before the era of collective bargaining and safety regulations, when workdays averaged 10 to 12 hours and 12-year-olds worked alongside adults.

While a professor of industrial sociology in London, from 1953 to 1957 Joan Woodward led the South-East Essex research team studying manufacturing firms. She investigated characteristics such as span of control (number of workers reporting to a manager), number of levels of authority, amount of written communications, and clarity of job definitions. She found significant differences across firms.

Woodward's research work and additional case studies showed that a firm's technology plays a significant role in its structure. She, unlike Frederick W. Taylor, found that there's no best way to manage or structure an organization. She warned against accepting principles of management as universally applicable.

Woodward's work pioneered an improved understanding of how empirical research can be used to change organizations' structure. She elevated empirical work to a level whereby managers could derive value from the results. Woodward also illustrated how comparisons of a large number of firms could be managed so that generalizations could be made to other organizations.

## Contributions and Limitations of the Behavioral Approach

For the student of management, the behavioral approach has contributed a wealth of important ideas and research results on the people-managing aspect of management. The basic rationale is that, since management must get work done through others, management is really applied behavioral science, because a manager must motivate, lead, and understand interpersonal relations.

The efficiency emphasis of the classical management approach was supplemented with a focus on people and their needs, emotions, and thoughts. The work of the behavioral management approach resulted in organizations being considered as social systems with both formal and informal patterns of authority and communications. Workers, their skills, and their involvement in groups and motivation were proposed to be at the core of any success that management achieves.

The basic assumption that managers must know how to deal with people appears valid. But management is more than applied behavioral science. For the behavioral approach to be useful to managers, it must make them better practitioners of the process of management. It must help them in problem situations. In many cases, this objective hasn't been achieved because of some behavioral scientists' tendency to use technical terms when trying to introduce their research findings to practicing managers. Also, in some situations, one behavioral scientist (a psychologist) may have a different suggestion than another (a sociologist) for the same management problem. Human behavior is complex and is studied from a variety of viewpoints. This complicates the problem for a manager trying to use insights from the behavioral sciences.

## THE DECISION AND INFORMATION SCIENCES (DISC) APPROACH

decision and information sciences approach

In working with people, this approach uses mathematics, statistics, decision-making principles, and information systems to resolve problems.

The **decision and information sciences (DISC) approach** to management is in one sense a modern version of early emphasis on the "management of work" by those interested in scientific management. Its key feature is *the use of decision making, information systems, mathematics, and statistics to aid in resolving production and operations problems*. Thus, the approach focuses on solving technical rather than human behavior problems.

### Origins of the DISC Approach

The DISC approach has only existed formally for approximately 50 years. It began during the early part of World War II when England was confronted with some

complex military problems that had never been faced before, such as antisubmarine warfare strategy. To try to solve these problems, the English formed teams of scientists, mathematicians, and physicists. The units, named *operations research* teams, proved to be extremely valuable. When the war was over, American firms began to use the approach.

Herbert Simon, a distinguished American political and social scientist, influenced the thinking and practice of decision and information science-based management.<sup>12</sup> He viewed management as equivalent to decision making, and his major interest has been how decisions are made and how they might be made more effectively.

Simon describes three stages of decision making:

1. Finding occasions requiring a decision (intelligence).
2. Inventing, developing, and analyzing possible courses of action (design).
3. Selecting a course of action (choice).

In Simon's thinking, all managerial action is decision making. Economists' traditional theory is that decisions are made on the basis of rationality. However, in the real world, there are limits to rationality such as the emotions of the decision maker. In place of the "economically rational" decision maker, Simon proposes a "satisficing" decision maker. That is, decisions are made that are satisfactory or "good enough." Instead of searching for a decision to maximize profits, an adequate profit is sought.

Simon views decisions on a continuum ranging from programmed, or routinely occurring, to nonprogrammed, or nonroutine and unstructured. Because many decisions are toward the nonprogrammed end of the continuum, techniques such as mathematical analysis, operations research, and computer simulation have gained prominence. These techniques were first used for programmed decisions. However, with the use of computers and mathematics, more and more elements of judgment can now be incorporated into the decision-making process. As computer technology becomes more advanced, more complex decisions will become programmed.

## Contributions and Limitations of the DISC Approach

Today the most important contributions of decision and information sciences management approach are in the areas of production management and operations management and information systems. *Production management* focuses on manufacturing technology and the flow of material in a manufacturing plant. Here, management science has contributed techniques that help solve production scheduling problems, product and service quality improvement problems, budgeting problems, and maintenance of optimal inventory levels.

*Operations management* is similar to production management except that it focuses on a wide class of problems and includes organizations such as hospitals, banks, government, and the military, which have operations problems but don't manufacture tangible products. For such organizations, management science has contributed techniques to solve such problems as budgeting, planning for work force development programs, and aircraft scheduling.

*Information systems* refers to the use of computers in helping managers make better decisions and increase an organization's efficiency. The computer now permits managers to gather and accurately process large volumes of data, produce reports in a timely manner, make projections about the future, communicate with geographically separate parts of the organization, and apply quantitative techniques to improve the enterprise's efficiency and performance.

Information is a chief ingredient used by managers. It's data evaluated or processed for a particular use. Information is disseminated up, down, and across an enterprise's units. Large volumes of information are now commonly stored in data bases (centralized collections of data and/or information for a particular subject). Organizations of all sizes now depend on the flow of information and the availability of data bases to make more

informed and more timely decisions. Planning, organization, leading, and controlling decisions have been enhanced because of the availability of information systems.

We noted in our discussion of the behavioral approach that management is more than applied behavioral science. At this point, we should stress that decision and information sciences can't substitute for management. DISC approach techniques are especially useful to the manager performing the management process. If there's a flaw in the DISC approach, it's that too little emphasis has been placed on people and how they can use the tools and techniques available. What good is information provided by a computer if it's not interpretable, relevant, or specific? What good is a new statistical quality control chart if the worker can't interpret its meaning or even produce the chart? What good is the mathematically oriented inventory model if the data entered is inaccurate? Workers, customers, and managers using DISC techniques and approaches need to be viewed as users, interpreters, and benefactors. Their needs, reactions, and understanding must be weighed in deciding on an appropriate DISC approach.

## ■ THE SYSTEMS MANAGEMENT APPROACH

### system

A collection of parts that operate interdependently to achieve common goals.

The systems approach to management is essentially a way of thinking about organizations and management problems. A **system** is a collection of parts that operates interdependently to achieve common goals.<sup>13</sup> The whole of the system is considered to be greater than the sum of its parts. 3M (Minnesota Mining and Manufacturing Co.) is more than a research and development, marketing, and production unit.

From the systems perspective, management involves managing and solving problems in each part of the organization, but doing so with the understanding that actions taken in one part of the organization affect other parts of the organization. For example, implementing a solution to a problem in a firm's production department will likely affect other aspects of the company such as marketing, finance, and personnel. Each part is tightly linked to other organizational parts; no single part of an organization exists and operates in isolation from the others. Thus, in solving problems, managers must view the organization as a dynamic whole and try to anticipate their decision's unintended as well as intended impacts.

Chester Barnard (1886–1961) was president of New Jersey Bell Telephone and a systems advocate. He viewed an organization as an aggregation of units that interact. He introduced the concept of the “system of coordination.” Barnard was the first major theorist after the Hawthorne studies to emphasize the importance and variability of individuals in the work setting.

Barnard believed that an essential element of organizations is people's willingness to contribute their individual efforts to the cooperative system. The need for cooperation and interdependence is clearly presented in Barnard's classic management book, *The Functions of the Executive*:

*A cooperative system is a complex of physical, biological, personal, and social components which are in a specific systematic relationship by reason of the cooperation of two or more persons for at least one definite end.*<sup>14</sup>

## Open Systems

According to the systems approach, the elements of an organization are interconnected. The approach also views the organization as linked to its environment. Organizational effectiveness, even survival, depends on the organization's interaction with its environment. To further your understanding of these ideas, let's consider Compaq Computers, Inc., as an example. As a computer manufacturer, Compaq Computer is an **open system** that actively interacts with its environment. (For now, consider the environment as comprised of such factors as customers, competitors, financial institutions, suppliers, and the

### open system

An organization that interacts with its environment and uses the feedback received to make changes and modifications.

## REFLECTIONS BY PHILIP B. CROSBY

## THE EVOLUTION OF MANAGEMENT

Soon after I gained employment as a quality technician back in 1952, the company sent me to quality control school. There I learned that each process had its own lifestyle and results based on the laws of probability. I also learned that we should assign acceptable quality levels (AQL) to know how many good things would emerge from the process. But the people conducting the process weren't to be trusted so all output had to be examined carefully and protected from use if it was found wanting. Little work was done properly the first time, but this was attributed to humans' built-in error factor. All in all, error was inevitable and it was up to the science of quality control to protect the world.

My education and military experience were in medicine where the main effort was to keep people from getting sick. For this reason, vaccines had been developed to spare people smallpox, diphtheria, polio, and other disagreeable diseases. So all of this scientific determination that things could never be done right the first time on a regular basis didn't make sense to me. But my teachers and coworkers believed it all and so were upset with my deductions. They would point to the statistics and results.

Sure enough, the manufacturing operations were struggling to raise their quality to the AQLs assigned—indicating that more charts and more control were necessary. However, I thought things should be the other way around. The human element was completely missing; these beliefs assumed that “people were no damn good” and that was the end of it.

I felt that the concepts of quality control and of quality assurance (which checks up on quality control) were fatally flawed. I felt that the defect rates were self-fulfilling, caused by the concept rather than the process.

Since I was on the absolute bottom of the organization chart, my concerns had little effect except to generate some fatherly lectures from my superiors. But these

only encouraged me since they were offering advice, not hemlock.

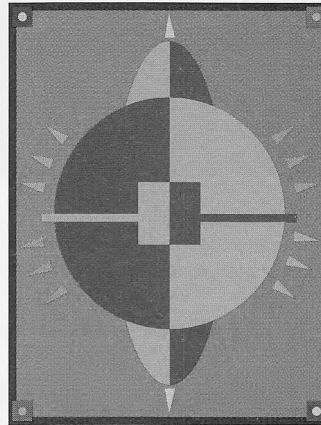
I felt that the main problem was that “quality” was considered to be “goodness” and was therefore negotiable. I proposed that we define the word as meaning “conformance to requirements.” That way we could spend our time teaching and helping people to do their jobs right the first time, rather than just treating the wounded. As we learned we could then improve the requirements. Requirements, I thought, originated when we determined what the customers needed and described the actions necessary to produce that. We weren't talking just about the shop workers here—most of the expensive problems were caused by errors originating in the white-collar and other service areas.

A paper I wrote on these ideas met with a complete lack of support. The conventional wisdom of quality control couldn't accept it. A few years later when I brought out the idea of zero defects as a performance standard, it was completely rejected—even though it worked.

But ideas that deserve to live, live. And now we see that the concept of preventing has become a normal part of management's lifestyle. Relationships with employees, suppliers, and customers are beginning to be a priority of management. The old “do a good job and you get to keep it” style is gone. But there are those who still think doing things right the first time costs more.

We need to continually test the concepts put forth by business practitioners and philosophers. People who would become effective and prosper can't just accept whatever has been believed before. Personal success comes from applying an open mind to current attitudes. A large chest of unsound concepts is waiting to be challenged.

After all, not too long ago tomatoes were considered poisonous.





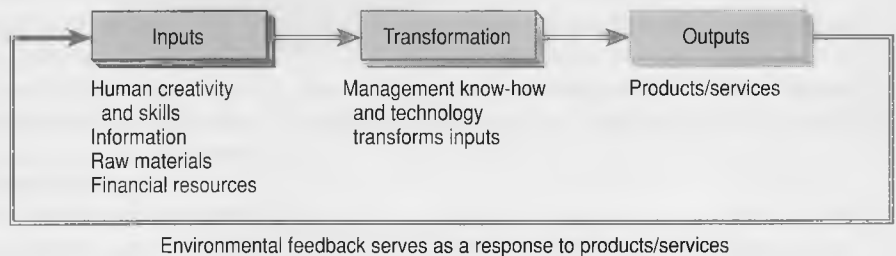


Source: © 1992 Stephen Pumphrey.

Compaq Computer is an example of an open system company that actively interacts with its environment. In order to function, Compaq must both obtain resources from and provide resources to its environment.

FIGURE 2-2

The Four Parts of an Open System Organization (Compaq Computer, Inc.)



government. The environment is detailed in Chapter 3.) Figure 2-2 shows Compaq Computer's basic elements as an open system.

Active interaction means that Compaq both obtains resources from and provides resources to its environment. For example, in order to function, Compaq must obtain *inputs* from the environment. The company needs motivated, skilled employees who can design and manufacture innovative, high-quality personal and business computers. Compaq obtains this resource from the environment—specifically from the graduating classes of universities nationwide, from competitors, and from other organizations.

Financial resources (money) are needed to build manufacturing facilities, to fund Compaq's R&D efforts, and to meet any number of other expenses. Compaq obtains the funds from the environment—from banks, other lending institutions, and people who buy shares of Compaq's stock. Raw materials (e.g., computer parts) are obtained from outside suppliers in the environment. Information about the latest computer product technology and about the latest products developed by Compaq's competitors is also needed. This information substantially influences the design and manufacture of Compaq's computers. Information is obtained from the environment—from research journals, computer conferences, and other external contacts.

These inputs are used, coordinated, and managed in a *transformation* process that produces *output*—in this case, personal and business computers. However, the company's task isn't complete. Compaq provides this resource (output) to the environment by deliv-

ering its computers to retail outlets for sale to customers. Does the company survive? Only if the customer reacts to Compaq's computers and decides to purchase the product. The customer's decision to buy or look elsewhere (for an IBM, Apple, or Hewlett-Packard computer) provides Compaq with *feedback*.

If the feedback is positive (customers buy Compaq), the environment provides a critical input to Compaq—cash which the company uses to obtain other inputs from the environment such as top-quality employees, materials, and knowledge. Negative feedback (no sales) provides Compaq with a serious problem. Regardless, Compaq Computer must closely monitor feedback and act upon it (e.g., changing a failing product's design or features based on customer responses). As an open system in a dynamic environment, Compaq can't afford to ignore the environment. Neglecting development in the environment (e.g., technological innovations, competitors' moves) will, over time, doom the company.

In June 1992 Compaq unleashed an array of new computer products, a total of 41 including new computer models.<sup>15</sup> Historically known for high quality and prices, Compaq has been losing market share to producers of IBM clones. The new models, marketed under the names ProLinea and Contura, are aimed directly at low-cost competitors such as Austin, Texas-based Dell Computer.<sup>16</sup> Compaq has assessed the competition, considered developments in the computer industry, and introduced innovations. It has acted like an open system. Market feedback will help Compaq determine whether squaring off with the clones in 1992 helped or hurt the company.

### Contributions and Limitations of the Systems Management Approach

Importantly, most organizations today operate as open systems to survive and utilize a systems perspective of management. Managers must think broadly about a problem and not concentrate only on the desired results, because these results will impact other problems and parts of the organization as well as the environment beyond the organization. The age-old confrontation between the production objective of low manufacturing costs (achieved by making one product in one color and style) and the marketing objective of a broad product line (requiring high production costs) is a good example. Both objectives can't be achieved at the same time. In this situation, a compromise is necessary for the overall system to achieve its objective. And in seeking a compromise, the organization must always be mindfully aware of the environment (e.g., will customers accept the product's price or design?) The objectives of the individual parts must be compromised for the objective of the entire firm.

Using the systems approach in the preceding example, individual managers must adopt a broad perspective. With a systems perspective, managers can more easily achieve coordination between the objectives of the organization's various parts and the objectives of the organization as a whole.<sup>17</sup>

Critics consider the systems approach to be abstract and not very practical. Talking about inputs, transformations, and outputs isn't how everyday managers discuss problems, make decisions, and face reality. The Compaq manager must think, respond, and observe. He or she doesn't consider how transformation will occur or what the production unit will think about the decision made to go head-to-head with the competition and reduce personal computer prices. The systems concept is good for classroom analysis, but being in the middle of daily decision making precludes deep systems-like analysis and thinking.

## ■ THE CONTINGENCY MANAGEMENT APPROACH

The systems approach to management advocates that managers recognize that organizations are systems comprised of interdependent parts and that a change in one part affects other parts. This insight is important. Beyond this, however, managers need to see how

**contingency management approach**  
An approach that considers an organization's objectives, organizational and job design, human resources, environment, and managerial skills as interacting and affecting management decisions about planning, organizing, leading, and controlling.

the parts fit together. The **contingency management approach** can help you better understand their interdependence.

*The contingency view of organizations and their management suggests that the organization is a system composed of subsystems and delineated by identifiable boundaries from its environmental suprasystem. The contingency view seeks to understand the interrelationships within and among subsystems, as well as between the organization and its environment, and to define patterns of relationships or configurations of variables. It emphasizes the multivariate nature of organizations and attempts to understand how organizations operate under varying conditions and in specific circumstances. Contingency views are ultimately directed toward suggesting organizational designs and managerial systems most appropriate for specific situations.<sup>18</sup>*

## Universalist versus Situationalist Theories

In the early years of management theory, some individuals like Frederick W. Taylor advocated the “universalist” view of management effectiveness. Universalists argued that there indeed exists a one best way to perform different management functions. In their view, management theorists’ task is to identify these superior management prescriptions by developing and then testing theory via research.

However, other management theorists, called *situationalists*, disagreed. In their view, no one best approach to management exists because each situation is too different. No one principle or prescription is supremely applicable across totally unique situations. In fact, very few principles and concepts are useful across situations. Because each managerial situation is unique, a manager must approach each situation with few if any guidelines to follow. Management effectiveness first requires that a manager evaluate each situation from scratch before deciding which action to take.

The contingency approach attempts to bridge the extreme points on this continuum of views. Like the situationalists, contingency theorists don’t subscribe to any one best approach to management. In their view, the situations that managers face do differ and thus prohibit any one best prescription. Ray Kroc, in the fast food industry, used contingency thinking in always searching for innovations to stay ahead of competition.

## Identifying and Evaluating Contingency Variables

Contingency theorists stop short of asserting that all managerial situations are totally unique. Rather, they argue that situations are often similar to the extent that some principles of management can be effectively applied. However, the appropriate principles must be identified. This is done by first identifying the relevant *contingency variables* in the situation and then evaluating those factors.<sup>19</sup>

L-S Electro-Galvanizing (L-SE), a small firm in Cleveland, Ohio, has applied the contingency management approach.<sup>20</sup> Faced with competition in the specialty steel business, the firm decided to devise a system that was most appropriate for a small unionized firm. Before steel can be transformed into hoods and other car parts, it must first be electrogalvanized to prevent corrosion. That requires feeding rolls of steel into a machine that essentially coats the steel with the right mix of zinc and other chemicals before rerolling it and producing the finished product. Unfortunately, even barely discernible blemishes result in customers sending back bad steel. The managers thought about many different ways, structures, procedures, and incentives to reduce the number of blemishes and returned products.

A team of 13 L-SE workers was given the task of addressing the quality problem. The team was motivated by the belief that greater worker responsibility is the best way to reduce complaints and blemishes. L-SE employees, on a volunteer basis, actually run the company. There are seven employee committees that handle everything from hiring and pay schedules to quality checks and handling social events. The quality system and

committee begin with training. Management pays higher wages to workers who successfully complete advanced courses in quality systems and controls. The firm's goal is to train all employees for every job. In addition, employees can earn bonuses of up to 25 percent of their salaries if they reach goals set for the L-SE employee quality committee. Customer satisfaction is a top priority. Each month L-SE surveys its customers about quality. The company also decided to send line employees to meet with customers to discuss how quality can be improved. L-SE didn't adopt a standard management approach. The firm considered its competition, customers, technological competencies, and employees' skills and then decided on the seven-employee committee structure. The result in 1991 was a savings of \$2.2 million and a higher level of morale among proud employees. L-SE managers assumed at the outset that a design and managerial system appropriate for their situation could result from employee involvement.

## ■ CONTEMPORARY INFLUENCES ON THE EVOLUTION OF MANAGEMENT

F. W. Taylor, Herbert Simon, Henri Fayol, and other pioneers of 20th-century management thinking and practice are historical reference beacons that management students read about. These pioneers set the course for reporting about, understanding, and studying management and workers. In addition to these historical giants, there are a number of contemporary philosophers and advocates of management practices. They may eventually stand beside the early pioneers for their shaping of how management is practiced.

### Tom Peters: Excellent Companies

Management consultant Tom Peters was a principal in the consulting firm of McKinsey & Company when his first book, *In Search of Excellence*<sup>21</sup> (with Robert Waterman), became a runaway best-seller. His other best-sellers have been *A Passion for Excellence*,<sup>22</sup> *Thriving on Chaos: Handbook for Management Revolution*,<sup>23</sup> and *Liberation Management*.<sup>24</sup> Today Peters travels around the world giving advice and inspirational talks about managing. He identifies nine aspects of excellently run companies:

1. *Managing ambiguity and paradox.* Chaos is the rule of businesses, not the exception. The business climate is always uncertain and always ambiguous. The rational, numerical approach doesn't always work because we live in irrational times.
2. *A bias for action.* Do it, try it, fix it. The point is to try something, without fear of failure. Sochiro Honda, founder of Honda, said that only 1 out of 100 of his ideas worked. Fortunately for him, he kept trying after his 99th failure.
3. *Close to the customer.* Excellent companies have an almost uncanny feel for what their customers want. This is because they're a customer of their own product or they closely listen to their customers.
4. *Autonomy and entrepreneurship.* Ownership of a department, tasking, or problem is essential in motivating employees. It's the most cited reason for entering into self-employment. Excellent companies allow and encourage autonomy and within-company entrepreneurship.
5. *Productivity through people.* Not surprisingly, people act in accordance with their treatment. Treat them as being untrustworthy, and they will be. Treat them as business partners, and they will be. Excellent companies have taken the leap of faith required to trust their employees to do the right thing right.
6. *Hands-on, value-driven.* Practice management by walking around. Constantly ask the value added of every process and procedure.
7. *Stick to the knitting.* Stay close to your organization's basic industry. The skills or culture involved in a different industry may be a shock that's fatal to the organization.

8. *Simple form, lean staff.* Organizations with few layers of management unencumbered by a bloated headquarters characterize the excellent companies.
9. *Loose-tight properties.* Tight control is maintained while at the same time allowing staff far more flexibility than is the norm.

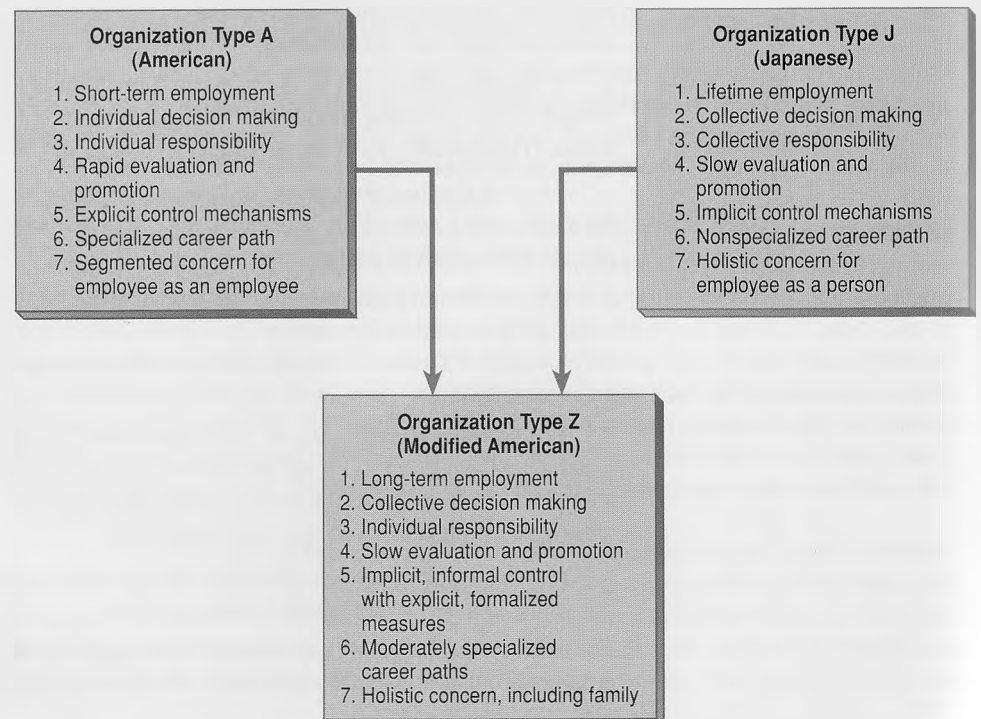
Peters believes that he made a modest close-to-the customer plan in *In Search of Excellence*. His latest book, *Liberation Management*, states that being close to the customer isn't really enough. Management must remove structural impediments to being close to the customer. Liberating the organization from rigid rules, hierarchies, stilted policies, and stifling demands are steps in the direction of developing what Peters calls a "symbiosis" with both domestic and foreign customers.

Peter's contribution isn't found in his methods of study, the ability to replicate his conclusions, or attempts to conform to practices he recommends. In fact, researchers have determined that the excellent firms identified by Peters and Waterman may not have applied the principles called for by the authors.<sup>25</sup> Peters' contribution is that he has stimulated managers, researchers, and theorists to think more seriously about organizations, the tasks of managers and workers, and how to improve management practices. He and his coauthors literally put management on the front burner. Prior to the publication of *In Search of Excellence*, few people paid much attention to management practices, managerial dilemmas, or managerial excellence.

### William Ouchi: Theory Z

Given many Japanese organizations' success in the 1980s and early 1990s, many researchers and management practitioners have analyzed the factors behind these successes. One set of recommendations for American managers was introduced by UCLA management professor William Ouchi in 1981. He introduced what was called *Theory Z* or the combining of American and Japanese management practices. Ouchi based his Theory Z on studies conducted in U.S. and Japanese organizations. Figure 2-3 present Ouchi's findings about how management practices differ and how Theory Z would look.

FIGURE 2-3  
Organization Principles



Ouchi visualized a Theory Z organization as having a distinct American flavor (e.g., individual responsibility) and a unique Japanese emphasis (e.g., collective decision making). The Theory Z approach won't work in every situation, but it encourages managers to consider combining philosophy, methods, and tools to create a more effective organization.

## Michael Porter: Competitive Advantage

Michael Porter (a professor of industrial organization and a consultant at the Harvard Business School) was one of the first contemporary scholars to apply traditional economic thinking to management problems. Porter explains corporate strategy in terms of a competitive marketplace. He identifies four generic strategies: (1) cost leadership, (2) differentiation, (3) cost focus, and (4) focused differentiation as shown in the Porter generic strategy matrix (Figure 2-4). The two axes reflect competitive advantage and competitive scope. Competitive advantage can be gained through lower cost and differentiation. The term *differentiation* refers to the ability to provide unique and superior value to customers in terms of product quality, special features, or after-sale service.

The Japanese, long before Porter introduced his competitive advantage concept, attempted to gain market share in the world's automobile industry. The following Global Exchange explores how the Japanese gained entry into America's auto market in the 1950s and what they are now doing in Japan in the 1990s.

### GLOBAL EXCHANGE

#### PRACTICING PORTER'S COMPETITIVE ADVANTAGE STRATEGIES

Americans and Europeans are learning that the Japanese not only understand what Michael Porter discusses in terms of competitive advantage, but Japanese firms practice what he discusses. In 1955 three companies made 95 percent of the cars that were sold in America. The cars that poured out of Detroit in those days were styled for vanity. Even today people like to be seen in them on a Saturday night—two-seat Ford Thunderbirds and two-tone Chevrolet Bel Airs, clear-topped Mercurys, and understated Chrysler 300s.

General Motors, Ford, and Chrysler could have produced every car sold, but antitrust legislation threats kept them away from controlling a 5 percent market share. The Big Three controlled the distribution system except for the 5 percent segment. They had a competitive advantage. They sold cars to a captive market of exclusive dealerships. The United States dominated the industry.

One small crack in the network of dealerships permitted the Japanese to enter the American market. For America's Big Three, the exclusive-dealership rule was interpreted as a violation of the Clayton Antitrust Act in 1949. This is when auto imports from Japan, Germany, Britain, and France started to compete for a piece of the U.S. market. Volkswagen was the early leader of foreign car imports to America. Around 1958 the Nissan Datsun started to enter the U.S. market in a significant way. The Japanese, long before Porter wrote about and discussed corporate strategy in terms of gaining a competitive advantage, worked on lowering prices, controlling costs, increasing gas mileage, and improving

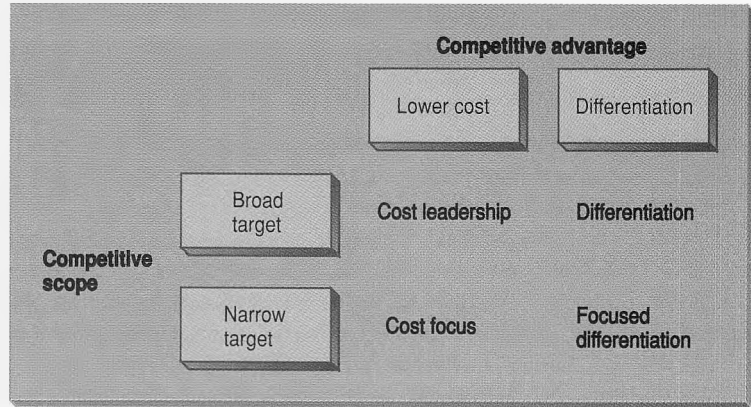
their dealer base. The Japanese concluded in the late 1950s that the small-car category was where they could gain a competitive advantage over the Big Three. In 1993 the Big Three account for about 65 percent of domestic car sales; the 95 percent of the market monopoly is gone.

The Japanese in the early 1990s are adopting a European competitive advantage strategy. Western European car sales are slumping, and the European Community is requesting that Japan hold the line on price reductions of imported autos and those made in Japanese owned plants in Europe. Japanese autos (imported and produced in Europe) make up about 11 percent of the 1993 European auto market. Without holding back and freezing prices, the Japanese would likely win a market share of about 20 percent by 1996.

The Japanese car makers certainly understand Porter's competitive advantage concept. They have practiced it around the world, beginning earnestly around 1958 to gain market share. Consumers around the world have gained a new range of competitively priced and high-quality vehicles because the Japanese have worked at gaining competitive advantages in the auto industry. Japanese competition has helped make the Big Three in the United States aware of the strategies that Porter so eloquently writes, lectures, and consults about around the world.

Source: Adapted from J. M. Fenster, "Detroit Opens the Door for Japan," *Audacity* (Winter 1993), pp. 28-37; and "The Enemy Within," *The Economist*, June 12, 1993, pp. 67-68.

FIGURE 2-4  
Porter's Generic Competitive  
Strategies



Source: Reprinted with permission of *The Free Press*, a Division of Macmillan, Inc., from *The Competitive Advantage of Nations* by Michael E. Porter. Copyright © 1990 by Michael E. Porter.



Source: © Pascal Maitre/Matrix.

A differentiation strategy attempts to improve a firm's competitive advantage by offering unique products. Coca-Cola has a unique taste and can be bought anyplace in the world—from New York City to Camaroon, Africa, shown here.

Competitive scope designates the breadth of the firm's target within its industry. A firm must choose the range of product variables it will produce, the way to distribute its products, the geographic area it will serve, and the array of industries in which it will compete.

The cost leadership strategy involves keeping costs and prices lower than competitors. Korean shipyards produce ships at lower costs and lower prices than main competitors, Japanese firms.

Differentiation is a strategy that attempts to improve a firm's competitive position by developing unique products. Nike's Air Jordan shoes are unique because of their high-technology "air" construction; Coca-Cola has a unique taste and can be bought anyplace in the world; and Benneton sweaters have unique color and patterns.

<div style="display: flex; justify-content: space-around; background-color: #cccccc; padding: 5px;"> <span>QUALITY</span> <span>BENCHMARK</span> </div> MANAGEMENT MILESTONES		
5000 B.C.	4000 B.C.	500 B.C.
Sumerians recognized record keeping.	Egyptians recognized need for planning, organizing and conducting.	Chinese introduced principle of specialization.
1525 A.D.	1750 A.D.	1799 A.D.
Niccolo Machiavelli (Italian) discussed principles of education.	The Industrial Revolution.	Eli Whitney. Use of cost accounting and control.
1834 A.D.	1871 A.D.	1898 A.D.
Robert Owen recognized and applied human resource practices.	Joseph Wharton established first college course in business management at the University of Pennsylvania.	Mary Parker Follett discussed the benefits of group participation.
1911	1913	1916
Frederick W. Taylor published <i>Principles of Scientific Management</i> .	Hugh Munsterberg, Father of Industrial Psychology, published his master work.	Henri Fayol, French industrialist, published his master work.
1927	1936	1950
Elton Mayo and his Harvard colleagues began their study of the Hawthorne works of Western Electric.	The Academy of Management was founded to advance the study of management.	W. Edwards Deming first introduced quality control ideas to top Japanese business managers, which helped Japan to become world-class quality leaders.
1950s	1965	1970s
The emergence of the human relations approach.	Joan Woodward published her findings on technology's impact on organizations.	Contingency theories were introduced.
1981	1982	1990
William G. Ouchi introduced the concept of Theory Z management.	Tom Peters and Robert Waterman identified aspects of excellently managed firms and stimulated thinking about management practices.	Harvard professor Michael Porter combined economic theory and strategy development to analyze competitive advantage.

A cost focus target emphasizes gaining competitive advantage through cost control in a narrow market area. Atlantic Richfield (ARCO) adopted this strategy in the early 1980s when it decided to service customers east of the Rocky Mountains. The fast-growing western states were close to the resource base, Alaska. Therefore, ARCO was able to cut distribution and transportation costs. The result was a lower price of gas and paying attention to a narrower western states market area.



A focused differentiation strategy involves providing a competitive and unique product and/or service to a narrow market area. Fiesta Food Mart has adopted a focused differentiation strategy in Houston and San Antonio. The store provides a unique array of foods for the different ethnic groups in the two cities. The food products aren't found in the natural chains and other competitors. Fiesta's customers find the normal array of goods, but immigrants from Vietnam, El Salvador, Mexico, Peru, and Brazil also find familiar ethnic foods.

Porter's approach is insightful and provocative. He's unique in concluding that the best analytical focus for explaining economic performance is neither the individual firm nor macroeconomic forces. Porter proposes that the explanation about performance is found in studying why nations succeed in particular industries. A handful of nations dominate any one industry. Also, competitors tend to be tightly bunched in a geographic area within a nation (e.g., Silicon Valley in California). Chapter 21 details Porter's work.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *List some of the management thinkers and describe their contributions.*

This chapter refers to six specific individuals as pioneers. Frederick W. Taylor is called the Father of Scientific Management. He introduced the scientific study and observation of workers. Max Weber studied power, authority, and bureaucracy. Henri Fayol (a practitioner) proposed a theoretical analysis of management and also presented management as a process with specific functions. Elton Mayo founded the human relations and industrial sociology approaches to management. Joan Woodward in conducting research determined that technology plays a significant role in how an organization is structured. Peter Drucker offered suggestions on how best to manage in a rapidly changing world. He stressed continuous improvement, the exploitation of knowledge, and innovation. Woodward's empirical work and conclusions showed that research can be used by practicing managers. She provided an applied set of empirical findings that could be incorporated in actual organizations.

### *Differentiate between the efficiency emphasis of the classical approach to management and the people emphasis of the behavioral approach to management.*

In the classical approach, efficiency of operation, behavior, and work flow is the focal point. In the behavioral approach, the individual or group in human terms is the focal point. Both approaches are important and need to be considered by managers.

### *Describe what Frederick W. Taylor meant by the term scientific methods.*

Taylor believed in using scientific methods to study work, to set up experiments, and to observe workers. He was an advocate of

applying science to studying and answering questions about efficiency, cooperation, and motivation.

### *Describe the decision and information sciences approach.*

This approach emphasizes the management of work. It uses decision making, information systems, mathematics, and statistics to study and solve management problems. Techniques, tools, and models are provided to managers to help them solve operations and production problems.

### *Describe the systems approach.*

This approach provides a framework for viewing organizations as a collection of parts that operate interdependently to accomplish common goals. It points out that each part, unit, individual, and goal of an organization is linked to others. A change in one area will result in a change in other areas.

### *Explain the significance of the contingency approach to management.*

This view is termed multivariate in that a number of variables are examined to understand how an organization operates under varying conditions and in specific circumstances.

### *Describe Tom Peters, William Ouchi, and Michael Porter's contributions to management practice.*

Peters pointed out guidelines for management practice. His work also stimulated others to study management. Ouchi introduced the notion of combining Japanese and American management principles that resulted in a Theory Z approach. Porter studied competitive advantage and strategies that can be used to gain an advantage in a market. He used economic theory to address management problems.

## ■ KEY TERMS

behavioral science approach, p. 51

bureaucracy, p. 49

contingency management approach, p. 58

decision and information sciences (DISC) approach, p. 52

Hawthorne effect, p. 51

Hawthorne studies, p. 51

human relations approach, p. 50

open system, p. 54

scientific management, p. 46

system, p. 54

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What role did Elton Mayo play in advancing the understanding and practice of management?
2. Is there a universal contingency explanation of what motivates workers? Explain.
3. How did Frederick Taylor's background influence his approach to studying management?
4. How did the Hawthorne studies influence thinking about work groups and motivation in the workplace?

### Understanding

1. Why is there no best way to manage office employees?
2. Why is it accurate to consider a firm such as General Mills to be an open system?
3. Tom Peters has been criticized as offering only anecdotes to practitioners. Are anecdotes of any value? How did

Peters and Waterman's *In Search of Excellence* affect interest in management?

### Application

1. Examine additional historical accounts about early management pioneers. Whom would you include in a list of pioneers that isn't mentioned in this chapter? Tell us about a missing pioneer.
2. Interview two managers and ask them to describe what historical figures influence their style of management.
3. Select three specific techniques that the decision and information sciences approach to management has contributed to practitioners. After you select three techniques, ask a manager whether the techniques you selected are being used and, if so, where.

## CASE 2-1

### Cummins Engine Company and Competitiveness

Since the 1970s American manufacturers have encountered widespread and now growing criticism for their lack of innovativeness and quality. Companies that for years had conducted business with stable, reliable markets have been losing market share to Japanese and other foreign businesses. Are any management principles developed years ago suited for the present era of competitiveness? This serious question isn't yet properly answered.

In a wide range of industries, from steel to semiconductors, American buyers have been turning to foreign suppliers who've been more responsive to individual needs and who produce higher-quality products than U.S. suppliers. The classical, behavioral, and decision and information systems approaches to management don't seem responsive enough to allow American firms to compete. Some writers have called this the "innovation gap."

Cummins Engine Company, a leading maker of heavy-duty diesel engines for trucks, has long been known for its policies of social responsibility. As an example of this social orientation, CEO Henry B. Schacht said in 1990, "Some say the company's goal should be to maximize shareholder value. . . . I say no. [The company's goal] is being fair and honest and doing what is right even when it is not to our immediate benefit." Despite these high-sounding phrases, however, in the mid-1970s the company faced increased competition from abroad and decreasing market share at home. Why? Foreign competitors were able to meet customers' particular needs more quickly and with better quality than Cummins. One Cummins engineer said, "Customers had come to expect increasing attentiveness and unprecedented quickness of response to their individual needs." The company

slashed prices 20 to 40 percent in an effort to maintain market share. Clearly, the future looks bleak. Something has to be done to regain competitiveness in the new global arena.

Cummins was feeling pressure to respond to customers' demands—demands that warranted lower-volume production runs for new and customized engine models. Still, many customers were attached to their vintage Cummins engines and relied on the company to continue to supply parts. Both of these pressures called for low-volume production runs. However, Cummins was organized for high-volume production and low-volume parts, which only clogged the process. Investigating other companies' responses to such pressures, Cummins found something called a "flexible factory" shaping the competition in durable goods manufacturing.

Most factories are laid out according to process (called a job shop layout), with like machines located near like machines (all lathes together, grinders together, and so on). Batches of parts shuffle from one department to another. One drawback to this type of process is convoluted flow paths. It takes a lot of time for half-finished parts to move from department to department. Cummins found that to eliminate this problem, many manufacturers have grouped their machines into clusters called cells. Dedicated to a narrow range of parts, these machines are then tended by one or two operators. Striking improvements in production time almost always result from a move from the traditional manufacturing setup to the cells arrangement. However, Cummins learned that this innovation alone is inadequate to the challenge of a greatly proliferated product line.

What the company also needed was the ability to change tools and fixtures quickly. Machines that allow for this quick change are called flexible machines. This innovation would en-



able shorter runs of specialty orders. The concept of speed wasn't discussed by Taylor, Barnard, or other classical experts, who emphasized efficiency. In today's world, efficiency is still important, but speed is also a top priority.

Cummins soon learned, however, that cells and flexible machines were still not enough to meet pressures of the competitive environment. The company also learned that it was necessary to use cells and flexible machines distinguished along high-volume and low-volume lines. This combination of innovative manufacturing practices enables Cummins to adapt to the low-volume, individualized needs of both new and old customers, and to dedicate other lines to their high-volume work.

Cummins realized that to face the new manufacturing competition, it needed large-scale innovation and reorganization of its facilities. Each separate innovation eventually implemented—cells, flexible machines, and high-volume, low-volume product

lines—was inadequate on its own to meet competitive pressures. But the company found that carefully implementing each at the same time gave it the type of flexible factory needed to compete. Aggressive, simultaneous implementation of multiple innovations was the key to renewed competitiveness for Cummins Engine Company.

## Questions

1. Does the contingency approach to management offer any ideas or suggestions to Cummins for coping with competition?
2. Can Cummins' emphasis on speed harm employee morale? Why?
3. Why must Cummins use an open systems approach to address competitors' behavior?

## ■ CASE 2-2

### Fabergé Jewelry: A Long Russian History

At the turn of the 19th century, Peter Fabergé, the grandfather of the celebrated jeweler, moved from Schwedt-on-Oder to Pärnu in the Russian region of Eastland, now part of Estonia. Here, in 1814, was born his son Gustav, founder of the famous company and father of Peter Carl Fabergé.

Destined to become the most famous of the Fabergé's, Carl studied in Germany, Britain, Italy, and France. In Dresden he examined the treasures of the kings of Saxony and learned business acumen from studying the experiences of Johann Dinglinger, who produced jeweled objects for Prince Friedrich August I.

In 1870, at the age of 24, Carl came to St. Petersburg, Russia, to take over his father's business. Ten years later, having gained financial independence, he shifted his company's headquarters to a spacious mansion on Bolshaya Morskaya Street.

Fabergé was soon to enjoy his first taste of success. He won a gold medal at an all-Russian exhibition, praise from Alexander III, and the title of Jeweler to His Imperial Majesty and to the Royal Hermitage. Four years later, in 1885, he won international recognition in the form of a gold medal.

Fabergé's greatest successes both at exhibitions and with the closely related royal families of Europe were his famous Easter eggs containing jeweled gifts. The first golden Easter egg was seen at the Nürnberg Exhibition. Inside the white, enamel-coated egg was a golden yolk, inside the yolk was golden hen, and inside the hen were surprise gifts of an imperial crown and a ruby pendant. The idea of jeweled Easter eggs was itself nothing new: the tradition of presenting Easter eggs, generously decorated by court jewelers, dates back to the time of Louis XV.

Yet Fabergé didn't just imitate established styles nor did he copy his predecessors. His clients were struck not only by the abundance of precious stones and metals in his works, but also by the sheer inventiveness of their designs and the carefully considered combinations of materials that were previously regarded as incompatible. He blended multicolored gold, silver, platinum, rubies, sapphires, and emeralds with semiprecious stones (agates,

jasper, and chalcedony) and mineral gems (jade, lapis lazuli, rhodonites, and obsidians). The firm's trademark was its use of exceptional, translucent enamels of a range of over 100 different colors and hues, against a guilloché background.

His royal clients would frequently question the famous jeweler about his next Easter surprise. "Your Highness will be pleased," he would always answer, and indeed the sovereign and his entourage were always delighted with the result. Sadly, however, amid such lavish admiration, many ideas and symbols behind Fabergé's work often went unnoticed.

Fabergé viewed the Easter eggs for the tsar's family as more than just valuable trinkets. The famous Moscow Kremlin Egg (1904) employs a short but comprehensive formula, catching the most characteristic features of the architecture of the Kremlin walls, towers, and cathedrals. The 1913 Jubilee Egg, celebrating the 300th anniversary of the Romanov dynasty, is a monument to Russian history, complete with maps of the empire and royal portraits, set out in such a way that one can easily tell which royal figures were the favorites of Russia's last tsar.

Carl Fabergé was not only bursting with new ideas, he was also an outstanding production manager. At its prime, the Fabergé firm employed more than 500 craftsmen (enamellers, stone cutters, and miniaturists), including the Russians Mikhail Perkhin, Vasily Zuev, and Julius Rappoport, the Swedes Henrick Wigstrom and August Holmstrom, the German Johannes Zehngraf, and the Estonian Yuri Nikolai. Fabergé encouraged each of them to develop his own distinctive style. Yet, despite the diversity of style and the range of Fabergé products, the firm's goods are always recognizable and are always of a high quality.

The Fabergé trademark was a guarantee of quality. In addition, leading artists were authorized to mark their work with their personal stamp. The key ingredient of the firm's success was employing talented jewelers, metalworkers, cutters, and engravers. Having studied extensively, Fabergé dedicated constant attention to training craftsmen in Russia and abroad. He groomed a team of specialists second to none, with each a master craftsman.

The firm didn't only specialize in manufacturing unique



masterpieces for members of the tsar's court, aristocratic families, and rich industrialists. It was also famous for its quality mass-produced articles: snuff boxes, lacquered boxes, vase cases, flowers, signets, photograph frames, and decorative figurines carved from cut stone. These were sold at more moderate prices than his expensive one-of-a-kind masterpieces. All the medals for the Church of the Cavalry Guard Regiment in St. Petersburg were made by the Fabergé company.

## APPLICATION EXERCISE

This exercise is designed to have students apply the principles of excellence recommended by Tom Peters and Robert Waterman in their book, *In Search of Excellence*. This 1982 book was a powerful motivator for practicing managers to closely examine their view of organizational processes. The principles presented by Peters and Waterman weren't intended to be the answer to every management problem or issue. Instead, they were to provide guidelines to help managers gauge how well their firms were operating. Each of the eight principles sends a special message that needs to be heard.

## Questions

1. In historical discussions of management, why is there little if any mention of Russian or Soviet management practices?
2. How did Fabergé achieve and maintain a reputation for high-quality products?
3. The case noted that Fabergé mass-produced quality products. How was this possible?

In reviewing the eight principles, comment on how you've been influenced by them, if at all, in a job and in college. Is your school really applying the type of principles that Peters and Waterman brought to the forefront?

- A. In groups of four to six, go over the principles as applied to your college. Is there agreement on any of the principles?
- B. In the group, develop an action plan for your school to improve its performance in the areas you determined to be weakest.

CHAPTER

3

## ENVIRONMENT, SOCIAL RESPONSIBILITY, AND ETHICS

*After studying this chapter, you should be able to:*

Define the terms *internal environment* and *external environment*.

Explain why work force diversity is such an important issue for managers to understand.

Discuss how a person's values are formed.

Explain why the General Agreement of Tariffs and Trade (GATT) trading system was developed and implemented.

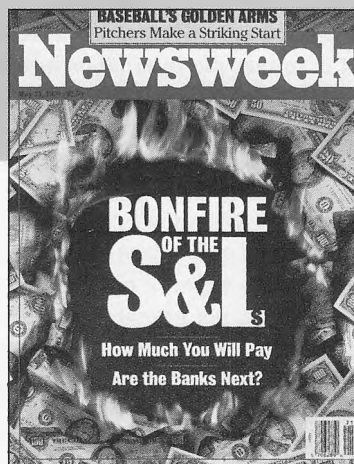
Discuss why firms are growing more interested in producing environmentally friendly products.

Describe four informal laws of ecology proposed by Barry Commoner

Explain the difference between an individually based discussion and an organizationally oriented discussion of ethics.

## BUSINESS ETHICS: A TOP CONCERN

The fear of losing a job, the need to earn a profit to keep a project going, stealing a competitor's secret formula, and inflating a budget proposal are not new feelings and behaviors. They are, however, indicators that meeting goals in tough and competitive economic times can lead to cutting ethical corners. The ethical crisis in America is infecting business, politics, education, law, medicine, and every other industry and occupation.<sup>1</sup> Furthermore, the ethical crisis is occurring not only in America but also worldwide. ■ The U.S. broadcast and print media repeatedly uncover unethical behavior. A loud call for investigators of Dow Corning's breast implants, the savings and loan fraud, and overcharges at Alamo Rent A Car reflect the concern for ethics in business. Some 200 major U.S. firms have appointed ethics officers to serve as ombudsmen and encourage whistleblowing (the reporting of perceived unethical practices to outsiders such as government officials, the press, or organization managers.) ■ Almost every day a news story informs us about a business manager or employee caught doing something illegal or unethical. But how many unethical acts aren't reported? No one knows for sure. ■ Many business practices can't be neatly categorized



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The Savings and Loan Bailout will cost every American.

either ethically correct or outright illegal. For example, Toys "R" Us managers sent employees to rival Child World stores around the country to buy large quantities of heavily discounted items, which were then resold in their own stores. Is this misrepresentation and unethical? ■ As external competition heats up and bottom line profits become thinner, more companies are attempting to gain market share in emerging overseas markets.

Overseas markets may have large potential customer bases but also may include bribery and poor accounting controls. Differences in national standards of acceptable behavior can be frustrating. For example, what's considered bribery in the United States may be acceptable practice overseas. But what happens when the manager is brought back to the states? Do the other nation's accepted "payoff" practices follow the manager back to the United States? ■ There's no perfect solution to the "ethical crisis." Managers must set the tone, serve as coaches and role models, and lead in a positive way. Rewarding and calling attention to admirable ethical behavior is a tool that managers can apply. No code of ethics and no amount of cajoling by managers will have much influence if organizational rewards go to people who cut corners. Managers must spotlight ethical employees who serve as examples of doing what is right. Managers must also communicate in no uncertain terms what is expected of employees. Hewlett-Packard, for example, again and again tells staff its standards in terms of everything from conflicts of interest and accounting practices to handling confidential information and accepting gratuities.

Source: Adapted from "How to Be Ethical, and Still Come Out on Top," *The Economist*, June 5, 1993, p. 71; Brian Dumaine, "Times Are Good? Create a Crisis," *Fortune*, June 28, 1993, pp. 123-24, 126, 130; and Kenneth Labich, "The New Crisis in Business Ethics," *Fortune*, April 20, 1992, pp. 167-76.

Managers are affected by a host of internal and external environmental factors ranging from acceptable ethical behavior to a competitor's new, technologically sophisticated product. This chapter deals primarily with five of the most significant environmental forces that managers face in making decisions: social-cultural, economic, technological, political-legal, and ecological forces. Managers, in seizing opportunities, must analyze all external and internal environmental forces to fully utilize employees' talents. If there's an optimal place for the contingency approach of management to be applied, it's in the area of environmental management.

Some forces that shape how a company and its resources are managed can't be controlled. Managers must learn to adapt to these uncontrollable external environmental forces as they plan, organize, control, and direct strategies, workers, and resources. Recall the first Tylenol poisoning incident, which resulted in seven deaths in the Chicago area in 1982. Some still unknown person placed cyanide in Tylenol capsules. This clearly wasn't a controllable event for Johnson & Johnson (J&J), producer of Tylenol. However, even though the Federal Drug Administration (FDA) cleared J&J of any wrongdoing, this uncontrollable event cost the firm customers, goodwill, and even stature in the industry. Was J&J unethical in the Tylenol situation? Of course not. The firm simply faced an uncontrollable environmental event. Some deranged individual acted and the firm is still attempting to recover. In contrast, in June 1993, a national plague of claims that customers found syringes and needles in Pepsi cans generally produced evidence that the claims were false. Customers can also act unethically. The external environment is turbulent and, in many respects, uncontrollable.

Besides the external environment, an internal environment also exists in every firm. This chapter first examines the internal or inside-the-organization environment and then reviews the external environment. It then discusses social responsibility and ethics. Ethics, as the opening element illustrates, is part of conducting business. To acquire a framework for conducting business domestically and globally, managers must consider and understand ethical dilemmas and violations.

## ■ THE INTERNAL ENVIRONMENT

### internal environment

The factors within an enterprise (such as employees, structure, policies, and rewards) that influence how work is done and how goals are accomplished.

### culture

A system of behavior, rituals, and shared meaning held by employees that distinguishes the group or organization from other similar units.

An organization's **internal environment** refers to the factors within the enterprise that immediately influence how work is done and how goals are accomplished. Through these factors firms acquire and sustain a certain feel or orientation. Factors that make up the internal environment include employees, work flow, office or plant layout, managers' style, and reward system. However, the most descriptive example of feel or orientation is provided by the notion of an organization's culture.

An enterprise's **culture** refers to a system of behavior, rituals, and shared meaning held by the employees that distinguishes the group, or organization, from other similar units.<sup>1</sup> Families, work groups, organizations, and entire nations possess cultures. Managers act to develop employees by training them, setting goals, and rewarding good performance. Every member of the organization, from the chief executive officer to the office clerk, shares responsibility for the firm's products and services. The unique patterns with which they carry out their responsibilities distinguish their firm from competitors. To perpetuate the culture, each employee passes valued traits along to new employees.

The Japanese have fostered a national culture and have inculcated their culture in their business practices.<sup>2</sup> Loyalty, commitment, high quality standards, and group involvement have become the foundation of strong Japanese organizational cultures. In most Japanese firms, employees possess a sense of identity, a feeling of belonging. Culture serves as a guideline for what's appropriate and acceptable behavior because it provides an identity for employees. Culture establishes the rules that employees must follow.

*Culture by definition is elusive, intangible, implicit, and taken for granted. But every organization develops a core set of assumptions, understandings, and implicit rules that*

*govern day-to-day behavior in the workplace. . . . Until newcomers learn the rules, they are not accepted as full-fledged members of the organization.*<sup>3</sup>

When a strong positive culture emerges, organizational commitment, loyalty, and cooperation are benefits to the organization. However, culture can be a liability when behaviors and work patterns aren't congruent with values and actions that enhance performance. Changes in the external environment may require rapid responses and adaptation. However, an engrained culture may inhibit or block necessary changes. IBM developed a strong culture that simply wouldn't budge when new competitors created the need for rapid changes. The resistance of the IBM culture slowed the firm's ability to respond to strong competitors like Apple and Compaq which were able to capture market share. IBM is still attempting to gain back some of the market share it lost to quicker-responding competitors.

## Multiple Cultures

Organizational culture is a concept that involves the perception of employees. Research suggests that most organizations have a dominant culture and a set of subcultures.<sup>4</sup> A **dominant culture** designates the core values shared by the majority of employees. This represents the distinct mark of a firm such as McDonald's, which emphasizes quality products and services. *Subcultures* tend to develop because of common situations or problems that a group of employees faces. Subcultures are likely to be unit-, group-, or section-oriented. The finance department, for example, can create a subculture shared by members of the unit.

There are strong and weak dominant cultures.<sup>5</sup> In a strong culture, core values are intensely held and widely shared. In a firm with a strong culture, employees' or members' behavior can be dramatically affected by the values of other employees and role models. In Apple Computer's early days, it was a common practice to work long after the shift was over to complete the job. The clock at Apple meant very little, especially when a group was attempting to solve a problem.

Nordstrom is an example of a firm with a very strong culture.<sup>6</sup> A Seattle-based specialty retailer, Nordstrom has acquired a reputation for excellent customer service in its market areas (e.g., California, Washington State, Oregon, Washington, D.C., Chicago). Sales increased from \$12 million in 1963 to over \$2.75 billion in 1991. Nordstrom's department stores are known for employees' unrelenting commitment to superior customer service, a thorough selection and hiring process, and staff who personally enforce a high standard of performance. Nordstrom's culture is passed so completely to succeeding generations that it's hard to escape from it. If a new employee doesn't fit in, fellow employees, not managers, blow the whistle. Nonperformers are terminated because Nordstrom managers and employees want everyone to be a performer.

## Building Culture

Management success at culture building involves selecting, motivating, rewarding, and retaining high-performing employees. Managers, by examining companies such as Nordstrom, will find three distinct actions that result in culture building: commitment, competence, and consistency. Nordstrom employees feel so committed to superior service and high standards of performance that a recruit who doesn't fit this pattern will stand out. Nordstrom employees carefully observe their colleagues in terms of sales behavior and treatment of complaining customers.

When customers walk into a Nordstrom store, they're treated politely, promptly, and professionally. The entire Nordstrom sales staff is trained to be competent and is rewarded for practicing competently. Nordstrom emphasizes consistency by attracting, developing, and retaining people who fit its culture. Extensive screening and interviewing is done. But when a hiring mistake is made, Nordstrom moves swiftly to remove the person who doesn't fit its culture.

### Dominant culture

An organization's core values that are shared by the majority of employees.



## REFLECTIONS BY PHILIP B. CROSBY

## ENVIRONMENT, SOCIAL RESPONSIBILITY, AND ETHICS

When I founded Philip Crosby Associates, Inc. (PCA) in 1979, I wanted to make certain it would succeed in many ways. One way would be financial, of course, another would be that employees, customers, and suppliers would all be glad they were involved with the organization.

A company is like a forest—it has an ecology of its own. It must provide customers with what's needed and promised in the most pleasant and effective way; it must provide suppliers the opportunity for “co-prosperity” and the desire to grow professionally; and it must offer employees a basis for living. All these things feed from each other, and aren't altruistic—they're based in reality. If they don't happen, the company must struggle continually against its customers, suppliers, and employees. Most organizations have that problem and wind up doing everything the hard way.

PCA's business is teaching corporations of all sizes to understand and implement the concepts of quality management. The basis for that knowledge appears in books I've written and the information is delivered in what we called the “quality college.” Executives and managers come to class; other people in the company are taught through films and workbooks. We hired well-educated people and teach them how and what to teach. The courses themselves become a manageable product.

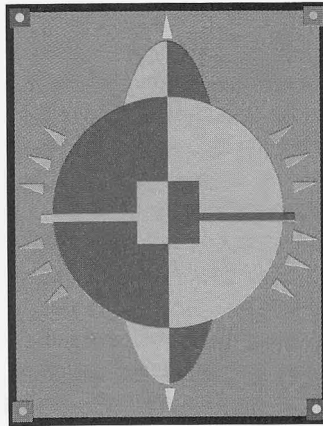
Employees are sent to company schools continually so they understand that we need clear requirements, that we have to figure out how to get it all done with zero defects, and that they personally are the company. Suppliers come to specially arranged events so they would know their role in everything. They are paid promptly and permitted to earn a return on their effort.

We arrange long-term agreements, based on performance, as much as possible. We continually emphasize that ethical conduct is the platform on which lasting relationships were built. Customers are continually asked for their input on our performance and the results they are getting from taking our course.

An example of how all this worked is our lunch program. Our Winter Park location held classes of 24 managers and executives for whom we provided lunch at local restaurants. That might not sound like much, but remember that it came to about 30,000 lunches a year served to groups of 25 to 28 people. We got very few complaints because requirements were carefully developed and implemented and everyone was treated with respect.

Restaurant management and staff were given a special class so they could understand what we were teaching and so they could recognize that our “students” were really executives. Menus and service strategy were agreed upon, and reservations were made for precise times. Instructors realized that they had to release their classes exactly on time if bus and serving schedules were to be met. It was all carefully coordinated but the students had no idea all this was going on in the background. As the company expanded worldwide, we gave all lunches the same attention, and it worked everywhere.

PCA's revenues per employee were over \$300,000 at that time. This occurred because the “ecological” balance between employees, customers, and suppliers eliminated all the trouble shooting, followup, and detection that most organizations consider necessary. Prevention beats rescue every time.



In building a positive culture, managers must continually strive to instill commitment to a common philosophy and service, develop and reward competence, and consistently find and retain the right people. *Organizational socialization* is a process through which a newcomer is transformed into an accepted member of the team. This proper socialization of a newcomer involves other staff (e.g., managers and coworkers) instilling commitment, rewarding competence, and giving consistent help to develop skills.

## ■ THE EXTERNAL ENVIRONMENT

Learning about coping with an enterprise's internal culture and subcultures isn't managers' only challenge. They must also deal with external environmental factors. Figure 3-1 presents the components of environment, both internal and external, that face managers. Each external factor is important and is often in a state of change. In addition to change, the external environment consists of largely uncontrollable factors that influence an organization. The external factors in Figure 3-1 are divided into two interrelated categories: *remote factors* (forces that impact a number of firms) and *task factors* in proximity that can directly impact a particular enterprise. All five of the remote factors will be discussed.

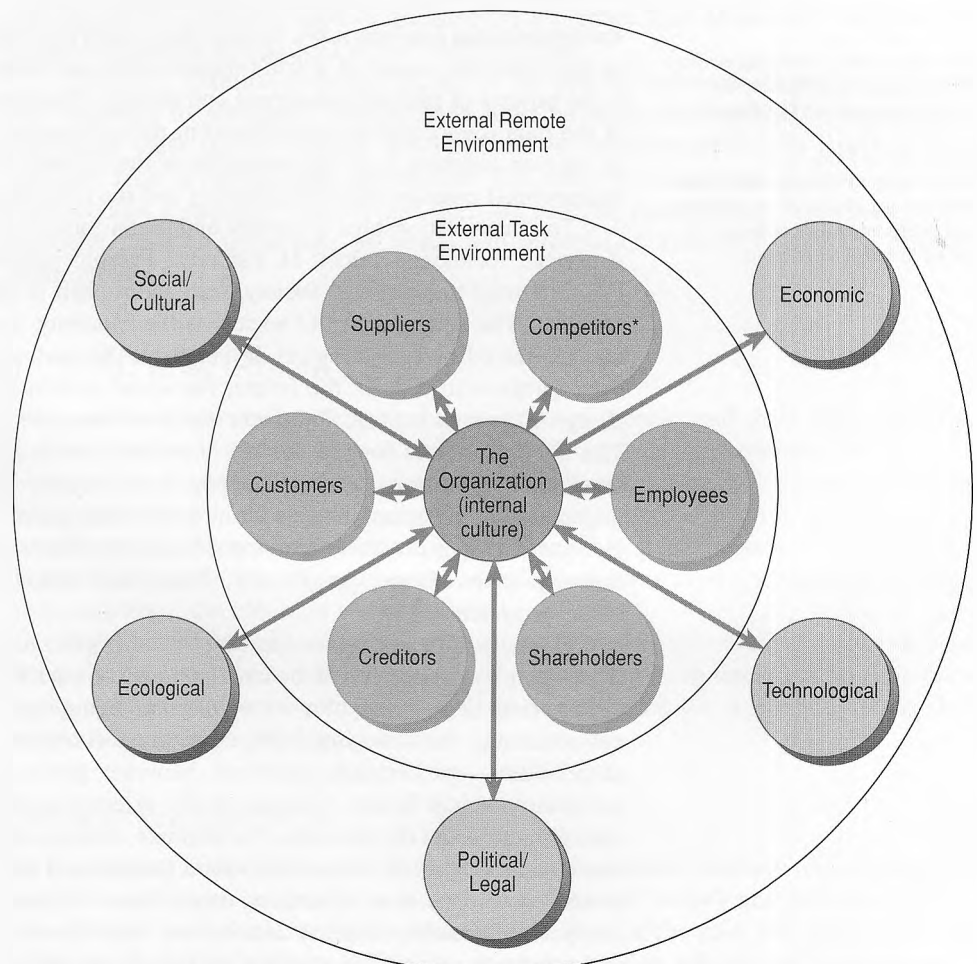
### Change

Change is perhaps the most powerful force of present-day life. In the past, change often came at a much more leisurely pace; yet even then, the inability of individuals, cities, and nation-states to adapt to evolving trends resulted in a loss of power or even destruction. We've all heard historical accounts of the impact sweeping changes in technology, the economy, and social organization have had on society and empires.

Historically, decision makers have been unable to foresee change and understand its significance. The Athenians didn't understand why their city-state declined; the same was

FIGURE 3-1

The External Environmental Factors Facing Managers



\*Domestic and international competitors make up this environmental force

true of leaders in the crumbling Turkish empire many centuries later. In the 1970s American auto manufacturers missed changes in the public's preference for smaller fuel-efficient cars. Their failure to understand customer needs partly explains their lost market share. However, objective evidence gleaned from surveys of owners, records of problems reported, and internal audits—mostly proprietary information only circulated within the auto industry—shows improvements in the Big Three in the United States (General Motors, Ford, and Chrysler).

## Input and Output

### external environment

All factors such as laws, competition, technology, social-cultural norms and trends, and ecology that may affect the organization directly or indirectly.

An organization's **external environment** includes those factors that may affect the organization directly or indirectly in any noticeable way.<sup>7</sup> Environmental factors affect organizations from two directions: input and output. Such environmental factors (people with values, needs, and goals), limited natural resources, and technology (equipment and procedures) are major parts of its input.

The organization transforms inputs and produces an output. The output (Nike shoes, a CD, an airline ticket to the Bahamas) goes back into the environment, is consumed, utilized, and evaluated. Thus, organizations and their environments are inseparable—each affects the other. It will also become apparent that *managerial skills* in observing, analyzing, and forecasting the environment may mean the difference between success, failure, or survival.

## Environmental Analysis and Diagnosis

### environmental analysis

The monitoring of external environmental forces to determine the firm's opportunities and threats.

### environmental diagnosis

The process of making managerial and strategic decisions by assessing, and interpreting data collected in the environmental analysis.

**Environmental analysis** is the monitoring of external environmental forces. It's designed to determine the source of a firm's opportunities and threats. **Environmental diagnosis** is the process of making managerial and strategic decisions by assessing the significance of the data (opportunities and threats) in the environmental analysis.<sup>8</sup> The diagnosis is an opinion resulting from an evaluation of the available facts. The enterprise's decision makers must consider the firm's strategy and the environmental forces.

The interrelationships of society and organizations were dramatically spelled out by American sociologist Talcott H. Parsons.<sup>9</sup> Parsons proposed four functions for society. First, in order to survive, a society must adapt itself to changing conditions in the environment. The adaptive part of society is the economy, which is supported, perpetuated, and reinforced by technological development. Second, a society must maintain its own basic patterns so that, in the future, the social system will still be recognizable and in charge of its own actions. Third, society must integrate its different tasks and functions. The integrative part consists mainly of culture, which includes education, religion, art, mass communications, and philosophy. Last, society must move beyond adaptation, maintenance, and integration to attain worthwhile goals. The goal-attaining parts of society are its organizations and institutions. In other words, society attains its goals through organizations; government, firms, and educational institutions are the goal-attaining systems.<sup>10</sup>

Figure 3-1 shows the relationship of an organization to the external environment. This figure's importance will become apparent as each factor is explained in the chapter. For the time being, think of every manager as being in the middle of the figure. The task environmental factors—suppliers, customers, competitors, employees, creditors, and shareholders—are certainly important. However, just as important are the remote external environmental factors. Changes in the external environment affect the task environmental factors and the manager. For example, changes in the social-cultural environment can affect the number of customers for a product and the manager's decisions about new product development or advertising expenditures. The promoting of Procter & Gamble's Pampers (disposable diapers) demonstrate what the firm does best: develop a product and market it so that few can live without it. In 1975 Pampers had 75 percent of the disposable diaper market. Then along came P&G's premium-priced Luvs and Kimberly-

TABLE 3-1

## Some Important External Environmental Factors

Social-Cultural	Economic	Technological	Political-Legal	Ecological
Lifestyle changes	Interest rates	New products	Antitrust laws	Environmental protection
Life expectancies	Deficit	Patent laws	Product liability laws	Waste management
Birth rate	Gross Domestic Product	Productivity measurement and growth	Tax laws	Public image in terms of environmental responsibility
Population growth rate (immigration included)	Unemployment levels	Industry R&D	Import/export trade	Product safety
Family arrangements	Energy sources and costs	Federal support of R&D	Trade regulations	Packaging procedures
Consumer activism	Inflation rates	Robotics	Investment tax credits	
Shifts in population	Money supply	Computer technology	Corporate responsibility	
Ethical behavior				
Changing women's roles				

Clark's Huggies. Pampers has suffered not only from the competition, but also from the declining birthrate, and it now holds less than 36 percent of a declining market.<sup>11</sup>

Changes in the political environment, such as restrictions on advertising claims, can directly affect the promotion campaign selected for cigarettes, mouthwash, or headache relief. Changes in the ecological environment, such as pollution control laws, can affect the production processes used to manufacture a product (like Monsanto's low-cost, recyclable plastic bottle) as well as the marketing plan.

Table 3-1 identifies some key factors in the external environment that are likely to be important to managers. Any decision must be made after carefully weighing and evaluating these factors. Each of these external environmental factors is largely uncontrollable from a management perspective. The discussion that follows points out how little control a manager actually has over the external environment. Nevertheless, the manager must be up to date on trends and information associated with the external environment.

## ■ THE SOCIAL-CULTURAL ENVIRONMENT

The social-cultural environment involves institutions, people, and their values, and the norms of behavior that are learned and shared. Managers make decisions that take into account the present and anticipated social structure and culture. Since social structures and culture are ever-changing, managers must examine trends, forecasts, and other forms of information. Specific social-cultural dimensions that are important to managing for better quality and remaining competitive include work force diversity, employees' family responsibilities, the nature of work, and employees' health.

The North American work force is changing in terms of structure and composition. More women, minorities, and immigrants are entering the work force. The work force is aging, and the number of younger, entry-level workers available is shrinking. Table 3-2 shows these demographic changes.

### Work Force Diversity

In bygone years large portions of the work force were similar; workers who were different were expected to adapt. But now differences abound. Today's and tomorrow's work force doesn't look, think, or behave like the work force of the past, nor does it hold the same values. Managing these differences and being able to achieve world-class product and service quality is a significant challenge. The "one best way" didn't fit for Frederick

TABLE 3-2

The U.S. Labor Force,  
1976-2000 (All population  
numbers in thousands)

	U.S. Labor Force			Net Change		% Change/Year	
	1976	1988	2000	1976-88	1988-2000	1976-88	1988-2000
Total, age							
16 & over	96,158	121,669	141,134	25,511	19,465	2.0%	1.2%
Men, age							
16 & over	57,174	66,927	74,324	9,753	7,397	1.3%	0.9%
16-24	12,572	11,753	11,352	-999	-401	-0.7%	-0.3%
25-54	35,576	46,383	53,155	10,807	6,772	2.2%	1.1%
55+	8,846	8,791	9,817	-55	1,026	-0.1%	0.9%
Women, age							
16 & over	38,984	54,742	66,810	15,758	12,068	2.9%	1.7%
16-24	10,588	10,782	11,104	194	322	0.2%	0.2%
25-54	22,925	37,659	48,112	14,734	10,453	4.2%	2.1%
55+	5,471	6,301	7,594	830	1,293	1.2%	1.6%
White	84,767	104,755	118,981	19,988	14,226	1.8%	1.1%
Black	9,565	13,205	16,465	3,640	3,260	2.7%	1.9%
Asian/Other	1,826	3,709	5,688	1,883	1,979	6.1%	3.6%
Hispanics*	4,289	8,982	14,321	4,693	5,339	6.4%	4.0%

\*Persons of Hispanic origin may be of any race.

Source: U.S. Dept. of Labor.

Taylor, nor will it fit a diverse work force that managers must attempt to develop, motivate, and retain. The diversity spans age, race, gender, and values.

The aging of the baby boom generation is raising the median age of the U.S. population. The median age, about 33 in 1990, will be 36 by year 2000. By 2010, one quarter of the U.S. population will be at least 55, and one in seven Americans will be at least 65.

Older Americans are becoming a larger segment of the population, enjoying better health and longer life, and exercising economic and political power. The aging of the population will change buying habits and consumer preferences. Also, rehired retirees, health care needs, and the issue of aging workers and productivity need to be evaluated by managers.

Hispanics are changing the pool of available workers. The Hispanic population grew from 14.6 million in 1980 to 21.9 million in 1990, or about 50 percent. Hispanic growth is five times that of non-Hispanics. By 2010 there will be 39.5 million U.S. Hispanics. Despite similarity of language, Hispanics aren't a homogeneous group. Several different cultures make up America's Hispanic culture.

In the year 2000 about 11.7 percent of the work force will be African-Americans. An increasing number of African-Americans have advanced from unskilled and blue-collar work to white-collar work. However, about 30 percent of African-Americans haven't moved upward and still face multigenerational poverty. Most African-Americans and other ethnic groups desire upward mobility, but many have been trapped in low-paying jobs and unemployment due to barriers such as glass ceilings and racial discrimination.

Asian Americans are a growing group with different languages and cultures. The Chinese, Filipinos, Japanese, Koreans, Vietnamese, and Laotians are the largest Asian-American groups. They have been successful in education. A full 96 percent of Japanese-American males between ages 25 and 39 have completed high school.

The various cultural backgrounds brought to the workplace introduce different values, work ethics, and norms of behavior. Managers are likely to face communication issues, insensitivity to cultural norms, and a lack of understanding of the diverse work force's motivations. Managers will have to study the work force's cultures and adjust their managing styles as needed.

John Naisbitt, coauthor of *Megatrends 2000* and *Reinventing the Corporation*, states that women's changing role in our society is the most significant change in this



Milt and Joan Mann/Ceramann International, Ltd.

Today's work force doesn't look, think, or behave like the work force of the past. The various cultural backgrounds brought to the work place introduce different values, work ethics, and nature of behavior.

century. More women are entering the work force than ever before. By the year 2000, women will account for 47 percent of the total work force, and 61 percent of all American women will be employed.

A decrease in the number of available younger workers and appropriately skilled workers will likely prompt more organizations to explore new programs to recruit more women. The rising number of working women will result in more women in executive positions, more men working for women, and more women working for other women. To attract and retain high-performing women, firms must adjust work schedules and develop good, affordable child care programs.

**Values** represent convictions that a specific mode of conduct is personally or socially preferable to another mode of conduct.<sup>13</sup> Values are held by individuals. Some values are extremely important, while others aren't as significant. The ranking of people's values in terms of intensity yields a snapshot of their values system.<sup>14</sup> Values are important because they help managers interpret workers' attitudes and motivations.

The values employees bring to the workplace were largely established in their early years by parents, teachers, relatives, and friends. The discussions a young person hears at home, in the street, or at school provide a basis for values later in life. Values are relatively stable and enduring. A work force that includes recent immigrants, Hispanics, African-Americans, Asian-Americans, Caucasians, and other ethnic groups will possess a variety of values spanning economic, social, religious, and political issues.

Managers deal with a work force holding an array of values. Some employees value economic recognition for performance; others value time off to be with their families. Some value making a career commitment to their organizations; others value making a commitment to their profession. Sometimes Caucasians and Hispanics value the opportunity to socially interact on the job, but hold different values about joining a union. Often, what people have been lacking (such as the opportunity for promotion, respect, autonomy, and power) will be highly valued. Values often change with aging, significant

100  
Convictions that a specific mode of conduct is personally or socially preferable to another mode of conduct.

life experiences, increased education, and achieving success. Since values differ, managers mustn't assume what employees' values are on a particular issue.

A survey of managers, human resource professionals, and organizational practitioners on work force values suggests that nine values are important to employees:<sup>15</sup>

1. *Recognition for competence*—Employees want to be recognized for their accomplishments.
2. *Respect and Dignity*—Employees want to be treated with respect.
3. *Personal choice and freedom*—Employees want to be more autonomous and able to rely on their own judgment.
4. *Involvement*—Employees want to be kept informed, included, and involved in important decisions at work.
5. *Pride in one's work*—Employees want to do a good job and exercise good-quality workmanship.
6. *Lifestyle quality*—Employees want time for family and leisure.
7. *Financial security*—Employees want some security in their retirement years from inflation, economic cycles, or catastrophic financial events.
8. *Self-development*—Employees want to personally improve to further themselves.
9. *Health and wellness*—Employees want to organize life and work in ways that are healthy.

These nine values appear to be important to males and females in any majority or minority group. Managers are challenged to apply procedures, principles, and approaches that balance the wishes and values of an increasingly diverse work force with the need to recognize individual differences. Managers must become more proficient in listening to and observing workers as the work shifts in age, race, gender, and values.

## Employees' Family Responsibilities

The improved integration of home life and work life concerns a growing number of managers. In the past, employers assumed that the demands of male workers' home lives were taken care of by wives and families. But this can no longer be assumed. New issues (such as dual-career families, day care, sick children, elder care, and schooling) have become priorities of more employees (men and women alike) and, consequently, of more organizations. While the child care issue receives the most attention, there's still more work to be done in this area. A survey of a cross section of organizations reported that only 25 percent provide child care information and fewer than 10 percent provide on-site or near-site day care.<sup>16</sup> Even fewer provide sick child care assistance.

San Francisco was the first U.S. city to pass an ordinance on child care. This ordinance requires office and hotel complexes with more than 50,000 square feet to either provide an on-site facility for child care or pay into a city child care fund.

The balancing of family and work needs is reflected in the increasing number of employees who are willing to change work schedules and make nontraditional work arrangements. The many options employers are using include temporary assignments, working out of the home, and flexible work days.

The average American moves every six years—11 times in a lifetime. A steady stream of movement was widespread until about the mid-1980s. Whether mobility will continue at past rates is debatable. However, new management-initiated approaches are needed because of dual-career couples and the growing acceptance of increased elder care responsibilities at home or in nursing homes. If the wife is to be promoted and must move to another city, how will her husband and family react? Again, balancing family and work is likely to continue being difficult as job opportunities decrease, caring for older relatives increases, and dual-career choices are made.



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Day care started in New York in the late 1800s. Today it is becoming an important consideration for a growing number of families and companies.

## Nature of Work

The U.S. Dept. of Labor and the American Society for Training and Development (ASTD) conducted a project to identify the basic skills employers want their workers to possess. They found that employers want workers with a solid basic education plus relationship skills and skills in self-management. The researchers lumped the desired skills into seven categories:

1. Learning to learn (an aptitude for learning).
2. Competence (reading, writing, and computation).
3. Communication.
4. Personal management.
5. Adaptability.
6. Group effectiveness.
7. Influence.

These skills are assumed to be critical, but, unfortunately, are in short supply.

***Aptitude for Learning.*** This skill consists of a person's ability to acquire the self-knowledge to perform a job. Learning to learn means that each person must have enough "learning experience" and pay close enough attention to the methods of learning that work best for her. Since change is inevitable, workers must continuously learn new skills. Continuous reeducation and retraining are needed to stay current and to perform a high-quality job.



**Competence.** This refers to the basic skills of reading, writing, and math. Not only must workers know how to read a memo or set of instructions, they must also know how to read and interpret graphs, charts, and diagrams. Workers need writing skills so they can communicate clearly, concisely, and accurately. An ability to scan and interpret computer-generated results and a knowledge of business statistics will be essential.

**Communication.** This refers to speaking and listening skills. Since workers in the future will be members of teams, increased communication will be the rule. Many instructions to perform the job come from oral comments, so good listening skills are important.

**Personal Management.** This skill refers to a person's self-esteem and self-motivation. There's likely to be minimal supervision of the future work force. Thus, workers who are self-starters, take pride in the quality of every job they perform, and are proud of themselves will be sought. The ability to set and accomplish personal and career goals will be valued in workers.

**Adaptability.** This refers to creative thinking and problem-solving skills. Due to increased emphasis on individual self-motivation, problem solving will be an important ability. The creative thinker appears to be well suited for increased problem-solving responsibilities.

**Group Effectiveness.** This refers to interpersonal and team skills. Employees need the skills to work effectively as part of a team. The ability to understand how their individual behavior and values impact others will be important. The abilities to negotiate, handle stress, and deal with undesirable behavior in others are part of this skill mix.

**Influence.** This refers to leadership skills—how to be an effective leader who can influence others. Being able to articulate a vision, maintain high ethical standards, and serve as a role model are part of the leadership mix.

The greater use of total quality management techniques, information technologies, computer-mediated processes, available knowledge, and a diverse work force will make such skills essential. School dropouts and uneducated people will be left further behind as the nature of jobs change and these fundamental skills become essential.

## Employees' Health

The United States has become an increasingly sedentary society. Our shift to postindustrial society means an increase in indoor working and living. Americans spend about 90 percent of their time indoors, usually sleeping, eating, dressing, or watching television. Bad habits associated with a sedentary lifestyle include smoking, snacking, and soda and coffee drinking. It's generally accepted that healthy workers lose less time and have fewer accidents than unhealthy ones.

The United States spends over \$800 billion a year in health care—more than 13 percent of Gross National Product. In the workplace, the employee is responsible for his own personal health and safety as well as that of fellow workers. A growing number of firms are trying to improve workers' knowledge about health, lifestyles, and disease prevention. Issues such as mental stress, substance abuse, eyestrain from computer use, and proper use of equipment are covered in training programs, employee assistance programs, and new employee orientation sessions.

Perhaps the most devastating health problems involve acquired immune deficiency syndrome (AIDS). As of 1991 approximately 270,000 people have been stricken and 179,000 have died from AIDS. The Centers for Disease Control estimate that 1.5 million Americans now carry the virus, but display no symptoms.<sup>17</sup> What makes AIDS uniquely significant to organizations is that those who are infected and die at present are mostly

young men in the prime of their working lives. At the same time, AIDS' long incubation period causes distress for individuals as well as high medical costs for employers. There is still only minimal attention being focused on AIDS by employees. *Business Week* found that among 1,000 companies surveyed, 89 percent of their executives reported that their companies had no AIDS policy.

Despite *Business Week's* discouraging data, some companies have taken the lead in dealing with AIDS in the workplace. Digital Equipment Corporation (DEC), with 125,000 employees, is the second largest computer company in the world. In 1987 DEC initiated a comprehensive AIDS strategy. DEC established a full-time office staff devoted to managing issues of AIDS in the workplace. The program aims to protect the legal rights of all employees, prevent work disruption based on misinformation, support the physical and emotional well-being of all employees, and ensure fair treatment of all DEC employees by modeling behavior consistent with the firm's core values.<sup>18</sup>

These examples of social-cultural factors point out the uncontrollable nature of the external environment. Managers need to be aware of trends, values, and forecasts to be prepared for changes in the mix of employees, consumer preferences, and availability of skilled employees.

## ■ THE ECONOMIC ENVIRONMENT

The economic environment impacts management decisions and plans in many areas. An expanding economy directly affects demand for a firm's products or services. If demand increases, the work force will probably need to be expanded or new shifts may have to be added to the work day. In a recessionary economy, decisions may have to be made about layoffs, downsizing, cutting back on the size of the firm, or even plant and office closings.

Economic uncertainty and changes in the economy must be carefully monitored and interpreted by managers to make informed decisions. Two prevalent economic environmental characteristics—uncertainty and change—are difficult to assess accurately.

One important first step in understanding the economic environment is to carefully define a few terms. *Macroeconomics* is the area of study that deals with big problems and issues such as inflation, recession, underemployment, and economic growth. *Microeconomics* involves the study of supply and demand and how particular individual prices are determined in the arena called the marketplace. **Gross National Product (GNP)** is the total market value of an economy's final goods and services produced over a one-year period. The goods and services included in the GNP are items produced as end products for final use rather than for use as materials, parts, or services to be incorporated in the value of other items that will then be resold as final products. **Gross Domestic Product (GDP)** is the measure of output attributable to all factors of production (labor and property) physically located within a country. GDP, therefore, excludes net property income from abroad (such as the earnings of U.S. nationals working abroad) that is included in the GNP.<sup>19</sup>

Many persistent economic environment issues and problems affect management decision making and planning. Three in particular are significant: productivity, global economics, and the importance of small firms.

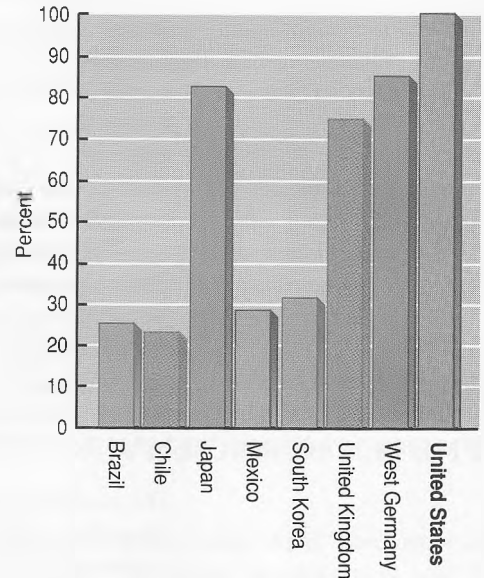
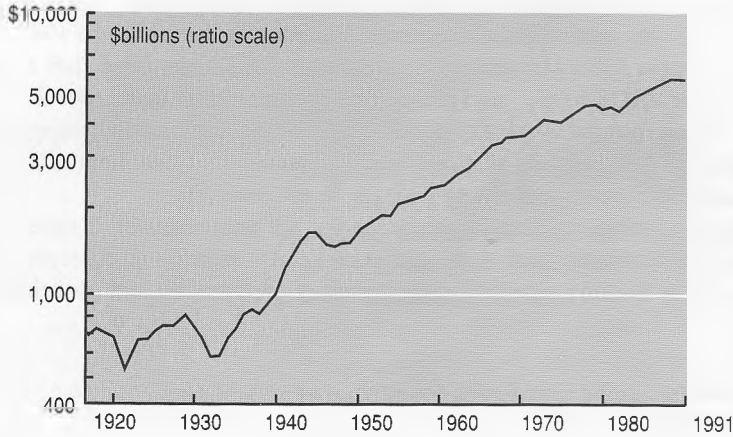
### Productivity

Most economists agree that inflation is worsened by decreasing productivity. A sluggish, or flat, productivity rate can slow the growth of the entire economy. During most of the 1960s the American economy grew rapidly, with low unemployment and inflation. But in the 1970s and 1980s the economy grew much less rapidly, with high unemployment and inflation. Productivity rose at a rate of only about 1.2 percent annually from 1980 to 1990.

**Gross National Product (GNP)**  
The market value of an economy's final goods and services produced over a one-year period.

**Gross Domestic Product (GDP)**  
The measure of output attributable to all factors of production (labor and property) physically located within a country.

## QUALITY BENCHMARK

GROSS DOMESTIC PRODUCT  
(constant 1992 dollars)

Source: U.S. Dept. of Commerce data; Bureau of Economic Analysis, 1991.

**productivity**

An estimate of output per labor-hour worked.

**Productivity** is an estimate of output per labor-hour worked. Certainly it's a crude measure, subject to short-term error. But over the long term, productivity measures can clearly show trends. For years, U.S. productivity increased at an annual rate of 2.5 to 3.0 percent. However, the rate of productivity growth slid to an anemic 2.0 percent from 1970 to 1978. Productivity in durable goods industries has started to rise at an annual rate of over 2 percent (actually 2.7 percent in 1992).<sup>20</sup>

The implications of sluggish, or flat, productivity growth concern managers. When workers produce more, total output grows and employers can increase wages without raising prices. The rise in revenue from increased output offsets the higher wage costs. But if productivity is flat, almost every dollar of wage gains is translated into price boosts. Goods and services that cost more won't be purchased, because consumers don't have the dollars to purchase them.

Four major reasons have been suggested for productivity's slow growth in the United States: a changing work force, reduced research and development expenditures, inadequate investment, and excessive government regulations.<sup>21</sup> Beginning in the mid-1960s many newly employed workers lacked the training and experience to become highly productive in their first few years. This lowered productivity. Also, the work force contained a higher proportion of service and information workers. Raising or even measuring productivity seems harder for doctors, lawyers, accountants, teachers, and credit counselors than for steelworkers and machine operators.

The other three causes of sluggish productivity can be improved. However, solutions aren't easy. For example, caution must be used in analyzing the trade-off between productivity increases and the quality of life, if government regulations are eased or eliminated. Changing government regulations, increasing research and development (R&D) expenditures, and increasing business investments are good news-bad news situations.

The good news is that they can increase productivity. The bad news is that making these things happen will require coordination and cooperation among business, government, labor, and society.

Across different industries, it's interesting to examine white-collar and blue-collar productivity rates. White-collar employment in the past decade has increased by over 30 percent, while blue-collar employment has grown at only 2 percent. However, blue-collar productivity has increased by 28 percent, and white-collar productivity has decreased by 3 percent. Blue-collar American employees have kept up with the rest of the world in terms of productivity.

## Global Economies

There are now three major global economies in the world: the United States, Japan, and the European Community. The European Community as a group has the largest GNP and is expected to continue to grow substantially as free trade across European borders occurs. Since January 1, 1993, any European bank may place an office or branch in any other European city without paying a fee, asking for permission, or filling out forms.

The move toward free trade in North America began in the 1980s.<sup>22</sup> In 1992 leaders of the United States, Canada, and Mexico signed a North American Free Trade Agreement (NAFTA). If passed, NAFTA is expected to reduce consumer prices, increase competitiveness, and create export-related jobs by allowing companies in all three nations to produce for a market of 360 million people. The NAFTA nation's trading area and population would be larger than the 340 million people in the 12-nation European Community. NAFTA must be reviewed and passed by Congress. Its political opponents believe that NAFTA will lead to lost jobs and that U.S. companies will use the agreement to escape U.S. environmental regulation by relocating to Mexico.

General agreement on tariffs and trade (GATT)  
An agreement setting rules of conduct for fair and equitable international trade.

In the aftermath of World War II, the 1948 **General Agreement on Tariffs and Trade (GATT)**–Bretton Woods trading system was built to prevent financial crashes like the Great Depression of the late 1920s and early 1930s.<sup>23</sup> Trade restrictions and tariff barriers between nations were gradually reduced. Under the rules, each of the member countries has to treat all other member countries in exactly the same way—the most favored nation principle.

Since the GATT-Bretton Woods trading system has been in place, the world economy has grown to become interconnected. With the exception of a handful of countries, every nation had a higher per capita income in 1992 than in 1945. To continue with a global and open world economy, every nation must feel that it has a reasonable chance to be successful. But in economic terms, if equality is to occur, there must be (though there aren't now) similar taxes, government involvement and regulations, and economic lifestyle programs (e.g., fringe benefit plans, maternity leaves). In a global economy, Europe's high minimum wages are threatened by the low minimum wages in the United States.

The system of equality and fairness envisioned by the GATT-Bretton Woods trading system is becoming less likely as bickering among nations continues. In November 1982, trade ministers planned a new set of GATT talks. Now, more than a decade later, 108 nations involved are watching the United States and the EC bicker and disagree. Little progress has been made in GATT negotiations in the past decade.<sup>24</sup>

Central and Eastern Europe and the Commonwealth of Independent States (CIS) don't yet have market systems that permit full participation in the economies of the United States, European Community, and Japan. Are fairness and equity close at hand? No. These nations, in economic terms of GNP, macroeconomics, and microeconomics, are now considered developing nations. Their excommunist economies have low wages, well-educated populations, and some excellent natural resources. But they lack market systems, capital, and management talent. It will take national leadership, help from other countries, loans, joint ventures, and countertrade agreements to bring these nations into the modern economic world.

## Small Firms

From 1881 to 1973 American business dominated world commerce because of its sheer size. The big country and big corporations led the emphasis on quantity of goods and services produced and consumed. Quality wasn't given much attention. Because of the American penchant for bigness, the small business and individual proprietor were largely ignored. Except for a few small-to-big stories (e.g., Ray Kroc at McDonald's, Steven Jobs at Apple Computer, and Ross Perot at Electronic Data Systems (EDS)), bigness still predominates the teaching of business administration. Chapter 20 details small firms and entrepreneurship.

Size and wanting to be number 1 in the Fortune 500 and Forbes 400 is some educators' and managers' message. Today, however, the jobs being created in the United States are being created by small and new businesses. The number of self-employed persons has increased from just over 5 million in 1970 to over 10 million in 1991.

By most calculations, the U.S. economy's troubles began with the Organization of Petroleum Exporting Countries (OPEC) in 1973.<sup>25</sup> An OPEC oil embargo caused shortages, long lines at gas stations, and sharp price hikes. OPEC found that it could control the international price of crude oil. As costs of U.S. imports of OPEC oil skyrocketed, the economy staggered. Large firms such as Shell, Exxon, Texaco, and Tenneco found their profit margins being eliminated. The Japanese small, gas-saving cars received a boost from OPEC. When the first oil shortage hit, Nissan and Toyota were cited by the U.S. Dept. of Transportation as having the best gas mileage.

As Japanese cars began flooding the U.S. market, so did Japanese radios, TVs, record players, and cameras. Large American corporations reacted slowly to the onslaught of foreign products. "Bigger" appeared to mean "slower to respond." Smaller firms like Compaq Computers, Appliance Control Technology, The Sharper Image, Springfield Remanufacturing Corporation, and Kennedy Die Castings seemed better able to cope with the changing environment than the industrial giants.

As Fortune 500 firms cut their work forces, smaller firms picked up some of their talent. Wallace Leyshore of Appliance Technology was from Motorola, and Phil Pachulski of Prime Technology was trained at General Motors. Infusions of such well-trained talent had a dramatic effect on small firms attempting to survive.

The 18 million new jobs created by smaller firms in the 1980s literally saved America's economy from disaster. They gave a massive boost to Chicago, Youngstown, Pittsburgh, Houston, Denver, Orlando, and hundreds of other cities. By 1993, big companies couldn't promise stability around which employees could build careers. Millions of jobs have disappeared from large corporate firms. Today individuals have a number of career options. They can join large or small firms, work for the government, or start their own businesses. Creating new job opportunities still appears to be centered on smaller and start-up firms.

The economic environment has become increasingly more complex. Managers need to understand productivity, global economies, and the impact of small firms in the marketplace in making decisions about recruitment, training, motivation, and similar areas. The United States is no longer the only large, powerful economy. Also, without insightful, productive management, it's unlikely that U.S. firms will even be able to attract American citizens to work for them in America and around the world.

## ■ THE TECHNOLOGICAL ENVIRONMENT

Technological changes are the most visible of all the environmental changes, but public pride in controlled progress in the early 1900s appears to have changed to apprehension, or even fear, as we enter the mid-1990s. After two world wars, a depression, and many unresolved economic problems, few people believe that all change is positive and that increasing technical knowledge will produce still better technology that will undoubtedly improve the human condition.



Dave Schlabowske

Richard Melman, owner of Lettuce Entertain You Enterprises, Inc., started a chain of successful restaurants in Chicago. He started the business and has created new jobs for other people.

Technology has touched almost every aspect of life in the industrialized nations. In the process, it has made widespread affluence possible. The Brookings Institute estimated that nearly half of the increase in American national income between 1929 and 1969 came from advances in *knowledge*, or what's referred to as technology.<sup>26</sup>

**Technology** (as defined and covered in Chapter 21) is the totality of the means employed by people to provide comfort and human sustenance. Technology follows no course, seeks no ends, and holds to no values. It is quite neutral and very natural. It is a part of nature, and is given meaning, substance, and function by people. So it is hardly valid to think of technology itself as being a problem or the reason for problems occurring. Cartoon character Pogo's wry statement, "We have met the enemy and he is us," can apply to people misusing technology as much as to people electing a bad government. We can either help ourselves or hurt ourselves with technology. And we will almost certainly continue to expand our technology. Technology enables organizations to meet consumers' needs. Peter Drucker notes that three great industries and their technology—agriculture, steel, and automobiles—have powered the growth of the western world.

## Technological Innovation

**Technological innovation** involves all those activities translating technical knowledge into a physical reality that can be used. The process of technological innovation progresses from basic research to marketing.<sup>27</sup> Table 3-3 shows the stages in the innovation cycle. The automobile was a technological innovation that had a long-term effect on the mobility of society and the purchasing patterns of consumers. The telephone, airplane, radio, television, computers, and various medical technologies have also significantly influenced society. Recently there has been a noticeable stagnation in technological innovations.

### Technology

The accumulated competence to provide goods and services for people.

### Technological innovation

Those activities translating technical knowledge into a physical reality that can be used in a societal scale.

TABLE 3-3 Stages in the Technological Innovation Process	Stage	Characteristics	Comments
	I. Basic Research	1. Scientific suggestion, discovery, and recognition of need or opportunity	The latter source seems to be the origin of the majority of contemporary innovations.
		2. Proposal of theory or design concept	The crystallization of the theory or design concept that's ultimately successful is usually the culmination of much trial and error.
	II. Applied Research	3. Laboratory verification of theory or design concept	The existence or the operational validity of the concept suggested in the previous stage is verified. The concept may be difficult for the forecaster to assess, since the thing demonstrated usually is a phenomenon rather than an application.
		4. Laboratory demonstration of application	The principle is embodied in a laboratory "breadboard" model of the device (or sample material or its process equivalent), which shows the theory of Stage II applied to perform a desired function or purpose.
	III. Development	5. Full-scale or field trial	The concept moves from the laboratory bench into its first trial on a large scale. A succession of prototypes follows, leading eventually to a salable model.
		6. Commercial introduction or first operational use	The first sale of an operational system may be a deliberate or unconscious premature application of the previous stage and thus be replete with debugging problems.
	IV. Production and Marketing	7. Widespread adoption as indicated by substantial profits, common usage, significant impact	This stage isn't sharply defined. An individual firm might choose to classify this as recovering its R&D investment through profits on the sale of the innovation or simply achieving profitability.
		8. Proliferation	The technical device is applied to other uses (e.g., adapting radar to police highway patrol work), or the principle is adapted to different purposes (e.g., adapting radar microwave technology to cooking ovens).

Source: J. R. Bright, *A Guide to Practical Technological Forecasting* (Prentice-Hall, 1973), pp. 3, 12.

The lack of technological innovation and the potential impact on the economy hasn't gone unnoticed by policymakers. Presidents Carter, Reagan, Bush, and Clinton, even in a time of tight federal budgets, each supported increased outlays for research and development projects.

It's meaningless to speak of America's technological discoveries and breakthroughs relative to those of Japan, Germany, or any friendly nation. Technological development has become a joint product of multinational institutions—universities, research labs, corporations, even defense programs—that link skilled people through computers, satellite communications, and jet planes.

It takes time and money to carry out Table 3-3's four stages of technological innovation and marketing. Years may pass before an innovation in biomedicine, energy, or any other sector reaches the marketing stage. (Chapter 21 addresses technology and innovation.)

A significant environmental force, technology drives change in industries and relationships between firms and customers, and it creates new competitors. To continue in business, managers must use technology properly. Astute managers employ technology to improve their services to customers, find new customers, lower cost, and speed the introduction of new products.

## ■ THE POLITICAL-LEGAL ENVIRONMENT

The political-legal environment consists of the government rules and regulations that apply to organizations. The very words *rules and regulations* often make managers uneasy and resentful. No one likes being regulated. For years, the American manager has been a staunch theoretical supporter of a “hands-off” government policy (a policy of not interfering with business activity). Yet most managers know that the business system can’t work without some government rules and regulations to organize and monitor the external environment.

The number and variety of programs affecting business are huge. Programs are directed toward goals as disparate as economic growth, job security, and environmental pollution control. These programs can be divided into those that are designed specifically to support business and those intended to control various business activities.

The business support programs can be divided into classifications such as subsidies, promotion, contracts, and research. *Subsidy* once meant directing the flow of resources to preferred users (for example, to stimulate agriculture and commerce). Today a subsidy involves the flow of money to politically determined programs. The government provides subsidies in the form of guaranteed and insured loans, funds to keep the maritime industry afloat and the airlines in the air, and money for constructing highways to move people and products. Loans in 1971 to Lockheed, in 1979 to Chrysler, and in 1984 to Continental Illinois are among the most publicized subsidies to business. The government’s \$4.5 billion loan to Continental Illinois National Bank was the largest ever to a private firm.

The government is actively involved in *promoting* business through such devices as protecting home industries from foreign competition. The promotion effort has involved placing tariffs on imports and also supporting small business owners through the Small Business Administration.

A third type of support takes the form of government *contracts* for construction, production, service, or analysis. This type of contract support is supposed to stimulate business. Over 60,000 full-time government employees administer the billions of dollars spent annually on government contracts.

The federal government supports nearly one fourth of all industrial scientists and engineers. In addition, it provides over half of all money spent annually for R&D. Much of the research output is of potential use by the business system. The future development and overall health of the nation’s security and economy depend on adequate government support for *research*.

### Government Control

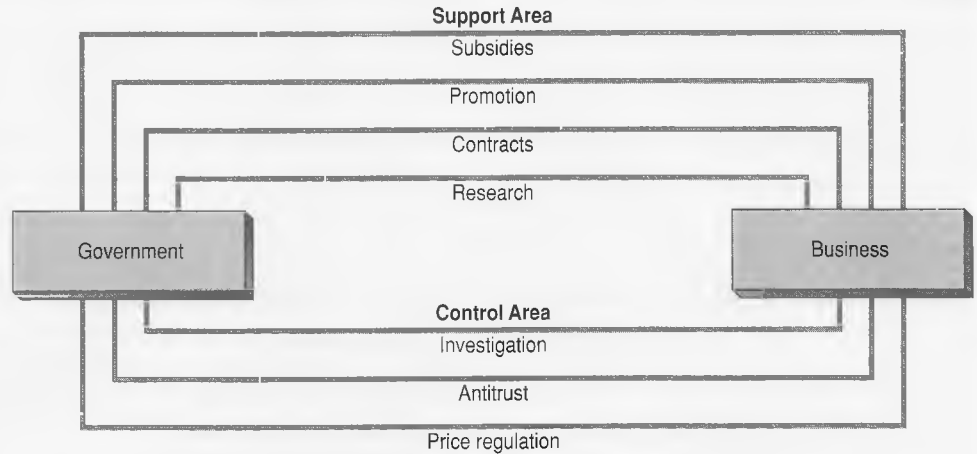
There are three distinct areas of government control: investigation, antitrust, and direct regulation. By means of hearings, reports, and new conferences, the government attempts to pressure managers’ behavior and attitudes. For example, by *investigating* and *publicizing* the findings about aerosol sprays and cigarettes, the government has influenced public opinion about an industry, company, or product.

Unlike investigation, control procedures (the second type of government control) is based on law. The philosophy behind antitrust laws is the belief in free and open competition. Such laws are designed to protect the small business from the large business in the marketplace. Bigness, if it reduces competition, is considered undesirable. The U.S. Dept. of Justice’s threats to break up General Foods, IBM, General Motors, and Xerox reflect this government antitrust opinion. During their 12 years, the Reagan and Bush administrations showed less concern about the monopolistic tendencies of large firms.

The third type of control, regulation, refers to prescribing standards of business conduct, operation, or service. Regulations are designed to (1) protect the interests of consumers and employees from business exploitation, (2) protect health, morals, and safety, (3) protect the interests of inventors and competitors, or (4) control entry into certain markets like transportation or broadcasting.



FIGURE 3-2  
Government Interaction with  
Business



Source: Based on Grover Starling, *The Changing Environment of Business* (Boston: Kent, 1988), p. 197.

Changes in the technological, social-cultural, and economic environment set off reactions. These reactions have brought us to our present state of government involvement through supports and controls in business and society. Once an opinion gains political support, it can become law or public policy. The public has demanded that government, to some extent, be involved in business activities. Government has complied with this opinion and has established the support-control framework in Figure 3-2.

## ■ THE ECOLOGICAL ENVIRONMENT

**ecology**  
The branch of natural science devoted to the relationship between living things and their environment.

The ecological environment consists of our natural surroundings. **Ecology** is the branch of natural science devoted to the relationship between living things and their environment. Environmentalist Barry Commoner has proposed four informal laws of ecology that are meaningful to managers:

1. Everything is connected to everything else.
2. Everything must go somewhere.
3. Nature knows best.
4. There's no such thing as a free lunch. Anything of importance has a cost.

These laws, when translated into management language, suggest that every company has pollution problems that must be assessed and controlled. Managers must attempt to make decisions that minimize their firm's operations' negative impact on the natural environment (water, air, plants, and wildlife).

Wastes, shortages, and other abuses to the natural environment are generated as a by-product of producing goods and services. Rachel Carson's best-selling book *Silent Spring* (1962) first alerted the world to the dangers of widely used chemical pesticides, particularly the organochlorine types of DDT and its related DDE and dieldrin. These agents interfere with life processes. She maintained that their uncontrolled use, without concern for harmful effects, promised future soil, water, and human health problems.

The tragic impact of chemicals on the ecological environment and on human life was brought into focus when a cloud of poisonous methyl isocyanate gas was accidentally released from the Union Carbide Company plant in Bhopal, India in December 1984. Over 2,000 people were killed and 200,000 were injured. The methyl isocyanate was used to manufacture Sevin, a plant pesticide distributed throughout India for corn, rice, soybean, cotton, and alfalfa crops.

The ecological problems of energy shortages, pollution, and poor planning didn't arise overnight. They result from years of economic growth, affluent lifestyles, urbanization, and technological development without concern for ecological consequences.

## GLOBAL EXCHANGE

## AN ECOLOGICAL DISASTER

Ecology problems exist all around the world. One of the largest environmental menaces and degradations exists in the Commonwealth of Independent States (CIS). Some claim that unless the CIS's environmental pollution and degradation problems are dealt with now, there will be little need to worry about the economy.

Under the socialist system, the Soviet Union's industry was built with little or no concern about the environment. Cars still use leaded gasoline. Manufacturing consumes more than four times as much energy per unit of Gross National Product as in the United States. Today Russian households consume less energy than their western counterparts (they have smaller homes and fewer appliances), but this savings is meaningless because of inefficiencies.

The biggest danger in the CIS is its nuclear energy product. The CIS's 37 nuclear reactors provide about 12 percent of its energy. However, western experts believe that at least 15 of them are badly designed and ought to be closed. The 1986 Chernobyl accident is considered to be only the tip of the iceberg. In addition to the risk from its nuclear power plants, the Russians have been dumping

nuclear waste into the Barents Sea for nearly 30 years. The dumping site is a scant few hundred miles from the Norwegian coast in a known fishing area.

The CIS's environmental problems provide opportunities for many Western firms. Conoco sent a team of 14 environmentalists to study a Russian oil field and recommend ways of drilling without harming the area's forests. Siemens, the German industrial giant, is attempting to derive business by refitting Soviet-built nuclear reactors. Firms are also bidding on rebuilding the still "nuclear-hot" Chernobyl plant.

The road to respectability in protecting the environment will be very long throughout the CIS. Over 70 years of neglect and abuse will require money, creative solutions, and tremendous technological innovations. The CIS is learning the hard way that the earth's resources can be damaged and that correcting

the problem is costly.



1992 © Victor Gritsyuk/Matrix

Pollution pouring out of the Lenin Steelworks plant in Magnitogorsk, Russia. The Russians have some major pollution problems that must be solved.

Source: Adapted from Paul Hofheinz, "The New Soviet Threat: Pollution," *Fortune*, July 27, 1992, pp. 110-114.

Union Carbide discovered the importance of its social responsibilities, especially since the Bhopal plant tragedy.

No nation is free of responsibilities and some criticism concerning humankind's ecological problems. The "consume and throw away" culture in developed countries and unchecked population growth in developing countries are endangering critical natural resources. Unfortunately environmentalists have pointed their fingers primarily at the United States as the culprit in causing environmental damage. Certainly, in some areas, the American public and firms are guilty of mineral and water pollution, improper waste disposal, and ozone depletion. But many other nations endanger critical natural resources and pollute the environment too. One nation that should immediately address its environmental programs is the Commonwealth of Independent States, as the Global Exchange points out.

The world now faces problems in deforestation, species loss, soil erosion, and water and air pollution. In June 1992, 140 world leaders and 30,000 other participants met in Rio de Janeiro for the Earth Summit to discuss and find solutions for ecological problems. The world has changed dramatically since the first Earth Summit in 1972 in Stockholm. Since the first summit, 115 nations have created environmental agencies and ministries. The United States created the National Environmental Act, the Clean Air Act, and the Environmental Protection Agency. But much more must still be done to solve environmental problems. Here managers will play a prominent role.

### Selected Environmental Problems

Of the 6,750,000 square miles of the earth's original forest, only about 40 percent remains. Global forest destruction extends from the U.S. Pacific Northwest to the tropical

forests of Malaysia and Brazil. If the forests aren't managed properly, commercial timber harvesting, fuel source use, and cattle ranching can threaten the forest. In the United States, companies have curbed unnecessary cutting and have introduced management techniques to help curtail the destruction of forests.

The many arguments for preserving endangered flora and fauna include beauty, interest, and their place in the global ecosystem. Species are occasionally thought of as economic resources. Some businesses (e.g., Ben and Jerry's Ice Cream and The Body Shop) are promoting rain forest products.

Soil loss is estimated to exceed new soil formation by over 25 billion tons annually. Much of the erosion problem is caused by deforestation, overgrazing, and the extension of the farming system into tropical areas.

Water on earth is abundant, but it's being removed from use by pollution. An estimated 15 million Americans have unsafe water supplies. The U.S. Water Council reports that by the year 2000 water supplies will be severely inadequate in 17 of our 106 water supply regions.

Air quality, global warming, and the disposition of the ozone layer are issues of concern. Levels of carbon dioxide, methane, and other heat-retaining gases in the atmosphere are climbing. The majority of the world's urban inhabitants breathe contaminated air. Mexico City is classified as a hardship post for diplomats because of its dirty air. Actually, air quality has improved in most industrialized nations, but is worsening in the developing world. An estimated \$150 billion per year will be needed for the next 25 years to reduce carbon dioxide emissions around the world to approximately 65 percent of today's levels.

Table 3-4's survey of American public opinion about the environment points out areas of concern. Water pollution heads the list. Despite the controversy about many unresolved issues, public concern about environmental problems appears likely to grow. Support for increased environmental legislation and more environmental management strategies is expressed by diverse groups: young and old, liberal and conservative, and rich and poor.

TABLE 3-4

How the General Public Ranked the Seriousness of U.S. Environmental Problems, 1990

Water pollution from waste products of manufacturing plants	77%
Oil spillage from tankers	77%
Environmental contamination from chemical waste disposal	75%
Air pollution from industrial plants and factories	74%
Destruction of the ozone layer	69%
Contaminated drinking water	67%
Environmental contamination from nuclear waste disposal	67%
Air pollution from auto exhaust	62%
Acid rain	60%
Landfills for disposal of garbage from household and industry	58%
Worker exposure to toxic chemicals	56%
Water pollution caused by sewage from homes and offices	53%
Radiation from nuclear power plants	52%
Pesticide residues on food eaten by humans	51%
The "greenhouse effect"	49%
Litter of streets, parks, highways, and the countryside by careless people	44%
Indoor air pollution	32%
Strip mining of coal, iron, and copper	30%
Radiation from X-rays, microwave ovens, and so on	26%

Source: "The Environment: Public Attitudes and Individual Behavior," a public opinion study by the Roper Organization, commissioned by S. C. Johnson & Son Inc.

## Good News from Some Business Organizations

The global market for environmentally friendly products in 1993 was estimated to be over \$200 billion a year. At the 1991 Frankfurt auto show BMW unveiled its version of the electric car. BMW realizes that, in the 21st century, consumers will increasingly favor—and governments are likely to mandate—technology that preserves and protects the environment. Many firms' future success will be linked to environmentally friendly products. Individual environmentalists request clean water legislation, an energy conservation plan, protection of ancient forests, and increased recycling. Some organizations deserve credit for being corporate or organizational environmentalists; that is, they're working to provide environmentally friendly products and services. McDonald's has a history of environmental concern and action. In the 1980s McDonald's reduced solid waste by decreasing the thickness of its straws and containers. It was also the first firm to sign a voluntary agreement in 1987 to phase out the type of polystyrene (styrofoam) manufactured using chlorofluorocarbons declared harmful to the ozone layer.

McDonald's took the lead in polystyrene recycling (reprocessing used materials for reuse), committing \$100 million a year to recycling projects. In November 1990 McDonald's dropped its distinctive styrofoam clamshell container in favor of paper containers. It was determined that the paper containers can't be recycled, but that they reduce the volume of waste by 90 percent.

In 1976 Anita Roddick launched The Body Shop in Brighton, East Sussex, England. Its guiding principles include:

- To promote health rather than glamour.
- To use naturally based ingredients whenever possible.
- To respect the environment.

Spanning 39 countries and 600 stores, the firm now employs over 3,600 people in its own shops and 3,500 in its franchise shops.

Roddick incorporated her environmental values and beliefs into managing the business. The Body Shop offers only biodegradable products, recycles waste, provides refillable containers, and financially supports causes ranging from saving the whales to halting destruction of rain forests. The firm's Environmental Products Department audits everything The Body Shop does that impacts the environment.

In 1972 Winter & Sohn (a German manufacturer of diamond tools and a leading corporate environmentalist) declared environmental protection to be a top priority. Employees are educated about environmental issues through seminars, lectures, articles, and field trips. The company has an environmental manager. The firm seeks to develop and produce environmentally benign products and manufacturing processes.

Winter & Sohn has developed a state-of-the-art waste disposal system that goes beyond what the law requires. The company's facilities are designed to have proper lighting, minimal pollution, and clean work areas. Winter & Sohn also provides employees with advice and suggestions about water consumption and the use of electricity and garden chemicals.<sup>41</sup>

The combined pressure of environmental groups, government agencies, concerned managers, and corporate environmentalists like McDonald's provide examples for the Eastern Europeans, Americans, Japanese, the CIS, developing nations, and foot-dragging countries and organizations everywhere to follow. However, some companies still believe that creating a pristine environment will be cost prohibitive. Will environmentalism cost jobs, contribute to plant shutdowns, and businesses being unable to continue operating? Evidence suggests that being environmentally aware and ethical is beneficial to the business. The market value of a group of firms scoring high in these categories (such as Johnson & Johnson, J. C. Penney, Gerber, and 3M) grew at an average of 11.3 percent annually over the past 40 years. The growth of the Dow Jones as a whole was 6.2 percent over the same period.

More than 60 years ago quality-control expert Walter Shewhart wrote his landmark book, *Economic Control of Quality of Manufactured Product*. One area it emphasized was environmental quality. When designing new products and processes, environmental responsibility must be considered. Today this means that companies must strive to have no waste or byproducts entering the air, water, or landfills; otherwise the product doesn't have value to future generations. As Johnson & Johnson and other firms show, concern for environmental quality as viewed over 60 years ago by Shewhart is still good for business today.

## ■ SOCIAL RESPONSIBILITY AND ETHICS

### social responsibility

A firm's practices with other parties such as customers, competitors, the government, employees, suppliers, and creditors.

Laws set the minimum standards for responsible and ethical business practices and employer and employee behavior. Within an organization, there's a philosophy that becomes part of the culture that reflects the firm's approach to social responsibility. The firm's **social responsibility** is its practices with other parties such as customers, competitors, the government, employees, suppliers, and creditors. What it means to be socially responsible differs across industries and from firm to firm. There's no specific standard that a firm follows since managers think quite differently about what constitutes socially responsible behavior. Some managers view social responsibility as an obligation, while others view it as a reactive situation, and still others consider proactive behavior to be the proper position.

### Social Responsibility as Social Obligation

This view holds that a corporation engages in socially responsible behavior when it pursues profit only within the constraints of law. Because society supports business by allowing it to exist, business is obligated to repay society by making profits. Thus, according to this view, legal behavior in pursuit of profit is socially responsible behavior, and any behavior that is illegal or isn't in pursuit of profit is socially irresponsible.

This view is particularly associated with economist Milton Friedman and others who believe that society creates firms to pursue two primary purposes—to produce goods and services efficiently and maximize profits.<sup>45</sup> As Friedman has stated, “There is one and only one social responsibility of business—to use its resources and engage in activities designed to increase its profits so long as it stays within the rules of the game, which is to say, engages in open and free competition without deception or fraud.”<sup>46</sup>

Proponents of social responsibility as social obligation offer four primary arguments in support of their views. First, they assert, businesses are accountable to their shareholders, the owners of the corporation. Thus, management's sole responsibility is to serve the shareholders' interests by managing the company to produce profits from which shareholders benefit.

Secondly, socially responsible activities such as social improvement programs should be determined by law, by public policy, and by the actions and contributions of private individuals. As representatives of the people, the government (via legislation and allocation of tax revenues) is best equipped to determine the nature of social improvements and to realize those improvements in society. Businesses contribute in this regard by paying taxes to the government, which rightfully determines how they should be spent.

Third, if management allocates profits to social improvement activities, it's abusing its authority. As Friedman notes, these actions amount to taxation without representation. Management is taxing the shareholders by taking their profits and spending them on activities that have no immediate profitable return to the company. And management is doing so without input from shareholders. Because managers aren't elected public officials, they're also taking actions that affect society without being accountable to society. Further, this type of non-profit-seeking activity may be both unwise and unworkable because managers aren't trained to make noneconomic decisions.

Fourth, these action by management may hurt society. In this sense, the financial costs of social activities may over time cause the price of the company's goods and services to increase, and customers must pay the bill. Thus, managers have acted in a manner contrary to the interests of the customers and, ultimately, the shareholders.

### Social Responsibility as Social Reaction

A second view of social responsibility is behavior that's in reaction to "currently prevailing social norms, values, and performance expectations."<sup>47</sup> This pervasive view emphasizes that society is entitled to more than the mere provision of goods and services. At a minimum, business must be accountable for the ecological, environmental, and social costs incurred by its actions. At a maximum, business must react and contribute to solving society's problems (even those that can't be directly attributed to business). Thus, this viewpoint holds that corporate contribution to charity is socially responsible.

A somewhat restrictive interpretation of social responsibility as social reaction is that it involves only voluntary actions. This interpretation seeks to separate corporate actions that are required by economic or legal imperative from those that are initiated by voluntary, altruistic motives. This narrower view implies that a corporation pursuing only socially obligated behavior is not socially responsible because its behavior is required, not voluntary.

Keith Davis, a leading spokesperson for the view that social responsibility extends beyond the law, has stated, "A firm is not being socially responsible if it merely complies with the minimum requirements of the law. . . . Social responsibility goes one step further. It [social responsibility] is a firm's acceptance of social obligation beyond the requirements of the law."<sup>48</sup> A firm that accepts social obligation only in reaction to pressure groups, consumer boycotts, or adverse publicity is not socially responsible, in this view.

Whether the firm's actions are voluntary or not, a broader interpretation of the social reaction view identifies actions that exceed legal requirements as socially responsible. Typically these actions are reactions to expectations of specific groups—for example, unions, stockholders, social activists, and consumerists. Because these groups expect more than legal minimums, firms can simply decide not to react. Favorable reaction, however, is considered the socially responsible response.

The essence of this view of social responsibility is that firms are reactive. Certain groups make demands of them, and firms are socially responsible when they react, voluntarily or involuntarily, to satisfy these demands.

### Social Responsibility as Social Responsiveness

According to this view, socially responsible behaviors are anticipatory and preventive, rather than reactive and restorative.<sup>49</sup> The term *social responsiveness* has become widely used in recent years to refer to actions that exceed social obligation and social reaction.<sup>50</sup> These characteristics of socially responsive behavior include taking stands on public issues, accounting willingly for actions to any group, anticipating society's future needs and moving toward satisfying them, and communicating with the government about existing and potential legislation that's socially desirable.

A socially responsive corporation actively seeks solutions to social problems. Progressive managers, according to this view, apply corporate skills and resources to every problem—from run-down housing to youth employment and from local schools to small-business job creation. Such behavior reflects the "true" meaning of social responsibility for social-responsiveness advocates. Corporate executives who commit their organizations to such endeavors are likely to receive substantial public approval.

The social responsiveness view is the broadest meaning of social responsibility. It removes managers and their organizations from the traditional position of singular concern with economic means and ends. This view rests on two premises: (1) organiza-

tions should be involved in preventing, as well as solving, social problems, and (2) firms “are perhaps the most effective problem-solving organizations in a capitalist society.”<sup>51</sup>

These three viewpoints of social responsibility still leave managers with an abstract set of guidelines. Who defines social responsibility determines largely what is considered responsible. The importance of the concept of social responsibility has increased the attention paid to ethics and ethical dilemmas. The concept of social responsibility deals primarily with the external environment, while ethics deals with both the internal and external environments of the organization.

## Ethics

Surprisingly, many individuals assume that ethics and ethical issues are new to business. But around 560 B.C. the Greek philosopher Chilon said that a merchant does better to take a loss than to make a dishonest profit.<sup>52</sup> Dishonesty goes on forever and plagues others.

The list of companies cited for unethical behavior grows each year: General Electric for illegal billing, E. F. Hutton for wire fraud, Lockheed for bribing government officials, and AMF for pension fraud manipulation. But note that it isn't a company or some abstract entity that is ethical or unethical. Individuals or groups of people are doing the behavior. Also, remember that ethics is not the domain of only businesspeople. Lawyers, priests, politicians, judges, and a host of other groups have been unethical. People today are probably no more or less ethical than previous generations. The Ethics Spotlight discusses top-level executives' role in encouraging and utilizing ethical behavior.

Ethics is not law. Management professor George Steiner defines **ethics** as behavior “that is fair and just, over and above obedience to . . . laws . . . and regulations.”<sup>53</sup> This concise definition clearly points out how ethics relates to law, but can also transcend the law.

John Akers, when he was chairperson of the board of IBM, provided a reasonable rationale of why being ethical makes good sense:

*Ethics and competitiveness are inseparable. We compete as a society. No society anywhere will compete very long or successfully with people stabbing each other in the back; with people trying to steal from one another; with everything requiring notarized confirmation because you can't trust the other person; with every little squabble ending in litigation; and with the government writing reams of regulatory legislation, tying business hand and foot to keep it honest.*<sup>54</sup>

In brief, honesty, trust, fair dealing, and morality are needed in practice if competitiveness is to remain healthy for society.

**A Management Dilemma: The Individual Manager** Management's major ethical dilemma centers on the potential conflict between economic and social performance. Can the good of society be served and management still operate at a profit? The firm's obligations to employees, customers, stockholders, and the general public are part of the social performance.<sup>55</sup> On occasion, improved economic performance, such as increased sales, can occur only if one or more groups suffer a loss. The sales increase may be only achievable if one group of customers is no longer serviced.

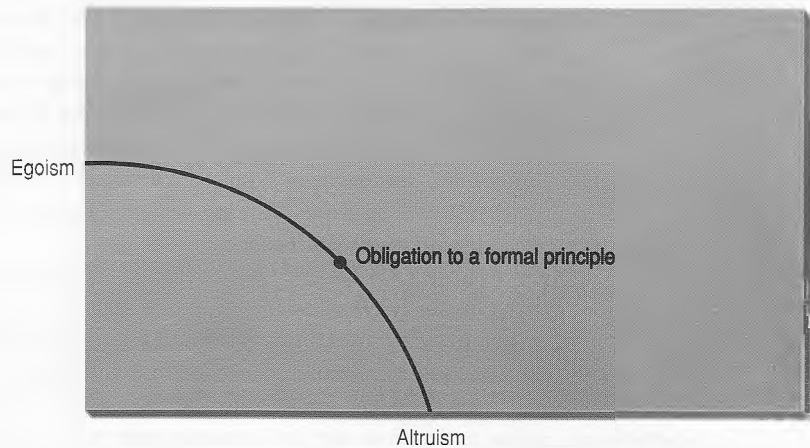
How can the managerial dilemma of balancing economic and social performance be resolved? Managers must reconcile competing values in making decisions. Their decisions have consequences for (1) themselves, (2) the organization that employs them, and (3) the society in which they and the organization exists.

Philosophers, logicians, and theologians have studied ethical issues. Their ideas provide guidelines (but guidelines only) for making value-laden decisions. Figure 3-3 depicts a simplified model of ethical behavior with three different bases for determining ethical guidelines in decision making.<sup>56</sup>

### ethics

Behavior that is fair and just, over and above obedience to laws and regulations.

FIGURE 3-3  
An Ethical Framework



Source: Based on Grover Starling, *The Changing Environment of Business* (Boston: Kent, 1988), p. 255.

## ETHICS SPOTLIGHT

### THE ROLE OF LEADERSHIP IN CORPORATE ETHICAL BEHAVIOR

For many years, a common assumption among organizational behavior researchers was that leaders influence organizational performance. In fact, empirical research on this issue has produced mixed results. One possible explanation of the seemingly contradictory finding holds that, within a business, leadership can clearly make a difference. But leadership's impact when measured across firms is often obscured by different firm sizes.

Crosby has suggested a list of 14 Points, one being "Make it clear where management stands on quality." The same is apparently true for ethical leadership.

A study of over 140 U.S. motor carriers of general freight asked respondents to indicate the job title of the company official most responsible for integrating ethical values into daily operations. Responses were classified into five job titles: president, vice president, director, manager/supervisor, and other. The new popular "other" category is the chief of ethics. Can ethics be instilled from the top down? This is a puzzling question.

Using several different analytical techniques, the authors found that leadership has minimal influence on ethical behavior in corporations. In fact, the data indicate that ethical behavior is most common in companies where the executive responsible for ethics is at or below the level of vice president. This suggests that a leader's support of ethical behavior isn't sufficient to ensure such behavior. Ethical conduct in the corporate setting is more likely to occur when ethical issues are actively managed by someone with narrower or more focused duties.

The study suggests that, for companies to behave ethically, top executives need to ensure that lower-level managers and employees participate in and have the power to influence ethical decision making. Participation means that employees need to be involved in meaningful decision making in such a way that they feel important, needed, and relevant.

*Maximum personal benefits (egoism)*, depicted on the vertical axis, can be a manager's sole basis for decision making. The completely self-seeking manager would always select the alternative that's most personally beneficial. An extreme view of this ethical approach is that one should always seek what's pleasurable. Managers driven by egoism evaluate decision alternatives in terms of personal benefit—salary, prestige, power, or whatever they consider valuable. If the action happens to be beneficial to the organization and society also, all is well and good, but these other benefits are incidental. Personal welfare is the manager's top priority.

*Maximum social benefits (altruism)*, depicted on the horizontal axis, also can be the sole consideration in decision making. An altruistic individual selects courses of action that maximize social benefit. A manager who follows this ethical guideline measures right and wrong as the "greatest happiness to the greatest number." As a practical matter,



FIGURE 3-4

Johnson & Johnson's  
Code of Ethics

## Our Credo

We believe our first responsibility is to the doctors, nurses and patients,  
to mothers and fathers and all others who use our products and services.  
In meeting their needs everything we do must be of high quality.

We must constantly strive to reduce our costs  
in order to maintain reasonable prices.

Customers' orders must be serviced promptly and accurately.  
Our suppliers and distributors must have an opportunity  
to make a fair profit.

We are responsible to our employees,  
the men and women who work with us throughout the world.  
Everyone must be considered as an individual.

We must respect their dignity and recognize their merit.  
They must have a sense of security in their jobs.

Compensation must be fair and adequate,  
and working conditions clean, orderly and safe.

We must be mindful of ways to help our employees fulfill  
their family responsibilities.

Employees must feel free to make suggestions and complaints.  
There must be equal opportunity for employment, development  
and advancement for those qualified.

We must provide competent management,  
and their actions must be just and ethical.

We are responsible to the communities in which we live and work  
and to the world community as well.

We must be good citizens—support good works and charities  
and bear our fair share of taxes.

We must encourage civic improvements and better health and education.

We must maintain in good order  
the property we are privileged to use,  
protecting the environment and natural resources.

Our final responsibility is to our stockholders.  
Business must make a sound profit.

We must experiment with new ideas.

Research must be carried on, innovative programs developed  
and mistakes paid for.

New equipment must be purchased, new facilities provided  
and new products launched.

Reserves must be created to provide for adverse times.

When we operate according to these principles,  
the stockholders should realize a fair return.

written code lies dormant and ultimately serves little more than a public relations purpose. However, organizations have achieved effective, “living” codes of ethics typically by following a multistep implementation strategy. They first translate values and beliefs into specific ethical standards of behavior. Some standards may exist in the code itself; but often even more specific standards for particular situations are developed.

Individual managers and organizations face many ethical issues that won't simply disappear. Each of the issues will require managerial analysis, action, and evaluation. A survey of 711 U.S. firms asked them to list today's ethical problems facing managers.<sup>62</sup> The 10 most cited problem areas (from most to least significant) were:

1. Drug and alcohol abuse.
2. Employee theft.
3. Conflicts of interest.
4. Quality control.
5. Misuse of proprietary information.
6. Abuse of expense accounts.
7. Plant closings and layoffs.
8. Misuse of company assets.
9. Environmental pollution.
10. Methods of gathering competitors' information.

decisions based only on altruistic concerns are particularly hard to make. For example, altruism provides no means for judging the relative benefits to individuals, unless we're willing to assume that each person has the same interest and benefit in a decision.

*Obligation to a formal principle* is shown between the extremes of egoism and altruism. Egoism holds that an act is good only if the individual benefits from it. Altruism holds that an act is good only if society benefits from it. The criteria for both ethical guidelines are the consequences. In contrast to them, the ethic of adhering to a formal principle is based on the idea that *the rightness or wrongness of an act depends on principle, not consequences*.

Those who adhere to principle in judging their actions could, for example, follow the Golden Rule: "Do unto others what you would have them do unto you." Or they might decide that each action should be judged by the principle: "Act as if the maxim of your action were to become a general law binding on everyone."

But the idea that actions can be judged by one principle is unacceptable to many people. Some prefer a *pluralistic* approach comprising several principles arranged in a hierarchy of importance. For example, one writer proposes that the following principles can guide managers in decision making: (1) place the interests of society before the interests of the organization, (2) place the interests of the organization before managers' private interests, and (3) reveal the truth in all instances of organizational and personal involvement.<sup>57</sup> These three principles provide guidelines, but not answers. The manager must determine the relative benefits to society, company, and self. But determining benefits and beneficiaries is seldom simple accounting. The advantage of a pluralistic approach to ethical decision making is that the decision maker, *with intentions to do right*, has the basis for evaluating decisions.

**A Management Dilemma: The Organization** The approaches to developing guidelines for ethical behavior have so far focused on the individual manager. Many observers assert that the organization should play a major role in ensuring that its managers act ethically. The organization's participation is understandable given that the organization is ultimately responsible for the consequences of its managers' decisions.

Although a company is ultimately responsible, surprisingly few organizations have traditionally provided managers with specific guidelines concerning ethics in decision making. However, given the increasing concern about ethics in organizations, a growing number of companies are attempting to provide guidance for their managers.<sup>58</sup>

At the core of many corporate efforts is the development of a corporate **code of ethics** (often called a *code of conduct*). Typically established by top management, a code is usually comprised of a written statement of a company's values, beliefs, and norms of ethical behavior.<sup>59</sup> Johnson & Johnson's credo (Figure 3–4) is one example of a corporate code of ethics. Johnson & Johnson's credo specifies its values and beliefs concerning its relationships and responsibilities toward its different constituents (i.e., customers, employees, community, and shareholders). The credo also states Johnson & Johnson's objectives concerning each constituency and norms of behavior ("support good works and charities," "encourage civic improvements"). James Burke, Chairman of Johnson & Johnson, credits the credo with providing direction for the company's successful handling of the Tylenol product-tampering crisis.

Ideally a code of ethics should (1) give employees direction in dealing with ethical dilemmas, (2) clarify the organization's position regarding areas of ethical uncertainty, and (3) overall help achieve and maintain ongoing conduct that the organization views as ethical and proper.<sup>60</sup> However, often codes do not achieve these purposes. For example, one study found that organizations with ethics codes were more often found in violation of federal regulations than were organizations with no established codes.<sup>61</sup>

Codes are often ineffective because, once they're established in written form, management doesn't follow through and proactively implement them in the organization. The

#### code of ethics

A written statement of a company's beliefs, values, and norms of expected behavior.

Each of these and other problem areas need to be addressed. Codes of ethics, training, top management involvement, knowledge of the law, and self-analysis are all needed to properly deal with ethical issues. As more global competitors and business transactions in other countries increase, more ethical dilemmas will appear. Behaving as a good corporate citizen in Russia is different from operating as a good corporate citizen in France. What's considered corruption in the United States may be perfectly acceptable in Taiwan.

Can business ethics be taught in a classroom or training seminar via a video? Some people at Harvard Business School and Arthur Andersen & Co. say yes. Each MBA student at Harvard takes an ethics module before he or she begins the normal sequence of classes. Arthur Andersen & Co. spent over \$5 million developing and implementing a program promoting ethics education. The program is available to academics and other companies.

Others believe that ethics can't be taught in school. They say people's background, upbringing, and experiences set the lifetime pattern for their behavior. The "yes, it can be taught" versus the "no, it can't be taught in the classroom" debate is likely to continue.

Managers must be aware of the legal aspects of business, social responsibility expectations, and ethics. Failing to be aware of the law, to be socially responsible, and to make ethical decisions could result in lost market share, fines, imprisonment, or an inability to conduct business. Tomorrow's manager has to be knowledgeable without being intimidated by the legal, social, and ethical expectations of conducting business.

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## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define the terms internal environment and external environment.**

The internal environment refers to the factors such as rules, people, structure, and reward system that influence how employees work to accomplish goals. The external environment refers to all factors such as social-cultural trends, laws, technology, and environmental issues that directly or indirectly impact the organization.

### **Explain why work force diversity is such an important issue for managers to understand.**

The work force's background, values, experience, age, gender, and racial makeup are changing. To manage a diverse work force, managers must use programs, methods, and styles that are different than what was used with the less diverse work force of yesterday.

### **Discuss how a person's values are formed.**

Values (a person's convictions) are typically formed in the early years. Teachers, friends, relatives, and parents—by example, discussions, and responses—illustrate various values that are observed, copied, and/or modified.

### **Explain why the General Agreement of Tariffs and Trade (GATT) trading system was developed and implemented.**

The GATT was initiated in 1948 to establish rules of conduct for international trade. It reduces trade restrictions and requires that all GATT signatories treat all other signatories equally with regard to import and export duties and charges. It also provides a framework for negotiations between trading partners.

### **Discuss why firms are growing more interested today in producing environmentally friendly products.**

More managers and employees realize that future generations will be affected by the products, waste, and materials that the present generation is involved with and use. Also, it's good business since an estimated \$200 billion of environmentally friendly products will be purchased annually. Also, environmental laws can be used against destruction and pollution of the environment.

### **Describe the four informal laws of ecology proposed by Barry Commoner.**

He proposes that: (1) Everything is connected to everything else; (2) Everything must go somewhere; (3) Nature knows best; and (4) There's no such thing as a free lunch—anything of importance has a cost.

### **Explain the difference between an individually based discussion and an organizationally oriented discussion of ethics.**

One focuses on individuals and how they behave in terms of ethics; the other focuses on the corporation as a legal entity and its behavior. Ethics is an individually dominated subject and issue. Corporations are legal entities and they don't behave ethically or unethically. It is the representative of the corporation who must be held accountable. Saying that McDonald's is unethical is meaningless. People representing McDonald's are the initiators of behaviors that are evaluated and weighed in terms of correctness, legality, and morality.

## KEY TERMS

code of ethics, p. 96

culture, p. 70

dominant culture, p. 71

ecology, p. 88

environmental analysis, p. 74

environmental diagnosis, p. 74

ethics, p. 94

external environment, p. 74

General Agreement on Tariffs and Trade (GATT), p. 83

Gross Domestic Product (GDP), p. 81

Gross National Product (GNP), p. 81

internal environment, p. 70

productivity, p. 82

social responsibility, p. 92

technological innovation, p. 85

technology, p. 85

values, p. 77

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is an organizational culture and how does it influence employees' performance?
2. In ecological terms, how can a product be environmentally friendly?
3. What are the implications of a sluggish productivity rate for a manager facing employees' demands for wage and salary increases?

### Understanding

4. Values are important to every individual. Why would the values of an increasingly diverse work force be difficult to determine?
5. What does the concept of learning to learn have to do with the need for a work force that must use a range of skills to perform their jobs?
6. Explain why codes of ethics aren't always effective.

7. Many organizations are considered to be socially reactive. What does this mean in practical terms?

### Application

8. Conduct your own informal poll of 10 businesspersons and 10 students. Ask them to rank the seriousness of environmental problems listed in Table 3-4. What did you determine? Are there differences? Why?
9. Ask a few businesspersons, friends, and peers to describe what they think comprises an organization's culture. What did you find in the terms and phrases they use? Is there confusion about what you meant by the term *culture*?
10. Conduct your own study of the understanding of work force diversity in your school or workplace. Are any emotions expressed? Is there an understanding of the concept? Who provided you with the best insight about the concept?

## CASE 3-1

### Johnsonville Workers Flying in Culturally Correct Formation

Johnsonville Foods, Inc., of Sheboygan, Wisconsin, was a successful family business and stable producer of sausages and meat products for generations. When Ralph Stayer ran the company, profits were above average for the industry. Johnsonville was growing at a rate of 20 percent annually, with strong sales in Wisconsin and steadily rising sales in nearby Minnesota, Michigan, and Indiana.

Despite these outward signs of success, Stayer was worried. Competition from regional producers small enough to provide superior service to customers and a work force that "didn't seem to care" were the source of Stayer's worries. "Every day I came to work and saw people so bored by their jobs that they made thoughtless, dumb mistakes," he said. "They showed up in the morning, did halfheartedly what they were told to do, and then went home. How could we survive a serious competitive challenge with this low level of attentiveness and involvement?" He

knew that competitors and other environmental forces were beyond his control. He had to do his managerial job with the internal environment.

Stayer searched for ways to change the corporate culture. He started with the company's goals. "The most important question any manager can ask is, 'In the best of all possible worlds, what would I really want to happen?'" he said.

What Stayer ultimately envisioned for his company culture was an organization where people take responsibility for their own work. If that happened, he thought, product and service quality would improve and margins would increase, allowing entry into new markets. The image that best captured the organizational end state was a flock of geese on wing. Almost everyone has seen the flying V shape consisting of individuals drawn toward a common goal with leadership changing from time to time.

At first, Stayer ordered changes. He told his management team to begin making their own decisions. Reflecting on this move, Stayer realized that he had gone from authoritarian control

to authoritarian abdication. After two years he replaced all three managers. But he realized that, deep down, he was still in love with control. When he told his management team to make their own decisions, what he was really saying to them was to make the decisions that he would make. To get where he wanted, to realize the “flock of geese” metaphor. Stayer had to learn the skills of a coach and a manager, not of people, but of context.

The first contextual area Stayer targeted for change was the quality control systems. He based his changes on the theory that those who implement a decision and live with its consequences are the best people to make it. Top management stopped tasting sausage, and the people who made sausage started. Line workers were informed that it would be their responsibility to make certain that only top-quality product left the plant. Customer letters were forwarded directly to line workers. Workers formed teams to resolve problems. Eventually these teams set their own performance standards and even took on the hiring, training, evaluating, and terminating responsibilities.

The second contextual area Stayer addressed was company structure. Worker teams took on the tasks of scheduling, assignments, budgets, quality measures, and capital improvements. The end state that everyone began to envision was to make Johnsonville a company that never stops learning. Stayer said, “Learning is change, and I keep learning and relearning that change is and needs to be continuous.” In addition, educational allowances were established for workers to continue learning outside the or-

ganization. “Helping human beings fulfill their potential is, of course, a moral responsibility, but it’s also good business,” Stayer said. He worked at creating a culture where employees learned how to learn.

Five years after Stayer started changing the culture, Johnsonville was a vibrant company, and employees had begun to want and expect responsibility for their own performance. Return of assets was up significantly, as were margins and quality. Reflecting on the dramatic changes he had induced, Stayer remarked, “Change is the real job of every effective business leader because change is about the present and the future, not about the past. There is no end to change. . . . For the last five years, my own aspiration has been to eliminate *my* job by creating such a crew of self-starting, problem-solving, responsibility-grabbing, independent thinkers that Johnsonville would run itself.”

## Questions

1. What does Stayer mean by “A company that never stops learning”?
2. How do you think Johnsonville’s workers initially reacted to increased responsibility?
3. Do you think that Stayer was able to change the culture at Johnsonville?

## ■ CASE 3-2

### Booth Pharmaceutical Corporation

You’re a member of the Booth Pharmaceutical Corporation Board of Directors. You’ve been called to a special board meeting to discuss what should be done with the product Vanatin.

Vanatin is a “fixed-ratio” antibiotic sold by prescription. That is, it contains a combination of drugs. On the market for more than 13 years, it has been highly successful. It now accounts for about \$18 million per year (12 percent of Booth’s gross income in the United States and a greater percentage of net profits). Profit from foreign markets, where Booth is marketed under a different name, is roughly comparable to that in the United States.

Over the past 20 years, numerous medical scientists (such as the AMA’s Council on Drugs) have objected to the sale of most fixed-ratio drugs. The arguments have been that (1) there’s no evidence that these fixed-ratio drugs are more beneficial than single drugs, and (2) the possibility of detrimental side effects, including death, is at last double. For example, scientists have estimated that Vanatin is causing about 30 to 40 unnecessary deaths per year (deaths that could be prevented if the patients had used a substitute made by a competitor of Booth’s). Despite recommendations to remove fixed-ratio drugs from the market, doctors have continued to use them. They offer a shotgun approach for doctors who are unsure of their diagnoses.



A National Academy of Science–National Research Council panel, a group of impartial scientists, carried out extensive research studies and recommended unanimously that the Food and Drug Administration (FDA) ban the sale of Vanatin. One panel member, Dr. Jim Peterson of the University of Texas in Austin, was quoted by the press as saying, “There are few instances in medicine when so many experts have agreed unanimously and without reservation [about banning Vanatin].” Other panel members made similar comments. In fact, it was typical of comments that had been made about fixed-ratio drugs over the past 20 years. These impartial experts, then, believe that, while all drugs have some possibility of side effects, the risks associated with Vanatin far exceed the possible benefits.

The special board meeting has arisen out of an emergency situation. The FDA has told you that it plans to ban Vanatin in the United States and wants to give Booth time for a final appeal to them. Should the ban become effective, Booth would have to stop all sales of Vanatin and attempt to remove inventories from the market. Booth has no close substitutes to Vanatin, so consumers will switch to close substitutes currently marketed by rival firms. (Some of these substitutes apparently have no serious side effects.) It’s extremely unlikely that bad publicity from this case would significantly affect Booth’s other products’ long-term profits.

The board is meeting to review and decide on two issues:

1. What should be done with Vanatin in the U.S. market (the immediate problem)?
2. Assuming that Vanatin is banned from the U.S. market, what should Booth do in the foreign markets? (No government actions are anticipated overseas.)

Decisions on each of these issues must be reached at today's meeting. The chairman of the board has sent out this background information. He also wants you to consider which of the following alternatives you would prefer for the domestic market:

1. Recall Vanatin immediately and destroy it.

2. Stop production of Vanatin immediately, but allow what's been made to be sold.
3. Stop all advertising and promotion of Vanatin, but provide it for doctors who request it.
4. Continue efforts to most effectively market Vanatin until its sale is actually banned.
5. Continue efforts to most effectively market Vanatin and take legal, political, and other necessary actions to prevent the authorities from banning Vanatin.

A similar decision must also be made for the foreign market under the assumption that the sale is banned in the United States.

## ■ APPLICATION EXERCISE

### Rokeach Value Survey

The individual researcher who has done the most in terms of explaining and measuring values is Milton Rokeach. He separates values into two categories: instrumental and terminal. An instrumental value is a belief that a way of behaving fits every situation. For example, "being logical" no matter what the situation is an instrumental value. A terminal value is a belief that a certain end state (terminal) is worth attaining. One person may strive for "happiness," while another strives to be "socially recognized." Each individual has a set of instrumental and terminal values.

The Rokeach Value Study is presented here. Rank order the values in each column and determine how you view your value structure.

#### The Rokeach Value Survey

**Instructions:** Study the two lists of values presented below. Then rank the instrumental values in order of importance to you (1 = most important, 18 = least important). Do the same with the list of terminal values.

#### *Instrumental values*

##### Rank

- \_\_\_\_\_ Ambitious (hard-working, aspiring)
- \_\_\_\_\_ Broadminded (open-minded)
- \_\_\_\_\_ Capable (competent, effective)
- \_\_\_\_\_ Cheerful (lighthearted, joyful)
- \_\_\_\_\_ Clean (neat, tidy)
- \_\_\_\_\_ Courageous (standing up for your beliefs)
- \_\_\_\_\_ Forgiving (willing to pardon others)
- \_\_\_\_\_ Helpful (working for the welfare of others)
- \_\_\_\_\_ Honest (sincere, truthful)
- \_\_\_\_\_ Imaginative (daring, creative)
- \_\_\_\_\_ Independent (self-sufficient)
- \_\_\_\_\_ Intellectual (intelligent, reflective)

#### *Instrumental values*

##### Rank

- \_\_\_\_\_ Logical (consistent, rational)
- \_\_\_\_\_ Loving (affectionate, tender)
- \_\_\_\_\_ Obedient (dutiful, respectful)
- \_\_\_\_\_ Polite (courteous, well-mannered)
- \_\_\_\_\_ Responsible (dependable, reliable)
- \_\_\_\_\_ Self-controlled (restrained, self-disciplined)

#### *Terminal values*

##### Rank

- \_\_\_\_\_ A comfortable life (a prosperous life)
- \_\_\_\_\_ An exciting life (a stimulating, active life)
- \_\_\_\_\_ A sense of accomplishment (lasting contribution)
- \_\_\_\_\_ A world at peace (free of war and conflict)
- \_\_\_\_\_ A world of beauty (beauty of nature and the arts)
- \_\_\_\_\_ Equality (brotherhood, equal opportunity for all)
- \_\_\_\_\_ Family security (taking care of loved ones)
- \_\_\_\_\_ Freedom (independence, free choice)
- \_\_\_\_\_ Happiness (contentedness)
- \_\_\_\_\_ Inner harmony (freedom from inner conflict)
- \_\_\_\_\_ Mature love (sexual and spiritual intimacy)
- \_\_\_\_\_ National security (protection from attack)
- \_\_\_\_\_ Pleasure (an enjoyable, leisurely life)
- \_\_\_\_\_ Salvation (saved, eternal life)
- \_\_\_\_\_ Self-respect (self-esteem)
- \_\_\_\_\_ Social recognition (respect, admiration)
- \_\_\_\_\_ True friendship (close companionship)
- \_\_\_\_\_ Wisdom (a mature understanding of life)

Try the Rokeach Value Survey again in about three months and compare your rankings. Are they the same? Are you surprised at your rankings? So you think that reading about ethics and social responsibility in this chapter had any influence on your rankings?

CHAPTER

4

## THE GLOBAL MANAGEMENT ENVIRONMENT

*After reading this chapter, you should be able to:*

Discuss the nature and importance of the global economy.

■

Define the terms *multinational company* and *global corporation*.

■

Identify the approaches to international business.

■

Describe the environment for global business.

■

Explain how regulations influence international management activities.

■

List some international organizations and their functions.

■

Describe the different multinational market groups.

■

Discuss major challenges facing organizations in the global environment.

■

## MICKEY COMES TO EUROPE

On April 12, 1992, Euro Disney opened its gates outside of Paris. The \$3.9 billion theme park and resort complex is one of Europe's largest construction projects. The French government assumed the bulk of the financial risk; Disney put up only \$160 million of its own capital for the project. ■ Some French intellectuals are outraged at the thought of Mickey Mouse in their back yard. But the Socialist government reasoned that Euro Disney would bring in tourist dollars, create thousands of jobs, and attract many other investors to the area. The Disney company can be counted on to deliver a quality service that consumers will buy. In fact, Euro Disney is so extravagantly designed that some have said it surpasses Disney's parks in Florida and California. Chairman Michael Eisner himself made many of the detailed decisions, such as the placement of 35 fireplaces in hotel lobbies and restaurants, and the design of a salad bar in the back of an old pickup truck. ■ This eye to detail has made Disney one of the world's highest-quality organizations. Emphasis on service quality starts at the top at Dis-



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ney (as it does in most organizations committed to quality) and filters down to every individual in the firm, even those on clean-up duty in the parks. Ask any park attendant or ticket taker where to find the restrooms or when the next parade begins and you'll get the answer. That's why it takes four days for employees to learn how to take tickets at a Disney park. ■ Europeans' initial response to the park

that's mostly American in theme was somewhat below expectations. Disney expected 11 million visitors to Euro Disney in the first year; the park drew less than 10 million and saddled Disney with \$120 million in losses. Europe's sluggish economy and competition from Spain's World's Fair and Olympics were blamed for the rocky start. But many observers feel the attendance forecasts were optimistic, and they expect the French park to be a big success (Disney even plans to add a Disney-MGM Studios theme park to Euro Disney by 1997). Most of the usual Disney attractions can be found, such as Sleeping Beauty's castle, Main Street USA, and even the fast-food restaurants, but without the wine customary at French meals. Some attractions have been updated. Tomorrowland, with its 1950s images of the space age, has been replaced by Discoveryland based on European themes by Jules Verne and Leonardo da Vinci. And despite talk of cultural differences between the French and Americans, Eisner has said that the only real difference is that visitors pay with francs.

Source: Adapted from Ronald Glover, Stewart Toy, Gail DeGeorge, and Robert Neff, "Thrills and Chills at Disney," *Business Week*, June 21, 1993, pp. 73-74; Stewart Toy, Patrick Oster, and Ronald Glover, "The Mouse Isn't Roaring," *Business Week*, August 24, 1992, p. 38; Richard Turner and Peter Gumbel, "As Euro Disney Braces for Its Grand Opening, The French Go Goofy," *The Wall Street Journal*, April 10, 1992, pp. A1, A8; and Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence* (New York: Warner Books, 1982), pp. 167-68.



More than ever before, people throughout the world want the same things, whether Disney theme parks, the latest in fashion, or fast-food restaurants. Sooner than most of us believed possible, our belief in the “nationality” of most corporations is out of date.<sup>1</sup> Says quality expert Philip B. Crosby, “We live in a boundaryless economy now . . . where we’re headed for is a place where you can compete with anybody.”<sup>2</sup> Only a decade ago, the world economy was the sum of the individual economies of many nations, but this is no longer the case. Thanks to joint ventures, technology, the cross-fertilization of cultures, and many other factors, a truly global economy has been created. This new global economy poses many challenges for today’s managers.

This chapter examines the global management environment in terms of (1) the nature and importance of the global economy, (2) types of organizations in the global economy, (3) the environment for global business, (4) regulation of international business, (5) multinational market groups, and (6) challenges facing organizations in the global environment.

## ■ THE NATURE AND IMPORTANCE OF THE GLOBAL ECONOMY

In the global economy, any product made anywhere has to compete with any product made anywhere else. U.S. automakers learned this the hard way. Cars made in Detroit compete with cars made in Japan; flowers grown in Florida compete with flowers grown in Colombia; wine bottled in California competes with wine bottled in France. The question facing firms in the United States and throughout the world isn’t whether we should compete with foreign firms, but how we can survive in the global economy.

The answer to this question, of course, is complex. We know that customers are demanding better products, improved service, and lower prices, and the way to compete is through quality. Global competition means that consumers have a better choice of products for less money; management’s common goal must be customer satisfaction. In the past decade America’s dominance in the world economy has faltered because of the decline in competitiveness of American goods. A major factor in this decline has been consumer perception about the *quality* of these goods. The inevitable conclusion is that our economic status in the new global economy will depend upon our ability to meet new competitive standards.

### Quality and the Status of a Nation

Much has been written about the quality of a product and its implications for a nation’s status. In the 19th century Britain was the world’s economic leader. Today Britain finds itself at the bottom among developed nations. Many experts have attributed its economic fall to a drop in the quality of goods the British produced. Consider the following passage:

*The quality of product turned out has international, cold war status as well as personal, local, and national status. That this is a practical everyday kind of consideration is already very clear, even though America doesn’t realize this as much as other countries do. The stereotype in most of the world is that an American fountain pen is more likely to be a good, workable, efficient fountain pen than if it comes from another country. And we have the recent example of the self-conscious cooperation between the government of Japan and its industries in deliberately shifting over to higher-quality products. The stereotype of Japanese products before the war was that they were shoddy and cheap or low-quality imitations. But already, we are getting to think of Japanese products in about the same way that we used to think of a German product in the old days, that is, as being of very high quality and of excellent workmanship. Countries to some extent get judged by the quality of automobiles or cameras that they turn out. I am told that German quality has gone down. If this is so, then the status of West Germany in the eyes of the whole world will go down. It will be considered in an unconscious way to have less status, to have poorer quality as a nation. This, of course, since every West German tends*

*to identify with his country and tends to introject it, means a loss of self-esteem in every single citizen, just as the increased Japanese quality and the general respect for their products means an increase in the self-esteem of every Japanese citizen. The same thing is true for the United States in a very general way.<sup>3</sup>*

When do you think that passage was written? Noted psychologist Abraham Maslow wrote it in 1965. In retrospect, it almost seems like a warning. Several decades ago, “made in Japan” signified poor-quality products to be avoided. Today numerous Japanese products are known for their quality and dependability. According to Maslow, Japan’s status in the eyes of the world should also go up, and it has. Japan worked for many years to shed its negative stereotype; Maslow noted decades ago that we were already thinking of Japanese products’ high quality. Similarly, the rest of the world judges America according to the quality of the goods we produce, whether they be cars or TVs. Maslow said Americans haven’t realized this as much as other peoples have, but we *must* today.

Perhaps the most important part of Maslow’s message is that citizens tend to identify with the status of their country. If the quality of a nation’s products increases, so does citizens’ self-esteem. Higher self-esteem of course translates into more motivated and committed workers. Likewise, as a nation’s status falls, so does its citizens’ self-esteem.

## The Global Boom

international business

Performance of business activities across national boundaries.

**International business** is the performance of business activities across national boundaries. Every nation in the world participates in international business to some extent. Involvement in international business has increased steadily since World War II. It’s expected to continue growing as we move into the 21st century. More than \$2 trillion is spent annually on trade between nations. By the year 2000 a key requirement for chief executives of American firms will be experience in international business. And worldwide employment will increase in nearly 75 percent of American firms.<sup>4</sup> This growth will be due in part to the global boom and new business opportunities throughout the world.

Today Japan is one of the world’s leading economic powers. Only 50 years ago the country was left devastated by American bombing raids during World War II. Tokyo was burned to the ground; atomic bombs leveled Hiroshima and Nagasaki. When the war ended, Japan’s economy existed no longer. But Japan learned from this disaster. Ever since, the Japanese have invested in people. Current changes in Eastern Europe, South Korea, Vietnam, and Taiwan also suggest a global environment in which market power, not military power, will prevail. Learning how to manage organizations in this new environment will be critical to American firms as well as firms throughout the world.

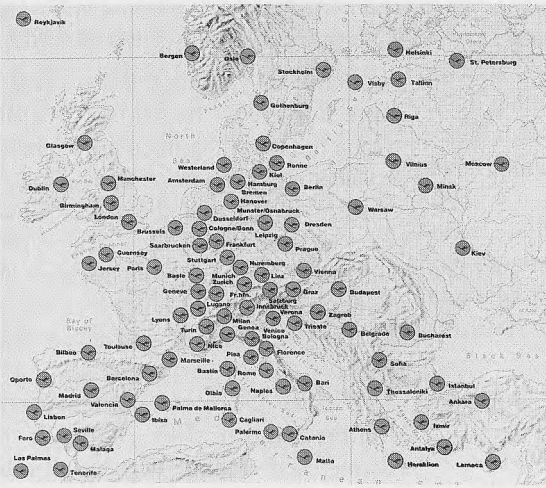
international management

Performance of the management process in an international business setting.

**International management** is the performance of the management process in an international business setting. The global boom has increased the importance of international management. As larger portions of the world desire quality goods at lower prices, managers must be prepared to compete in an increasingly interdependent global economy. Firms that choose not to compete in this global environment will be affected by U.S. and foreign competitors that do. In reality, organizations can’t avoid competing in the global economy.


Transportation, communication, and technology have fueled the global boom. In 18th-century America all economies were local. Little emphasis was placed on regional competition, let alone national competition. With the advent of the railroad and the telegraph, 19th-century economies became regional or national. Firms began to compete with others in distant parts of the country. Often the firm producing the greatest quantity won out; thus the first firms to adopt assembly-line techniques survived. In the 1950s fiber optics, satellites, improved transistors, and air travel made geographic distance less relevant. Firms began to compete with firms in other parts of the world. As the 20th century progressed, firms competed still more on quality as well as quantity. In the 21st century the firm that offers high-quality products is most likely to succeed.

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Transportation has helped to fuel the global boom. This advertisement from Lufthansa is targeted at business travelers needing transportation to Europe.

## Global Opportunities

The global boom has resulted in a customer-driven world economy. Harvard professor Rosabeth Moss Kanter says information, the computer, and transportation advances caused the global market. She contends that many of the changes taking place in Europe today are because people in Eastern Europe wanted to go shopping. Through TV and other mass media, people can learn about lifestyles in the rest of the world. It's interesting to think that Levi Strauss and Bon Jovi—not just U.S. military strength—helped cause the Soviet bloc's breakup.<sup>5</sup>

A customer-driven economy means new opportunities throughout the world. For example, Russians know that their standard of living is lower than that of citizens in the West and other parts of the world. As Russia's economy changes, demand will rise for products of all types—food, clothing, appliances, leisure items, medical care, and so on. Countless new opportunities will arise for firms to offer goods and services that meet these demands. In short, the global economy means global opportunities for firms that simply need the vision to act upon them. Argentina has experienced one of the fastest and most successful processes of privatization ever. The state-owned oil company, railroads, telephones, airline, utilities, and television and radio stations have been privatized. Inflation has dropped from 4,000 percent in the late 1980s to 17.5 percent, while growth is exceeding 6 percent annually.<sup>6</sup>

Taking advantage of global opportunities won't be easy. Firms throughout the world are poised to offer products to emerging markets. More competition means more choices, which drive the need for quality even higher. In 1980 there were approximately seven competitors in the luxury car market. By 1990 the number rose to 15, including companies in the United States, Japan, Germany, and other European countries. Competition

in other industries is following the same pattern. Markets' increased globalization has led to greater competition among corporations throughout the world and an erosion in U.S. firms' world dominance—a trend that's expected to continue.<sup>7</sup> Firms that supply high-quality products will be in the best position to survive and prosper in the global economy.

## ■ TYPES OF ORGANIZATIONS IN THE GLOBAL ECONOMY

Any organization, large or small, can become involved in international business. While international firms are perceived to be large and well known (like Sony and IBM), numerous smaller firms also sell products in foreign markets. This section discusses multinational and global corporations and their approaches to becoming involved in international business.

### Multinational and Global Corporations

Firms involved in international business are commonly referred to as multinational companies. A **multinational company (MNC)** is an organization conducting business in two or more countries. MNCs are often based in one country, with operations, production facilities, and/or sales subsidiaries in other countries. MNCs are traditionally viewed as domestic firms that carry out activities in other parts of the world; IBM is an American firm, Grand Metropolitan is British, and Nestlé is Swiss. Table 4-1 lists the world's largest MNCs.

Another term used to describe a type of organization emerging in the global economy is *global corporation*. In contrast to an MNC, a **global corporation** operates as if the world were a single market, and it has corporate headquarters, manufacturing facilities, and marketing operations throughout the world. While similar to an MNC, a global

**multinational company (MNC)**  
An organization conducting business in two or more countries.

**global corporation**  
A corporation operating as if the world were a single market, with corporate headquarters, manufacturing facilities, and marketing operations throughout the world.

TABLE 4-1  
The 20 Largest Multinational Companies

Rank	Company	Country	Market Value (in billions of U.S. dollars)
1	Royal Dutch/Shell Group	Netherlands	\$77.82
2	Nippon Telegraph & Telephone	Japan	77.52
3	Exxon	United States	75.30
4	Philip Morris	United States	71.29
5	General Electric	United States	66.00
6	Wal-Mart Stores	United States	60.82
7	Coca-Cola	United States	58.47
8	Merck	United States	58.41
9	American Telephone & Telegraph	United States	55.85
10	IBM	United States	51.82
11	Toyota Motor	Japan	48.97
12	Glaxo Holdings	Britain	42.64
13	British Telecommunications	Britain	40.65
14	Mitsubishi Bank	Japan	39.84
15	Bristol-Myers Squibb	United States	37.60
16	Sumitomo Bank	Japan	37.12
17	Du Pont	United States	35.41
18	Procter & Gamble	United States	34.74
19	Dai-ichi Kangyo Bank	Japan	34.68
20	Industrial Bank of Japan	Japan	34.04

Source: "The Global 1000—The Leaders," *Business Week*, July 13, 1992, p. 53.

serious threat. Firms that don't recognize their emerging presence face a no longer be the exception. By the year 2000 global corporations will in Mexico with non-American parts. Confusion over products, nationalities is indicative in American," some observers argue that Camry is more American than Ford's made workers, have fewer defects than those made in Japan, and have actually been exported Japanese firm. Yet Camrys are made with predominantly American parts by American the world. Toyota, with a large Camry plant in Georgetown, Kentucky, is considered a Most international firms are MNCs that have expanded their operations to other parts of In reality, we haven't quite reached the point where global corporations are common. countries, and do not share a common first language. ABB is truly a global corporation.<sup>9</sup> control. ABB isn't Japanese or American. The company's 13 top managers meet in different to take on GE. The world leader in high-speed trains, robotics, and environmental con- bany. ABB is a global electrical equipment giant, larger than Westinghouse, and is able global corporation isn't seen as Japanese or American, for instance, but as a global com- while MNCs pursue separate strategies on a country-by-country basis.<sup>8</sup> Thus a truly are meaningless. Global corporations pursue integrated strategies on a worldwide basis, corporation is different in that it isn't anchored in a single country; national boundaries

### Approaches to International Business

Depending on the level of commitment an organization is willing to make, it can take any of several approaches to international business. Some approaches represent a low level of commitment, while others represent a true global commitment. These approaches include exporting, licensing, trading companies, countertrading, joint ventures, strategic alli- ances, and direct investment.

**Exporting** The simplest way to enter international business is **exporting**, selling do- mestic goods to a foreign country. (Importing is purchasing goods made in another coun- try.) Exporting requires the lowest level of resources and commitment. More than half of the U.S. firms involved in international trade do so through exporting.<sup>10</sup> In many cases a firm can locate an export agency that can provide assistance in selling products to foreign countries, thereby avoiding significant upfront investments.<sup>11</sup>

American exports are making a strong comeback and have reduced the trade deficit, which results when a country imports more than it exports. The United States trade deficit fell from a record \$146 billion in 1987 to \$99 billion in 1992.<sup>12</sup> In 1992, for the second year in a row, the United States ranked as the top merchandise exporter in the world, with \$448.2 billion in exports.<sup>13</sup> Many products once considered in serious trouble domestically are selling well in foreign markets. The major growth in exports is taking place in Canada, Japan, Mexico, Taiwan, Korea, and Germany. The fastest-growing U.S. exports are music, video, and computer tapes; cigarettes and tobacco products; meat; pulp and waste paper; and synthetic resins, rubber, and plastics.<sup>14</sup> Table 4-2 lists the 20 largest U.S. exporters. If exports continue to grow, the United States should see a trade surplus, which results when exports exceed imports.

Exports are a key to growth, especially when domestic markets are saturated. Many large and small U.S. firms are growing via exports. For instance, the United States is the leading exporter of food to Japan, with annual sales exceeding \$10 billion.<sup>15</sup> General Motors markets a minivan manufactured in the United States and sold in Europe under the Opel name. GM expects to export about \$720 million worth of vans by 1996.<sup>16</sup> Small companies also rely on exports for growth and sales. Treatment Products exports \$2 million in auto wax, Shaper Finnish exports \$3 million in laundry and ironing equip- ment, and Midwest Tropical exports \$2.2 million in aspirinums.<sup>17</sup>

exporting  
Selling of domestic goods to a  
foreign country.

TABLE 4-2  
The 20 Largest U.S. Exporters

Rank	Company	Export Sales (in millions)	Total Sales (in millions)	Exports as a Percentage of Sales
1.	Boeing	\$17,486	\$ 30,414	57.5%
2.	General Motors	14,045	132,774	10.6
3.	General Electric	8,200	62,202	13.2
4.	IBM	7,524	65,096	11.6
5.	Ford Motor	7,220	100,785	7.2
6.	Chrysler	7,051	36,897	19.1
7.	McDonnell Douglas	4,983	17,513	28.5
8.	Philip Morris	3,797	50,157	7.6
9.	Hewlett Packard	3,720	16,427	22.6
10.	Du Pont	3,509	37,386	9.4
11.	Motrola	3,460	13,341	25.9
12.	United Technologies	3,451	22,032	15.7
13.	Caterpillar	3,341	10,194	32.8
14.	Eastman Kodak	3,220	20,577	15.6
15.	Archer Daniels Midland	2,700	9,344	28.9
16.	Intel	2,339	5,985	39.1
17.	Digital Equipment	1,900	14,027	13.5
18.	Allied-Signal	1,810	12,089	15.0
19.	Unisys	1,795	8,421	21.3
20.	Sun Microsystems	1,783	3,627	49.2

Source: "Top 50 Leading U.S. Exporters," *Fortune*, June 14, 1993, p. 13.

#### Licensing

An agreement through which one firm (the licensor) allows another firm (the licensee) to sell the licensor's product and use its brand name.

**Licensing** In a licensing agreement, one firm (the licensor) agrees to allow another firm (the licensee) to sell the licensor's product and use its brand name. In return, the licensee pays the licensor a commission or royalty. For example, a beverage company such as Pepsico might enter into a licensing agreement with a firm in Taiwan. The Taiwanese firm would have the right to sell Pepsi products in Taiwan and would pay Pepsico a specified percentage of the income from sales of Pepsi products. Playboy Enterprises has licensed 20 mainland Chinese sportswear boutiques operated by the Chinese government. The boutiques sell a variety of outerwear and other products with the rabbit logo.<sup>18</sup>

Licensing offers advantages for both licensor and licensee. The licensor can become involved in international trade with little financial risk. The licensee gains products and technology that may otherwise be too costly to produce. But licensing doesn't result in a large payoff for the licensor—usually only about 5 percent of sales. Some American executives and managers believe that licensing agreements merely give away trade secrets for a meager 5 percent of sales; after the agreement expires (usually in less than 10 years), the licensee may continue to market the product without paying the licensor.

#### Trading company

A link between buyers and sellers in different countries.

**Trading Companies** Businesses wishing to sell their products overseas may choose to sell through a **trading company**, which serves as a link between buyers and sellers in different countries. Trading companies aren't involved in manufacturing products. They're simply intermediaries that take title to products and undertake all the activities required to move products from the domestic country to customers in a foreign country. In addition, they provide sellers with information about markets, product quality and price expectations, distribution, and foreign exchange in domestic or international markets. Trading companies assume much of the manufacturer's risk in international business.

Because they're usually favored by their governments, trading companies can facilitate entrance into foreign markets. Some countries (Brazil, for one) give trading companies tax advantages. In the United States, the 1982 *Export Trading Company Act* encourages the efficient operation of trading companies, helps to finance international trade, and provides limited protection from antitrust laws when conducting export activities. After the act was passed, many major companies (such as General Electric, Kmart, and Sears, Roebuck) developed their own export trading companies.

#### countertrading

Complex bartering agreements between two or more parties.

**Countertrading** Countertrading involves complex bartering agreements between two or more countries. (*Bartering* refers to the exchange of merchandise between countries.) Countertrading allows a nation with limited cash to participate in international trade. The country wishing to trade requires the exporting country to purchase products from it before allowing its products to be sold there. For instance, McDonnell Douglas sold \$25 million worth of commercial helicopters to Uganda and financially supported a plant that catches and processes Nile perch and a factory to turn pineapples into concentrate in order for Uganda to earn hard currency and pay McDonnell Douglas; the factories were sold to buyers in Europe. Agreements like this account for an estimated 20 percent of U.S. exports, or \$110 billion; the use of countertrade agreements is expected to grow during the 1990s.<sup>19</sup> Countertrading provides an established trading vehicle for the former Soviet bloc and other developing and Third World countries that want U.S. goods but lack currency to pay for them.<sup>20</sup> Although many U.S. companies still don't use countertrading, firms will find they have no choice if they wish to compete in global markets.

Countertrading has several drawbacks. First, it's often difficult to determine the true value of goods offered in a countertrade agreement. Second, it may be difficult to dispose of bartered goods after they're accepted. These problems can be reduced or eliminated through market analysis and negotiation. Companies have been developed to assist firms in handling countertrade agreements. Despite these drawbacks, companies that choose not to countertrade may miss significant opportunities.

#### joint venture

A partnership between a domestic firm and a firm in a foreign country.

**Joint Ventures** Firms may also conduct international business through a **joint venture**, in this case a partnership between a domestic firm and a firm in a foreign country. Because of government restrictions on foreign ownership of corporations, joint ventures are often the only way a firm can purchase facilities in another country. For instance, General Motors formed a joint venture with China's Jinbei Automobile to build light trucks. GM owns 30 percent of the venture, which plans to produce 50,000 trucks by 1998 for the world's largest market.<sup>21</sup>

Joint ventures are becoming more common because of cost advantages and the number of inexperienced firms entering foreign markets. Sometimes joint ventures are a political necessity because of nationalism and government restrictions on foreign ownership of property or industry. In environments with scarce resources, rapid technological changes, and massive capital requirements, joint ventures may be the best way for smaller firms with limited resources to attain better positions in global industries. Joint ventures may also be created to gain access to distributors, suppliers, and technology.

One major drawback to international joint ventures is that organizations may lose control of their operations. For example, because India doesn't allow foreign companies to own industries, Coca-Cola once entered into a joint venture with the Indian government. Despite India's huge soft drink market, Coca-Cola pulled out over a decade ago rather than risk giving up majority control and its secret formula.

#### strategic alliance

A combination of two firms' resources in a partnership that goes beyond the limits of a joint venture.

**Strategic Alliances** A recent strategy for entering foreign markets is a strategic alliance. A **strategic alliance** occurs when two firms combine their resources in a partnership that goes beyond the limits of a joint venture. Strategic alliances have been growing in the highly competitive global marketplace at an annual rate of 27 percent since 1985.<sup>22</sup> IBM alone has established over 400 strategic alliances with U.S. and foreign firms. Trust is the major requirement for an effective partnership. If a firm can't trust its prospective

partners, it shouldn't enter into a strategic alliance with them. Trust generally evolves over time, so firms must give strategic alliances adequate time to prosper. Ford and Mazda formed a strategic alliance nearly 15 years ago to cooperate on new vehicles and exchange expertise. Ford is the best-selling foreign auto in Japan, and building trust over the years was a major factor in this success.<sup>23</sup>

**Direct Ownership** A much more involved approach to international business is **direct ownership** (purchasing one or more business operations in a foreign country). Direct ownership requires a large investment in production facilities, research, personnel, and marketing activities. General Electric, for example, invested \$150 million to purchase 12 light bulb plants in Hungary that were once owned by the Hungarian government. GE planned to spend at least \$140 million over five years to modernize the plants with no expectation of getting back its investment for some time.<sup>24</sup> Many MNCs such as Ford, Polaroid, and 3M own facilities outside the United States. Through direct ownership, a firm has greater control over a foreign subsidiary.

Some well-known firms operating in the United States are actually subsidiaries owned by foreign firms. Magnavox, Pillsbury, Saks Fifth Avenue, and Baskin-Robbins are wholly owned subsidiaries of foreign multinational companies. Nonprofit organizations (such as the Red Cross) and the U.S. Army also own foreign subsidiaries or divisions.

Firms invest in foreign subsidiaries for a number of reasons. Direct ownership can reduce manufacturing costs because of lower labor and operating costs. Direct ownership also enables a firm to avoid paying tariffs and other costs associated with exporting. Additionally, by paying taxes in the host country and providing employment for local residents, a foreign company can build good relations with the host government. The greatest danger of direct ownership is that a firm may lose a sizable investment because of market failure or nationalization of its interests by a foreign government. When problems arise in a foreign country, it's often very difficult and expensive to move operations out of the country.

**Direct ownership**  
Purchasing of one or more business operations in a foreign country.

## ■ THE ENVIRONMENT FOR GLOBAL BUSINESS

There are usually significant differences between the business environments of domestic and foreign markets. A detailed analysis of these differences is critical in determining whether to enter a foreign market. If a manager of an MNC or global corporation is to be effective in a global environment, differences in cultural, social, economic, political, legal, and technological environments must be understood.

### Cultural Environment

Appreciating the differences among cultures is a basic requirement for successful international management.<sup>25</sup> **Cultural diversity** refers to the differences that exist both within and among cultures.<sup>26</sup> Meanings attached to body language, time, greetings, spatial patterns, and other symbols differ significantly across cultures. When products are introduced into one nation from another, acceptance is far more likely if differences between cultures are recognized and accommodated. For example, managers of McDonald's realized that when they opened restaurants in Japan, they would have to adapt to Japanese culture. The first McDonald's restaurant was therefore located in a prestigious area in Tokyo to impress the Japanese. Had the restaurant been opened in the suburbs, the Japanese would have considered it a second-class enterprise. Understanding how Japanese consumers view locations helped McDonald's succeed in Japan.<sup>27</sup> Conversely Yokohama Rubber Co., based in Tokyo, had to recall auto tires with a tread pattern that resembled the Arabic word for Allah after Islamic customers protested. Yokohama apologized for its lack of knowledge of Islam, discontinued the tires, and replaced them free of charge in Islamic nations.<sup>28</sup>

**Cultural diversity**  
Differences both within and between cultures.



## REFLECTIONS BY PHILIP B. CROSBY

## THE GLOBAL MANAGEMENT ENVIRONMENT

I spent the first 11 years of my career working for companies whose customer was the U.S. Dept. of Defense. My thoughts rarely strayed from the nation's borders. Then I moved to the ITT Corporation which did business all over the world. Suddenly I was responsible for quality in a company where English was the official language, but the employees spoke in 15 or 20 different tongues and their work was done in accordance with as many different cultures.

ITT management (headed by Harold Geneen, who invented the conglomerate concept) took extraordinary steps to build communications. Each month senior executives from all over gathered in New York for a general meeting of status and action. The following week a detailed meeting was held in Brussels to review all the European operations. It was very hard to hide anything—and completely unnecessary.

I organized the quality management professionals into 28 Quality Councils all around the ITT world. Then these people were brought to a special school to learn the language of quality. They also learned how to communicate with colleagues who had completely different customs and situations. Their management was taught in school and in the general conversation of company business. The price of nonconformance was put into the reporting system and this assured management's continual attention to the subject. Those who have trouble keeping executives interested in quality only need to transfer it into financial terms. The one thing managers all have in common, worldwide, is that they care about money first—above all, believe me. It is the way they are measured and rewarded or denied.

We issued a corporate policy on quality that said, "It is the quality policy of the company that each

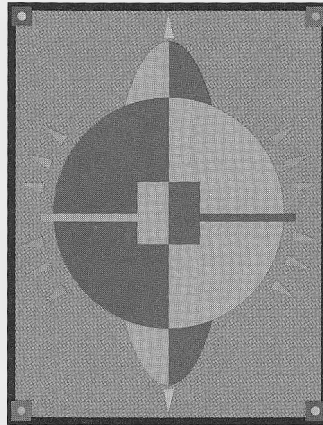
employee will perform according to the agreed requirements or cause those requirements to be officially changed to what we and our customers really need. Quality is defined as conformance to the requirements."

Also, each unit of the corporation was required to have a quality management entity to the extent agreed by the unit president and the corporate vice president of quality (me). Thus in the late 1960s service companies like Avis, Sheraton, and Hartford Insurance began to embrace the concepts of quality management as a normal part of doing business. As in the manufacturing companies, employees at all levels could now talk about quality and understand each other. They spent their time getting the "requirements" right rather than seeing what could be acceptable although not correct.

In my consulting years I often heard client CEOs say that the only thing everyone in the company understood the same was quality. They had all been to my "Quality College"; they all agreed that quality was conformance to requirements, that it was achieved by prevention, that the performance standard was zero defects, and that the measurement was money.

Translating concepts from English to some other language is not easily done. I found it necessary to hire someone to translate my material back into English in order to check it out. Once I found that a German translator had turned the word *prevention* into one that referred to birth control devices. Nevertheless, the message here is that any subject can be made comprehensible to all regardless of their location, culture, or business if it is patiently described and taught.

Communication, not control, is what builds world class quality.



Managers must be willing and able to adjust to cultural differences when doing business in foreign countries. How managers communicate in different countries varies greatly. For example, managers doing business in Japan know that the Japanese value saving face and achieving harmony. Thus, to be successful, managers never put a Japanese businessperson in a position where he must admit failure. They approach a Japanese manager at the highest level possible in the organization (the first person approached will be involved throughout the negotiation). Direct communication about money is avoided



Milt and Joan Mann/Cameramann International, Ltd.

The first restaurant McDonald's opened in Japan was located in a prestigious area in Tokyo. McDonald's recently opened its 1,000th restaurant in Japan.

if feasible. Finally, and perhaps most difficult of all, American managers must wait patiently for Japanese meetings to move forward before an agreement is reached.<sup>29</sup>

Culture can also impact CEOs' most fundamental role in a society. In the United States, CEOs are viewed much like celebrities, are featured in TV ads, and are paid high salaries (an average of \$2 million a year) plus additional benefits or perks that go along with the position.<sup>30</sup> In contrast, CEOs in Japan and Korea are important social leaders.<sup>31</sup> They receive only one fourth as much compensation as American CEOs, but take more responsibility for company failure.<sup>32</sup> To save face, Japanese CEOs often resign when their company loses money. For many years American CEOs have attributed failures to workers rather than to management. As a result many people in the United States and abroad view American workers as inferior. A controversy over this issue erupted in early 1992 when a high-level Japanese government official called American workers lazy and illiterate. But many experts on quality argue that managers, not workers, often are the problem. Furthermore, they say, we must recognize where the blame lies and make adjustments if we're to compete in the global economy. The Global Exchange on the next page deals with this subject.

Business customs also play a major role in international management. In some countries, one major goal in business is to be accepted by others. Japanese workers, for instance, are more concerned with being accepted by their fellow employees than with making a profit. In the Middle Eastern oil markets, companies frequently have to do business via a "connector," who has access to the oil producers and receives a commission for this role. Differences in ethical standards influence marketing activities. Price fixing, payoffs, and bribes are acceptable behavior in some countries. In Mexico, bribes and payoffs are a way of doing business.

Many U.S. firms provide cross-cultural training to help managers prepare for assignments involving international business. Training covers language, culture, and history of the foreign country plus how to conduct business there. Employees are screened carefully before they're given international assignments. Firms might require that candidates for international positions speak one or more foreign languages, have lived outside the United States, and have prior international work experience. American Express's global-

## GLOBAL EXCHANGE

## THE WORKERS AREN'T THE PROBLEM

Are American workers too lazy to compete in the global economy? It seems that when something goes wrong, you hear about poor workmanship, not poor management. Years ago, long before the threat of foreign cars became apparent, a joke about American cars made the rounds: Try to buy a car made on a Tuesday, Wednesday, or Thursday. Don't buy one made on a Monday (since the workers were recovering from the weekend) or a Friday (when they were getting ready for the weekend).

Maybe the joke has a ring of truth to it, maybe not, but that's not the point. Lemons were never thought to be a management problem; they were the workers' fault. This belief held not only for cars, but for TVs, banks, airlines, and virtually any other good or service. Customers blamed problems with banks on the tellers, not the managers. Putting responsibility for success or failure on the worker is still evident. We regularly hear about workers taking pay cuts, but it's rare to hear about executives cutting their pay, even after their firms have lost millions of dollars. So are the workers the problem?

The answer is a plain and simple no. Like everyone else in the new global economy, workers in America are adjusting to conditions they aren't familiar with. But they aren't lazy. American workers' productivity remains the highest in the industrial world, 25 percent higher than it is in Japan. Ironically, as American workers have maintained a high level of productivity, their real wages have stagnated, even declined.

In short, when given the training needed to do their jobs, American workers measure up. The problem is how their skills and talents are organized and nurtured. Managers must provide workers with the training they need to compete in the global economy and the freedom to use their intelligence and creativity on the job. According to Lord White, CEO of Hanson PLC's U.S. operations, workers "can only be as good as their leaders." Increasingly it's recognized that workers aren't the problem; it's managers.

A major problem facing American workers is that the physical skills that made them successful in decades past are

inadequate today when mental skills are needed. Worker training and retraining are critical to U.S. industry. Frontline workers in American factories, offices, and stores often receive little or no training. While American firms are reluctant to invest in their workers, firms in Germany and Japan invest heavily in them. At major Japanese corporations, workers receive extensive training, few change jobs, and lay-offs are rare. U.S. workers are the first to be affected by problems in either the economy or their own companies. Some experts say that since managers can save a firm's short-term profits by laying off workers, they don't have to know how to manage. Workers are treated as expendable or replaceable parts, a situation that doesn't encourage much commitment on their part.

Commitment is the goal, and all quality experts agree that active worker participation leads to greater commitment. At Northern Telecom's plant in Morrisville, North Carolina, 420 people work in teams, act as their own bosses, and make their own decisions. Revenue is up 86 percent since management introduced this system. At a Honda assembly plant in Liberty, Ohio, the assembly line worker is treated like a professional because that person knows what's best and how to make it better. Honda management listens and often turns significant decisions over to workers. At Federal Express each employee is told that 100 percent customer satisfaction is the goal. After each worker is taught how to work both as a member of a team and independently, she's given the right to do anything necessary to satisfy a customer. No management approval is necessary.

Many similar stories could be told, proving that it's managers' job to provide an environment in which workers can do their best work. Employees deserve this dignity as do customers. If managers fail to do this, the result is poor workmanship—a management problem.

Source: Adapted from Myron Magnet, "The Truth about the American Worker," *Fortune*, May 4, 1992, pp. 48-65; Jim Barnett, "Workers Manage to Make Decisions," *News and Observer* (Raleigh, N.C.), March 8, 1991, p. 6C; and Lloyd Dobyns and Clare Crawford-Mason, *Quality or Else* (Boston: Houghton Mifflin, 1991), pp. 105-26.

management exchange program enables managers with at least two years of experience to transfer abroad for 18 months.<sup>33</sup>

### Economic Environment

The process of international management is also influenced by a country's economic environment. Foreign economies are unfamiliar and often fluctuate even when the domestic economy is stable. Thus the stability of the nation's economy must be determined before managers can assess market potential for their products. Developed nations like the United States, Canada, and Japan tend to have more stable economies than less developed countries such as Ethiopia and Ecuador.

TABLE 4-3

## The 25 Largest Countries

Rank	Country	Population (in millions)
1	China	1,151.5
2	India	869.5
3	United States	252.5
4	Indonesia	193.5
5	Brazil	155.3
6	Russia	148.3
7	Japan	124.0
8	Nigeria	122.5
9	Pakistan	117.5
10	Bangladesh	116.6
11	Mexico	90.0
12	Germany	79.5
13	Viet Nam	67.6
14	Philippines	65.7
15	Iran	54.0
16	Turkey	58.0
17	Italy	57.8
18	United Kingdom	57.5
19	Thailand	56.8
20	France	56.6
21	Egypt	54.4
22	Ethiopia	53.2
23	South Korea	43.1
24	Spain	39.8
25	Poland	37.8

Source: *Statistical Abstract of the United States*, 1992, pp. 820-22.

The size of the foreign market is another economic factor that must be understood before engaging in international management. A firm should verify that a market is large enough to justify the costs of introducing products there. Two factors are used to access the size of a foreign market: population and income. A country's population must be large enough to attract a firm's interest. The acceptable size varies considerably from one company to another. Some firms market only to the largest nations (Table 4-3). Other firms market products in countries with population below 1 million. Managers must also investigate population trends to determine if the country is growing.

Next, managers must examine the prospective market's income, as measured by output. The United States has a gross national product (GNP) of more than \$5.4 trillion, the largest in the world. Gross national product per capita, which takes into account a nation's GNP in relation to its population, is a measure of a nation's **standard of living**. U.S. per capita GNP is 20,910. Japan's GNP is \$2.91 trillion, but per capita GNP is 22,900.<sup>34</sup> Thus, the average citizen in Japan has about the same standard of living as his or her American counterpart.

Gross domestic product (GDP) is another useful indicator of a market's income, as it measures the purely domestic output of a country. Some countries only report GDP data. International organizations often prefer it as a comparison of output between nations because it excludes net property income from abroad, giving a more realistic measure of domestic output.

If a foreign market is large enough to capture a firm's interest, the nation's economic condition should be examined. Developed countries have high literacy rates, modern technology, and high GNP per capita. These nations often provide the greatest marketing

#### standard of living

Gross National Product per capita, which takes into account a nation's GNP in relation to its population.

opportunities. In developing countries, especially in Latin America, education and technology are improving, but GNP per capita is fairly low. Many less developed countries in Africa and South Asia have lower education levels, limited technology, and very low GNP per capita. Although current business opportunities are limited in developing and less developed countries, long-term opportunities may be extremely favorable as these nations progress.

A nation's **infrastructure** (the communications, transportation, and energy facilities that mobilize the country) also indicates its economic condition.<sup>35</sup> The extent to which a firm can successfully promote a product in different countries partially depends on the communications media available. Similarly, the quantity and quality of transportation facilities affect a firm's ability to distribute its products. In a developed country like Italy, managers use sophisticated telecommunications systems to conduct business. In sharp contrast, many less developed nations have neither a sizable newspaper circulation nor an adequate road or railway system. Another good measure of economic conditions is a country's energy consumption: the higher the level of consumption, the greater the market potential.

#### infrastructure

Communications, transportation, and energy facilities that mobilize the country and also indicate its economic condition.

## Political-Legal Environment

Political and legal forces also shape a firm's international business activities. Managers must consider foreign nations' political stability. Countries with intense political unrest may change their policies toward outside firms at any time. This creates an unfavorable environment for international business. In some political power struggles, production facilities have been destroyed, corporate assets seized, and personal security of employees and their families jeopardized. Yugoslavia and Somalia provide recent examples.

A government's policies toward public and private enterprise, consumers, and foreign firms influence firms' decisions to enter a foreign market and also affect the conduct of business across national boundaries. Some countries encourage and seek out foreign investors. Other countries develop barriers to prevent companies from doing business there.

A **quota** limits the amount of a product that can leave or enter a country. Some quotas are voluntary, such as Japan setting a target to buy 20 percent of its computer chips from U.S. firms. In 1992, imported chips accounted for over 17 percent of Japan's market.<sup>36</sup> An **embargo** prohibits the import or export of certain goods. For instance, Muslim nations have embargoes on the importation of alcoholic beverages because alcohol consumption is a violation of Muslim values. A **duty** is a tax on an import or export. Soon after taking office, President Clinton used such a tax to double the price of European steel, starting talk of possible retaliation from Europe.<sup>37</sup> An **exchange control** limits how much profit a foreign-based firm can return to its home country.

Many countries rely on customs and entry procedures to restrict the entry of foreign products. **Customs and entry procedures** govern the inspection, documentation, and licensing of imports. The documents that governments require are often extensive and complex. Japan requires six volumes of standards for each car that enters the country. Without proper documentation, products don't clear Japanese customs. In France, customs documentation must be in French, which often slows product clearance. Beer can't be imported into Mexico without a license. To obtain a license, the importer must prove that domestic demand can't be met by Mexican brewers alone. India requires licenses for all imported goods.<sup>38</sup>

The highest risks for international firms are found in countries such as El Salvador, Afghanistan, and Iran, which are politically unstable and place many restrictions on business. On the other hand, countries such as the United States, Australia, and South Korea are considered attractive because they're politically stable and place fewer restrictions on business.

#### quota

A limit to the amount of a product that can leave or enter a country.

#### embargo

A prohibition of the import or export of certain goods.

#### duty

A tax on an import or export.

#### exchange control

A limit on how much profit a foreign-based firm can return to its home country.

#### customs and entry procedures

Inspection, documentation, and licensing of goods entering a country.

## Technological Environment

Technology is also a major consideration when becoming involved in international business. Not all countries are at the same level of technological development. For instance, electricity isn't readily available in some parts of the world so demand isn't high for products requiring electricity to operate. Communications systems also differ throughout the world. Some countries lack modern broadcasting and postal services; much of the technology used for advertising can't be used in these nations.

## ■ REGULATION OF INTERNATIONAL BUSINESS

As business between nations grows, so does the number of laws and organizations involved in regulating international trade, which this section examines.

### Legislation

The major U.S. laws affecting American firms engaged in international business are summarized in Table 4-4. The *Webb-Pomerene Export Trade Act* of 1918 exempts U.S. firms from certain antitrust laws if they're working together to develop export markets. The Webb-Pomerene Act doesn't allow companies to reduce competition in the United States or to use unfair methods of competition. The *Foreign Corrupt Practices Act*, passed in 1977, prohibits American firms from making bribes to foreign officials. This law spells out the penalties for companies and individuals who are in violation: companies may be fined up to \$1 million, and individuals may receive a fine up to \$10,000 and a prison sentence of up to five years. The *Export Trading Companies Act* of 1982 eliminates some antitrust barriers and allows banks to participate in joint ventures. (An export trading company is an organization that attempts to create exports.)

Unfortunately, many firms can take advantage of weak regulation in foreign countries. For example (as Chapter 3 pointed out), products that are regulated in the United States, such as dangerous pesticides and drugs, may not be regulated in other countries so firms look to these foreign markets to sell dangerous products. Third World nations are often the target of dangerous products because they have the weakest regulation. This subject is explored in the Ethics Spotlight on the next page.

### International Organizations

Several international organizations exist to facilitate world trade. The major ones include GATT, IMF, and the World Bank.

**GATT** Signed in 1947, the General Agreement on Tariffs and Trade (GATT) formed an international organization of 23 nations, including the United States. GATT works to

TABLE 4-4

U.S. Laws Affecting International Business

Law	Purpose
Webb-Pomerene Export Trade Act (1918)	Exempts U.S. firms from antitrust laws if they're acting together to develop international trade.
Foreign Corrupt Practices Act (1977)	Forbids bribing foreign officials to obtain sales for American firms.
Export Trading Companies Act (1982)	Encourages the formation of export trading companies by eliminating antitrust barriers and allowing banks to participate in such ventures.

## ETHICS SPOTLIGHT

## DANGER FOR SALE

DowElanco is banned by the Environmental Protection Agency from selling the weed killer Galant to U.S. farmers because it might cause cancer. But DowElanco still sells it—in Costa Rica. The painkiller dipyrene was outlawed by the U.S. Food and Drug Administration over 15 years ago, but Winthrop Products sells it in Mexico City. As cigarette smoking drops considerably in the United States, Philip Morris, R.J. Reynolds Tobacco, and Brown & Williamson sell 3.7 billion cigarettes a year to Taiwan, a country that had wanted to prevent the import of cigarettes.

Some of the largest and most respected U.S. firms are selling dangerous products to millions of people around the world. Most of the customers live in Third World countries characterized by weak or unenforced regulation and illiterate consumers. And the U.S. government does little to stop such sales. Placing a dollar figure on this trade is difficult because the federal government doesn't report shipments of banned products. But it's estimated that foreign sales of tobacco, banned pesticides, hazardous drugs, and toxic wastes total billions of dollars and involve thousands of jobs. For instance, U.S. Cigarette Export Association says total U.S. tobacco exports amount to \$5 billion annually and account for 125,000 U.S. jobs.

The controversy over exports of dangerous products by U.S. firms came to a head in 1981. After intense public debate and congressional investigations, President Jimmy

Carter signed on January 15, 1981, an executive order forbidding companies to export products the government doesn't allow to be sold in the United States. According to Carter, the nation had an obligation "not to export to unsuspecting nations products which we ourselves would not allow in our country." Ronald Reagan revoked Carter's order 33 days later as he began his term as president. In the years that have followed, the U.S. government has virtually given exporters of dangerous products a free hand.

Critics say the export of dangerous products is highly unethical. Basically, companies say that if they can't sell them at home, they'll sell them wherever they can. The Bush administration maintained that as long as the products are legal in foreign countries, who is America to tell the rest of the world what to do? Many firms' CEOs refuse to discuss the issue. Some justify their decisions, saying poor countries need chemicals to grow food and wipe out disease. Besides, they argue, in today's global economy purchasers can always obtain the products from other sellers, which would deprive Americans of profits and paychecks.

Source: Adapted from Christopher Scanlon, "What Isn't Safe at Home Is Being Shipped Abroad," Knight-Ridder News Service, *Herald-Leader* (Lexington, Ky.), May 19, 1991, pp. A1, A13; Christopher Scanlon, "Toxic Products from U.S. Threaten Third World Workers," Knight-Ridder News Service, *Herald-Leader* (Lexington, Ky.), May 20, 1991, pp. A1, A5; and Christopher Scanlon, "U.S. Drug Firms Thrive on Loose Regulation, Illiteracy in Third World," Knight-Ridder News Service, *Herald-Leader* (Lexington, Ky.), May 21, 1991, pp. A1, A5.

reduce or eliminate tariffs and other barriers to international trade. Today nearly 100 countries agree to the guidelines established by GATT. As the previous chapter said, GATT's *most favored nation (MFN)* principle requires that any tariff reduction negotiated between any member countries be extended to all members.

Since it was organized, GATT has sponsored several "rounds" of negotiations to reduce trade barriers. President John F. Kennedy, through authority granted by the Trade Expansion Act of 1962, called for the reduction of tariffs through GATT. The Kennedy Round, which began in 1964, led to a nearly 40 percent reduction in tariffs. The Tokyo Round, held from 1973 to 1979, led to a reduction of over 30 percent. Some nontariff restrictions, such as import quotas and unnecessary red tape in customs procedures, were also removed. In 1989 more than 100 countries agreed to halt farm subsidies and to institute a new system of arbitration for handling disputes between countries. Known as the Uruguay Round, this recent set of talks is expected to boost U.S. output by more than \$1 trillion in a 10-year span following the conclusion of the Round.<sup>39</sup>

**International Monetary Fund (IMF)**  
Founded in 1944, it promotes cooperation among member nations by eliminating trade barriers.

**world bank**  
Formed in 1946, it lends money to underdeveloped and developing countries for various projects.

**The IMF and World Bank** Two international organizations have been established to help finance international trade. The **International Monetary Fund (IMF)** was founded in 1944 to promote cooperation among member nations by eliminating trade barriers. IMF lends money to countries that need short-term loans to conduct international trade. The **World Bank** was formed in 1946 to lend money to underdeveloped and developing countries for various projects such as the development of roads, factories, and medical facilities.

## ■ MULTINATIONAL MARKET GROUPS

**multinational market group**  
An agreement by two or more countries to reduce trade and tariff barriers between them.

Companies operating in the global business environment must recognize that economic cooperation among nations is increasing. A **multinational market group** is created when two or more countries agree to reduce trade and tariff barriers between them. This section covers several current and emerging markets in North America, the European Community, the Pacific Rim, and Eastern Europe and the Commonwealth of Independent States (the former Soviet Union).

### The United States, Canada, and Mexico

The United States and Canada signed the *Free Trade Agreement (FTA)* in 1989, providing for the eventual elimination of tariffs and other trade barriers. The agreement essentially merged the U.S. and Canadian markets and made them the largest free trade zone in the world. Trade between the United States and Canada was nearly \$170 billion annually before the FTA was signed.<sup>40</sup> Even greater commercial activity is expected after barriers to trade are removed. Some experts predict that the two countries' GNPs could increase by 1 to 5 percent annually.

The agreement calls for most trade restrictions to be removed in stages over a 10-year period. Tariffs were removed immediately on some products. Trade barriers for business personnel and restrictions on financial services are being phased out as quickly as possible.<sup>41</sup> This agreement should help both U.S. and Canadian firms compete more effectively with companies in Europe and Asia. The tariff reductions will be of special benefit to smaller American and Canadian firms because they'll allow them to create more efficient economies of scale for the unified market and to earn higher profit margins.

Even more far reaching is the *North American Free Trade Agreement (NAFTA)*, a three-nation alliance of the United States, Canada, and Mexico agreed to on August 12, 1992. The United States needs resources and a source of new labor, Canada is resource-rich but small in population, and Mexico has an abundance of oil and workers but desperately needs exports to fuel its economy. The three nations combined comprise a \$6 trillion market of nearly 360 million consumers.<sup>42</sup> Thus, the agreement, which awaits the approval of the respective governments, makes sense to many. Trade among the three nations, \$237 billion a year before NAFTA, could increase dramatically once trade barriers are removed.<sup>43</sup> But many fear that the agreement will mean more U.S. jobs lost to Mexico, where wages are about 10 percent of those in the U.S.<sup>44</sup> Still, some economists argue that lower labor costs should put U.S. firms in a better position to take on global competitors, providing a long-range benefit to the economy.<sup>45</sup> Furthermore, they feel the treaty will keep U.S. exports to Mexico booming and result in more jobs in several industries, including automobile, textile, and telecommunications.<sup>46</sup>

### The European Community

The 12-nation European Community (EC), created by the *Treaty of Rome* in 1957, called for eliminating most trade barriers between its members (Germany, France, Italy, the United Kingdom, Spain, the Netherlands, Belgium, Denmark, Greece, Portugal, Ireland, and Luxembourg) in 1992. Historically the member nations have primarily been separate markets and couldn't compete with the giant resources of Japan and the United States. When the barriers are dissolved, however, more competitive European companies will likely be tapping the unified European market. With over 340 million consumers, unified Europe will be one of the largest markets in the world.<sup>47</sup>

The elimination of trade barriers has already meant big gains for Europe in several industries, including airlines, telecommunications, and financial services. While single-market reform has generally been successful, the monetary unification has been less of a success. The Maastricht Treaty, an amendment to the original Treaty of Rome, mandates



a single European currency by 1999 and a framework for coordinating defense and foreign policies. Denmark rejected the treaty early in 1992, and France nearly rejected it several months later. Failure to establish a single currency would be a major setback. Establishing one currency would eliminate expensive currency transactions (which can cost firms billions of dollars), make it easier for companies to sell products across borders, and enable customers to compare prices better.<sup>48</sup>

Before unification, European industry was fairly inefficient; firms are redesigning themselves to take advantage of a unified European market. Dutch manufacturer Philips Electronics is closing plants and has cut 20 percent of its work force to concentrate production at its most efficient sites. French steelmaker Usinor-Sacilor eliminated half of its jobs and invested in new technology to become the second largest steelmaker in the world. British Telecommunications PLC, after cutting 170,000 jobs and investing \$17 billion in new technology, is taking business from U.S. firms.<sup>49</sup> U.S. companies such as IBM, GM, and Coca-Cola already had a presence in Europe, and should also benefit from unification.

### The Pacific Rim

The Pacific Rim nations include Japan, China, Taiwan, South Korea, Singapore, Hong Kong, the Philippines, Malaysia, Indonesia, Indochina, and Australia. Firms from these nations, especially Japan, have become increasingly competitive in comparison to U.S. firms. Names like Toyota, Sony, and Canon aren't only household words; they also represent firms that have eroded the market share of their U.S. counterparts General Motors, Zenith, and Kodak. Firms from Taiwan, South Korea, Hong Kong, and Singapore are expected to be even more competitive in the future. The fastest growing economy in the world, the Pearl River Delta region of southern China, demonstrates the Pacific Rim's economic potential. Firms from around the world (including Procter & Gamble, Pabst Brewing, and GEC Alsthom of France) are doing business there.<sup>50</sup> China takes over the British colony of Hong Kong in 1997, and promises to support capitalism. This could make Hong Kong an open international business hub.<sup>51</sup> And with the economy growing 12 percent annually, 14 percent for the first quarter of 1993 alone, China's economic boom is spreading rapidly from the coastal regions inland to areas of massive population.<sup>52</sup>

While no formal alliances exist among nations in the Pacific Rim, there's much speculation about future alliances. An alliance between the United States, Japan, Taiwan, China, and Hong Kong is possible. Although there's talk of a U.S.-Japanese free trade agreement, any such arrangement is years away. Lack of such an agreement has led many U.S. leaders to criticize Japan's trade restrictions on products from the United States and other nations. Although the Japanese government has removed some trade barriers, foreign firms trying to do business in Japan are still confronted with barriers including high cost of doing business and delays in receiving patents (during which time Japanese companies examine patent applications and copy new technologies), corruption (including collusion among Japanese bidders), and purchasing agents who are part of old-boy networks and refuse to buy foreign goods.<sup>53</sup>

### Eastern Europe and the Commonwealth of Independent States

In 1985 the Soviet Union's Communist party secretary Mikhail Gorbachev began a new program called *perestroika* (or economic restructuring) which reduced government control and regulations. The Soviet Union and the Eastern European nations of Poland, Hungary, Yugoslavia, Czechoslovakia, Romania, and Bulgaria, under *perestroika*, underwent great changes. The changes climaxed in a stunning bloodless coup with the new Commonwealth of Independent States ending the rule of the Soviet Union's central government and prompting the resignation of Gorbachev on Christmas day, 1991. As a re-



Courtesy Harris Corporation

Russia's first commercial Russian-American rock n' roll station, RADIO MAXIMUM 1-3.7 FM, plays popular American, European, and Russian tunes across the airwaves of the new Commonwealth.

sult, the former Soviet republics became independent countries (including Russia, Ukraine, and Kazakhstan), replacing the staggering Soviet Union and instigating a loose economic and political alliance. Borders between the states are open, but there's no central government. The Commonwealth agreement does commit the independent states to coordinate economic policies. One year after launching his bid to create a market-oriented democracy, Russia's president Boris Yeltsin faced a deep recession and many layoffs.<sup>54</sup> On March 12, 1993, opponents in parliament slashed Yeltsin's presidential powers, and moved to impeach him in September, but he still prevails as the Commonwealth struggles toward economic unity.<sup>55</sup>

Most of the rationale behind the changes in the former Soviet Union and Eastern Europe is to improve their economic conditions. The result is a more market-oriented society in which businesses formerly owned by the government have been granted independence. Economic and political restructurings also mean marketing opportunities for American and other foreign firms, either through exporting, joint ventures with native firms or through direct ownership. General Motors Corporation's Trinity Motors, a Russia-United States-United Kingdom joint venture, opened its first car dealership in downtown Moscow across the street from McDonald's.<sup>56</sup> U.S. exports to Poland, Czechoslovakia, and Bulgaria increased 25 percent in 1992.<sup>57</sup>

Several of the reforming nations, including the former Soviet Union and Poland, want to reduce trade restrictions to encourage trade with other countries. The Russians have found that joint ventures, such as the one between the Moscow City Council's division of food service and McDonald's, can be rewarding. For example, McDonald's is helping the Russians learn new agricultural and food processing systems and a new appreciation for capitalism. These sweeping changes will increase Eastern European nations' opportunities. There's already speculation that some of these nations will join the European Community or eventually form their own multinational market group. Reunification of East and West Germany, for example, has resulted in a single Germany that is a major force in the European Community.

## ■ THE GLOBAL CHALLENGES

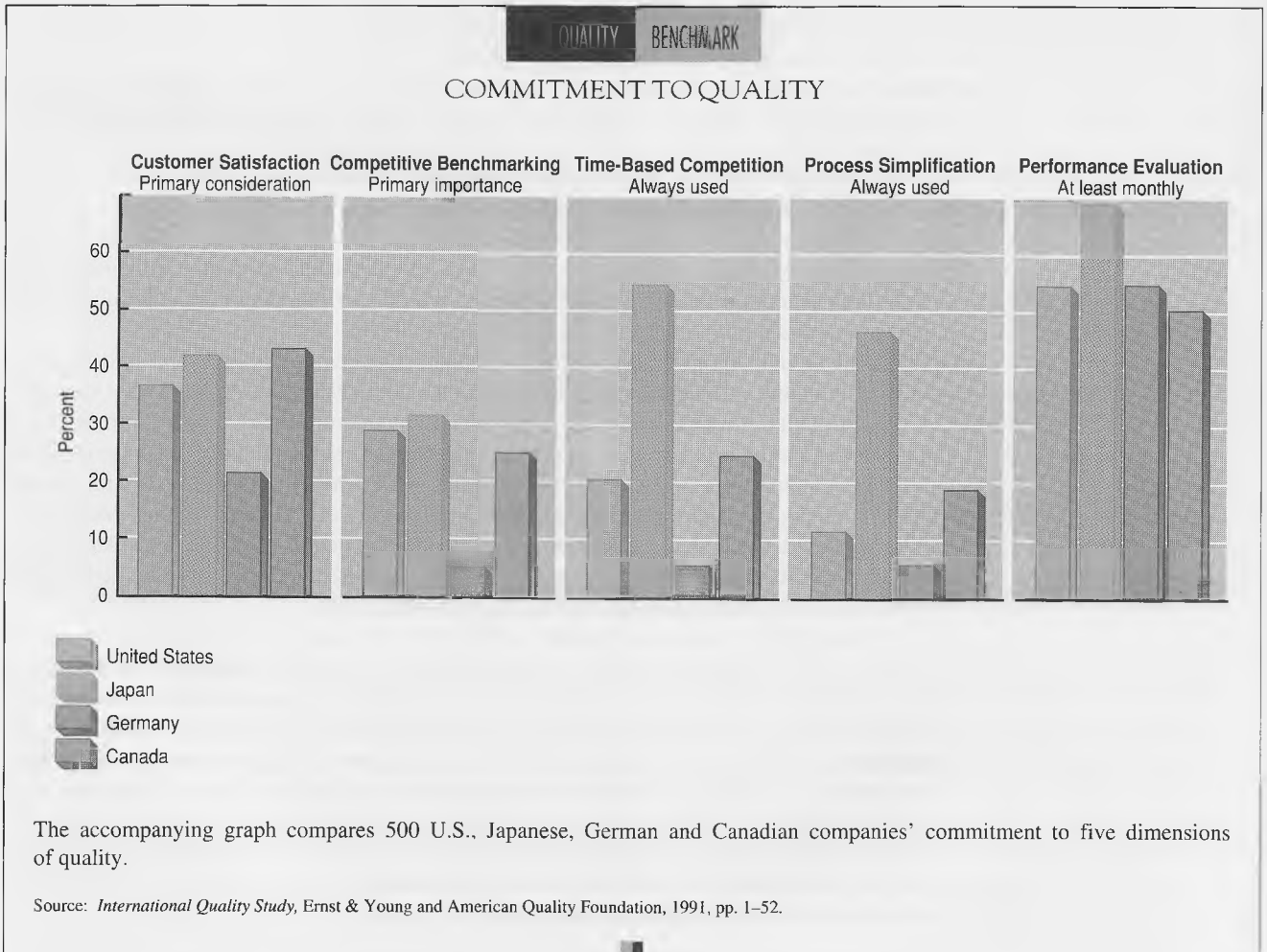
Throughout this chapter we've noted that the world will continue to change at a rapid pace. Change doesn't come easily—it brings problems and challenges—but it's inevitable. Firms risk failure if they don't acknowledge the changes taking place and don't adapt to them. The following chapters discuss these challenges, including quality and competitiveness.

### The Quality Challenge

Perhaps no greater challenge has grown out of the global economy than quality. In Chapter 1, we noted that *quality* is the totality of features and characteristics of a good or service that bear on its ability to satisfy stature or implied needs. The challenge facing managers is to manage in such a way that the outcome is a quality product. **Total quality management (TQM)** is a management approach to long-term success through customer satisfaction, based on the participation of all members of an organization in improving processes, products, services, and the culture in which they work.<sup>58</sup> TQM was initially used to describe the Japanese-style management approach to quality improvement; the global marketplace has led companies throughout the world to adopt TQM. Continuous improvement is the major focus of any successful quality program. Methods for implementing this approach are found in the teachings of such quality leaders as Crosby, Deming, Feigenbaum, Juran, and Ishikawa, and will be discussed throughout the book.

#### Total Quality Management

A management approach to long-term success through customer satisfaction, based on the participation of all members of an organization in improving processes, products, service, and the culture in which they work.



For TQM to work, managers must believe in quality for customers as a primary organizational aim and they must act to achieve this aim.<sup>59</sup> Their challenge is to create a pattern of shared values and beliefs throughout the organization so that all members work toward quality. Some quality experts have described TQM as a dream or a passion; unless every member of the organization fully believes in quality for the customer, success through TQM is nearly impossible to achieve. The most important parts of this system of total quality are (1) people's skills and talents and (2) how people are managed.

## The Competitiveness Challenge

The quality of many products made in the United States has improved in a wide variety of industries ranging from computer chips to toilet paper made from recycled paper. But competitors throughout the world have also been improving product quality, in some cases at a faster pace than U.S. firms.<sup>60</sup> One outcome of the global economy is a change in the competitive structure within industries. Firms no longer compete on a local, regional, or national basis; they compete on a global basis. As we noted at the beginning of the chapter, any product made anywhere has to compete with like products made anywhere else. Remaining competitive in this environment is a major challenge facing managers.

Quality and competitiveness are closely related. To remain competitive, a firm must work toward continual improvement. Yet as American firms have experienced, competitors are also constantly improving quality. Such intense competition has increased interest in **benchmarking**, the continuous process of measuring a firm's goods, practices, and services against those of its toughest competitors and leading firms in other industries.<sup>61</sup> Through benchmarking, a firm can find the best way to do something and implement it. For instance, Xerox found that competitors were selling their products for what it cost Xerox to manufacture them. Clearly, Xerox couldn't stay in business this way, so it began benchmarking. Xerox focused on L.L. Bean, Inc., because of its superiority in warehousing and materials handling. L.L. Bean handles products of various sizes and shapes, just like Xerox. Xerox incorporated some of L.L. Bean's logistics practices to modernize its warehousing activities. Xerox estimates that 3 to 5 percent of its gains in productivity were the result of benchmarking activities.<sup>62</sup>

### Benchmarking

The continuous process of measuring a firm's goods, practices, and services against those of its toughest competitors and leading firms in other industries.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Discuss the nature and importance of the global economy.*

Today any product made anywhere has to compete with similar products made nearly anywhere else. This has increased competition. A nation's economic status depends upon its ability to meet these new competitive standards. More than \$2 trillion is spent annually on trade between nations. But taking advantage of opportunities will not be easy, as more and more firms throughout the world are offering quality products in the marketplace.

### *Define the terms multinational company and global corporation.*

A multinational company (MNC) is an organization that conducts business in two or more countries. A global corporation operates as if the world were a single market; national boundaries are meaningless to it.

### *Identify the approaches to international business.*

Firms can take several approaches to international business. Exporting is selling domestic goods to a foreign country. Through a licensing agreement, one firm (the licensor) agrees to allow another firm (the licensee) to sell the licensor's product and use its

brand name in return for a commission or royalty. Trading companies serve as links between buyers and sellers in different countries. Complex agreements between two or more countries are involved in countertrading. A joint venture is a partnership between a domestic and foreign firm. A strategic alliance occurs when two firms pool their resources in a partnership that goes beyond the limits of a joint venture. Direct ownership involves purchasing one or more business operations in a foreign country.

### *Describe the environment for global business.*

The environment for global business includes cultural, economic, political, legal, and technological forces that differ among countries. Culture is all the learned values, behaviors, and other meaningful symbols shared by a society. Managers must adjust to cultural differences when doing business in a foreign country. International management is also influenced by economic factors, including a country's stability, market size, income, economic condition, and infrastructure. Political stability and government regulations also impact a firm's decision to enter a foreign market. Some countries encourage foreign investors; others develop

barriers to entry. Finally, firms must assess foreign countries' technology in making international management decisions.

**Explain how regulations influence international management activities.**

Major laws influencing the conduct of international managers include the Webb-Pomerene Export Trade Act, which exempts U.S. firms from antitrust laws if they're acting together to develop international trade. The Foreign Corrupt Practices Act makes bribing foreign officials to obtain sales illegal for U.S. firms. The Export Trading Companies Act encourages the formation of export trading companies by eliminating antitrust barriers and allowing banks to participate in such ventures.

**List some international organizations and their functions**

Several international organizations facilitate world trade. The General Agreement on Tariffs and Trade (GATT) was formed to reduce or eliminate tariffs and other barriers to international trade. The International Monetary Fund (IMF) promotes cooperation among members by eliminating trade barriers and offering short-term loans for international trade. The World Bank lends money to underdeveloped and developing countries for various projects.

**Describe the different multinational market groups.**

A multinational market group is created when two or more countries agree to reduce trade and tariff barriers among themselves. The United States and Canada have signed the Free Trade Agreement (FTA) removing trade barriers over a 10-year period. The North American Free Trade Agreement (NAFTA) between the United States, Canada, and Mexico awaits government approval. The European Community (EC) is removing all trade barriers between member nations. The Pacific Rim hasn't developed a formal alliance, but there's speculation about future alliances. Changes in Eastern Europe and the Commonwealth of Independent States (the former Soviet Union) will eventually lead to reduced trade restrictions among some of the reforming nations.

**Discuss major challenges facing organizations in the global environment.**

The major challenges, quality and competitiveness, are closely related issues. Foreign and U.S. competitors are constantly improving products' quality. The challenge to managers is to develop an organization committed to quality.

## KEY TERMS

benchmarking, p. 123

countertrading, p. 110

cultural diversity, p. 111

customs and entry procedures, p. 116

direct ownership, p. 111

duty, p. 116

embargo, p. 116

exchange control, p. 116

exporting, p. 108

global corporation, p. 107

infrastructure, p. 116

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multinational company (MNC), p. 107

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quota, p. 116

standard of living, p. 115

strategic alliance, p. 110

total quality management (TQM), p. 122

trading company, p. 109

World Bank, p. 118

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is international business? International management?
2. Describe the different approaches an organization can use to become involved in international business.
3. What types of trade barriers are used by some nations to discourage entry of foreign organizations or products?
4. How do international organizations facilitate world trade?
5. What is NAFTA, and how does it benefit the United States, Canada, and Mexico?
6. What are two major challenges facing firms operating in the global environment?
8. Why must a firm consider the business environment when determining whether to enter a foreign market?
9. What's the significance of multinational market groups to companies operating in the global environment?

### Application

10. In a recent business magazine (e.g. *Business Week*, *Fortune*, *Forbes*), read an article about a multinational market group, such as the Pacific Rim or the Economic Community. Describe some current issues confronting this market group.

### Understanding

7. What's the difference between a multinational company and a global corporation?

## ■ CASE 4-1

### KFC'S Recipe for Global Success

Since 1939, when Harlan Sanders developed a secret chicken recipe with 11 herbs and spices, KFC (formerly Kentucky Fried Chicken) has become known all over the world. KFC's chicken is sold throughout North America, Europe, the Middle East, Africa, Asia, the South Pacific, Latin America, and the Caribbean. World sales in 1991 totaled \$6.2 billion, including \$2.8 billion outside the United States.

Colonel Sanders first became involved in international business in 1956 by opening stores in Canada. Today KFC has 3,424 international stores (562 owned by the company, 457 joint ventures, and 2,405 franchises). Worldwide, KFC has 8,480 stores. Its 70-restaurant operation in Mexico is expected to triple in five years. With 105 restaurants in Malaysia, KFC has 60 percent of the nation's fast-food market. And KFC's ten stores in China serve an average 1 million customers a year, four times the average in the United States.

What's KFC's secret to global success? First and perhaps most important is the worldwide acceptance of chicken. In Malaysia, for instance, annual per capita consumption of chicken has doubled during the past decade. According to Allan Huston Jr., president of KFC International, "Chicken is probably the most universally accepted source of protein. There is not a country in the world where you won't find chicken." And unlike other meats, chicken isn't forbidden by religions or cultures except among vegetarians. This acceptance presented an excellent opportunity for KFC, but it didn't guarantee success.

KFC made some early mistakes in Latin America and Europe. The company learned that opening an American fast-food restaurant abroad isn't simple. Cultural differences between countries result in different eating habits. For instance, people eat their main meal of the day at different times throughout the world. Different menus must also be developed for specific cultures, while maintaining the core product, fried chicken. You can always find original recipe chicken, cole slaw, and fries at every KFC outlet, while restaurants in China feature Chinese tea and French restaurants offer more desserts. Above all, KFC empha-

sizes consistency. Whether in Shanghai or Kentucky, the product basically tastes the same.

KFC usually enters a new foreign market by opening a single store in a large urban area on the most visible piece of real estate available. If the project fails, the land can be sold. Usually foreign stores are eat-in restaurants, compared to the take-out style generally found in the United States. Prices are usually high at first to appeal to an upscale market.

International markets offer many opportunities and challenges for KFC. The company is growing outside of the United States at nearly five times the rate of its domestic growth. While many businesses complain about the inability to compete in Japan, KFC has nearly 1,000 restaurants in Japan alone. The secret, according to Huston, is quality, such as using fresh chicken rather than frozen. Freezing chicken causes a discoloring of the bone, which bothers the Japanese. Eastern Europe also holds great promise for KFC. With two stores in Hungary, KFC is working on deals in Poland and the Czech Republic.

KFC faces several challenges. In some areas of the world, such as Malaysia and Indonesia, it's illegal to import poultry, which has led to product shortages. Another challenge is to adapt KFC's people perspective. The company has been most successful in foreign markets when stores are operated by people who understand the culture. The objective is to think like a local, not like an American company starting an American business in a foreign country.

### Questions

1. Why has KFC been successful globally?
2. What approaches to international business does KFC use? What are the advantages to each approach?
3. What are some of the cultural barriers encountered by KFC in its global operations?
4. Why do you think Kentucky Fried Chicken changed its name to KFC? Does this name change have any global implications?

Source: Adapted from Andrew Tanzer, "Hot Wings Take Off," *Forbes*, January 18, 1993, p. 74; Alan I. Kirschenbaum, "The 'Original Recipe' for International Success," *The Lane Report*, May 1992, pp. 17-24; Sid Astbury, "KFC Malaysia: By No Means Chickenfeed," *Asian Business*, August 1992, p. 8; and Heidi Dawley, "Franchising: Mexico's Arms Are Wide Open," *Restaurant Business*, March 20, 1992, pp. 74-77.

## ■ CASE 4-2

### Nestlé Expands Globally

The Switzerland-based Nestlé corporation, once a Swiss chocolate maker, now is the world's biggest food company and the largest producer of coffee, powdered milk, and frozen dinners.

The company also became number 1 in candy after passing Mars. And with the purchase of Perrier for \$2.7 billion, Nestlé became the world's largest producer of mineral water with a 20 percent share of the world market. Nestlé achieved its success through intensive global expansion. Nestlé does only 2 percent of its busi-

Source: Adapted from Bruce Crumley, "Nestlé Muscle May Pump Perrier," *Advertising Age*, March 30, 1992, p. 59; Greg W. Prince, "Coke-Nestlé Venture Finally Bears Tea," *Beverage World*, January 31, 1992, pp. 1, 4; John Parry, "Nestlé's Name Plan," *International Management*, December 1991, pp. 54-55; Joyce Raivat, "In Thailand, Nestlé Goes Direct to the People," *Asian Finance*, September 15, 1991, p. 14; and Shawn Tully, "Nestlé Shows How to Gobble Markets," *Fortune*, January 16, 1989, pp. 74-78.

ness in Switzerland; the remaining 98 percent is in other countries.

One of the first multinational corporations, Nestlé now has production facilities in more than 60 countries. Its products can be found almost everywhere around the globe. In Europe, where Nestlé's success is greatest, sales of instant coffee, mineral water, yogurt, frozen foods, cold cuts, candy, and cereal bars total roughly \$10.2 billion. Sales in North America are approximately \$6.7 billion for products such as Nescafé instant coffee, Carnation Coffee-mate nondairy creamer, Friskies pet food, Nestlé Crunch chocolates, and Stouffer frozen foods. Other big markets for Nestlé have been Asia (\$3.1 billion in sales), Latin America (\$2.4 billion in sales), and Oceania—Australia, New Zealand, and other islands of the Pacific Ocean—(\$.6 billion in sales). The firm spends about \$1.2 billion annually on advertising.

One secret to Nestlé's success is that many of its products—especially instant coffee, chocolates, and frozen foods—appeal to consumers all over the world. For example, coffee is closing in on tea as the favorite drink in Japan. Frozen dinners, long a hit in the United States, are catching on in Europe. And of course chocolate tastes the same in any language. Although these products have to be adapted slightly to local tastes, they generally can be sold worldwide. Because of high research and development costs as well as high costs of marketing, Nestlé benefits greatly by offering products with global appeal. After making large investments in its products, the company has been able to move brands from one country to another with relative ease.

Nestlé's Lean Cuisine dinners provide a good illustration of how the company expands internationally. Lean Cuisine was introduced in the United States in 1981 and became a huge success. In 1985 Nestlé chief executive Helmut Maucher endorsed a plan to sell Lean Cuisine in Britain. In the beginning, before the company's British frozen-food plant reached full production, products were imported from a plant in Canada. The cost of shipping frozen dinners in refrigerated ships, in addition to paying customs taxes, was extremely high. But Maucher was patient and the venture paid off. In 1989 sales of frozen dinners in Britain reached \$100 million and Nestlé achieved a 33 percent share of

the market. Lean Cuisine has also been successfully introduced in France.

Nestlé has several new projects in the works. Coca-Cola Nestlé Refreshment Company (CCNR), a joint venture between Coca-Cola and Nestlé, should dominate the ready-to-drink iced tea market with Nestea Iced Tea. Distribution will be handled through the Coke bottling system, while Nestlé provides the brand awareness. Nestlé also bought British confectioner Rowntree Mackintosh. Few brands have Rowntree's recognition or appeal throughout Europe, which should help Nestlé build brand awareness in national markets. Nestlé manages its own operations in Thailand, where it has 80 percent of the nation's instant coffee sales. Nestlé's most recent venture in Thailand is the launch of an iced coffee drink.

Now Nestlé is looking to what Maucher thinks is the market of the future, the Third World. Currently, 20 percent of the world's population consumes 80 percent of Nestlé's products. Maucher thinks his company's products will soon be seen in more parts of the world. The company also will look to what Maucher considers the food of the future—pasta. As he puts it, "We can't feed the world on beefsteak. So noodles will conquer the world."

Most industry experts agree that Nestlé is in the best position of any food company to expand internationally. Most of its competitors, which have been concentrating on their domestic markets, are scrambling to become involved in the profitable international trade.

## Questions

1. Would you classify Nestlé as a global corporation? Why or why not?
2. What are the advantages of Nestlé's joint venture with Coca-Cola?
3. Will competitors be able to follow Nestlé into foreign markets with the same degree of success?
4. Which environmental considerations are most important as Nestlé expands into Third World nations?

## ■ APPLICATION EXERCISE

The first column below lists 10 characteristics of jobs in general. In the second column, rank order these characteristics from 1 to 10, with 1 as the most important job characteristic to you and 10 as the least important. In the third column, rank order the characteristics from 1 to 10 based on your perceptions of Japanese workers, with 1 representing your perception of the most important job characteristic to Japanese workers and 10 the least important.

Job Characteristic	Ranking of Importance to You	Ranking of Importance to Japanese Workers
Variety in the job	_____	_____
Good pay	_____	_____
Opportunity to advance	_____	_____
Interesting work	_____	_____
Job security	_____	_____
Autonomy	_____	_____
Good coworkers	_____	_____
Knowledgeable supervisor or mentor	_____	_____
Freedom to make choices	_____	_____
Opportunity to learn	_____	_____

Now take a look at what's important to you and your perceptions of what's important to Japanese workers. There are probably some differences. Realizing your ranking is based on perceptions, consider the following to help explain the differences:

1. What cultural factors might explain some of the differences in your rankings?

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2. Do these differences say anything about the quality of work? About global competition?

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3. Do you think your parents or grandparents would rank the job characteristics differently than you did? Why? (You might ask them.)

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PART

II

## PLANNING



CHAPTER 5

Decision Making

CHAPTER 6

Planning

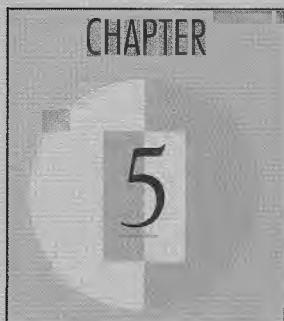
CHAPTER 7

Strategy

CHAPTER 8

Information for Decision Making





## DECISION MAKING

*After studying this chapter, you should be able to:*

■  
Compare programmed and nonprogrammed decisions.

■  
Contrast intuitive and systematic decision making.

■  
Identify and explain the nine steps in the decision-making process.

■  
Explain the difference between individual and group decision making.

■  
Define the terms *cognitive dissonance* and *escalation of commitment*.

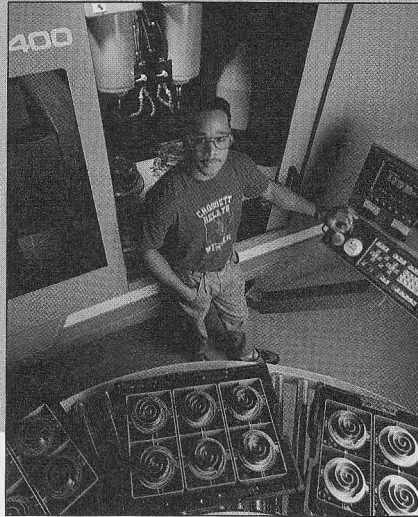
■  
Describe brainstorming, the Delphi technique, and the nominal group technique.

■  
Explain the team approach to decision making in a quality environment.

■

## SMALL, FLEXIBLE PLANTS LET WORKERS MAKE DECISIONS

On a pothole-filled road in the remote town of Arkadelphia, Arkansas, sits a plant that could be the blueprint for the future of U.S. manufacturing. The Carrier Corporation plant actually looks more like an insurance office than a factory. You could hear a whisper on the factory floor, and it's spotless. ■ Just as Henry Ford changed the U.S. economy with the assembly line nearly a century ago, this plant and scores of small ones like it—many of them in isolated towns—are keeping U.S. manufacturing healthy. The Carrier plant, which produces compressors for air conditioners, operates in unusual ways. For example, it maintains no finished goods inventory because it makes the compressors only to order. ■ But what most distinguishes this plant are its workers, a breed apart from yesterday's blue-collar, lunch-pail crowd. Job applicants must complete a grueling six-week course and endure a selection process that results in a job for only 1 person out of every 16 applicants. The application process is difficult, but it yields a top-quality work force for a plant where workers have an unusual level of authority on the factory floor. For example, workers can shut down production if they spot a problem and, within limits, they can order their own supplies. ■ The Carrier plant opened on October 13, 1992, following a long search for a suitable site. The plant is highly automated. In one work unit, a person places two pieces of metal in a cutting machine, shuts the glass doors, and



Courtesy Carrier Corporation

A worker at Carrier Corporation in Arkadelphia, Arkansas reviews air conditioner parts.

punches a button. Guided by a computer that keeps the cut from straying more than eight millionths of an inch, the machine slices steel like butter. ■ Flexibility is crucial, both among workers and in the design of the plant. Carrier teaches workers several jobs so that if one person is sick, another can fill in quickly. The first workers hired suggested that they themselves install the machines. Management agreed, and several workers jetted off to machine tool plants—some flying for the first time—where they learned how to assemble the equipment. That experience instilled a sense of ownership; many talk about “my machine.” It also saved \$1 million of installation costs. ■ When workers realized that their machines were arranged in a

cumbersome way and that compressors were skipping a welding machine only to have to double back to it later, they pulled up seven machines and re-aligned them. They came up with the idea one morning and began implementing it that afternoon after clearing it only with their immediate supervisor. As a result, they completed the job in just four days. In a traditionally organized plant, by contrast, the need to consult an array of managers and wait for a maintenance crew to do the work would have dragged out the project for weeks. ■ Besides the operational aspects of the plant, workers are involved in the hiring process itself. Workers sometimes even interview prospective bosses. But once they are past the application process, workers go through the six-week course where they are taught blueprint reading, math (fractions and metric calculations), statistical process control methods, computer skills, and team problem solving. Once they are through the session, applicants are assured of both a job and a say in how the plant operates. ■ Successful businesses in the global economy will be those that are best equipped to adapt quickly to rapidly changing conditions. The Arkadelphia Carrier plant provides a good model of such a manufacturing company. Think of what a successful organization in the service, retail, or education sector should look like in the global economy. In which companies do you see such innovations happening today?

This chapter focuses on management decision making. As the opening vignette indicates, decision making in organizations is part of the management process, but increasingly management responsibility is being given to workers at all levels. Decision making, as this chapter shows, involves a complex mixture of knowledge, experience, creativity, and risk taking. More and more in organizations today, decision making is conducted in groups or teams, and it is not confined merely to top management.

An important measure of the effectiveness of an individual manager, a management, or a worker team is the quality of decisions reached.<sup>1</sup> Indeed, some have argued that management simply *is* decision making and that the essence of managerial behavior is found by studying decision making.

Managers in every type of organization—business, hospital, government, education—makes decisions every day involving competing goals and objectives, risk, uncertainty, and alternative courses of action to reach the chosen goals. A **decision** is defined here as a conscious choice among analyzed alternatives followed by action to implement the choice. Thus we must recognize that managerial decision making entails both a process and subsequent action. A **decision-making process** is a series or chain of related steps or interconnected stages that lead up to an action or an outcome and assessment.

In today's complex, information-rich organizations, managerial decision making is often a fragmented, rapid process. In the modern work environment it is becoming less likely that a single individual can process enough information to make the best decisions for the organization. Besides the vast amount of data available for most nonroutine decisions, managers respond to interruptions and unexpected events, and often find decision making to be a series of efforts to come closer to reaching organizational goals rather than a single decision. Managers must learn how to deal with a decision-making environment that emphasizes oral communication, brief meetings, incomplete information, and close approximations, with decisions often based on impressions, estimates, and personal experience. Decision making often reflects the manager's effort to make sense of the complicated environment, to attain some control over the uncontrollable, and to achieve some sense of order.

As Philip B. Crosby notes, "Management on a daily basis is made up of finding solutions for problems."<sup>2</sup> Managers in any organization must find, solve, and prevent problems. An organized approach to decision making—including a clear understanding of the current state of affairs, the historical basis for improving decisions, and the possible errors that can be made—enables managers to make better decisions and to reach personal and organizational goals. As we will see, the total quality management approach to the decision process is based on several fundamental assumptions: (1) decisions must be based on measurable facts, (2) decisions should focus on continuous improvement, and (3) teams of workers now make many decisions that used to be made only by managers.

Management theorists have investigated decision making from many different perspectives and have developed a set of useful concepts to understand the phenomenon. Several of the more important concepts will be explored to increase your awareness of the complexity of this highly social process that involves reason and emotion, risk and uncertainty, creativity and knowledge. Figure 5-1 presents these and other influencers of decisions managers and workers make.

Decision making can be understood as a series of steps that run from clearly identifying a problem to implementing and assessing actions. Using such a systematic approach to decision making ensures that relevant information has been gathered, alternative choices have been considered, and possible consequences of actions are understood. This chapter describes a nine-step decision-making process for improving organizational effectiveness.

Individual decision making differs from group decision making. Each has its own set of strengths and weaknesses that a manager should understand to use the differing

#### decision

A conscious choice among analyzed alternatives, followed by action to implement the choice.

#### decision-making process

A series or chain of related steps leading to a decision, its implementation, and follow-up.

FIGURE 5-1  
The Decision-Making Influencer Environment

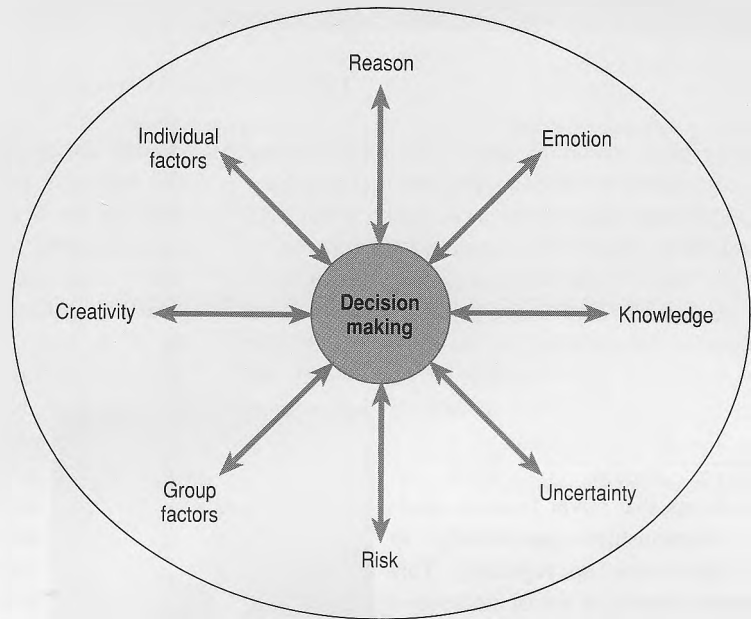
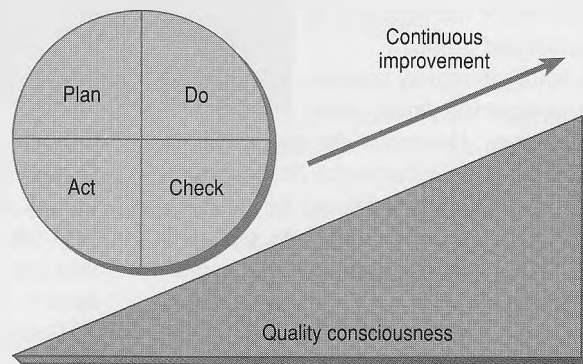


FIGURE 5-2  
Continuous Improvement and Decision Making



Source: Adapted from *On Q: Causing Quality in Higher Education* by Daniel T. Seymour. Used by permission of American Council on Education and The Oryx Press, 4041 N. Central at Indian School Rd., Phoenix, AZ 85012, (602) 265-2651.

approaches effectively. Separate sections are dedicated to individual and group decision making.

The chapter concludes with an introduction to decision making in a total quality management environment. This approach focuses on three fundamental elements: continuous improvement, management by fact, and teamwork. Figure 5-2 presents the Shewhart Cycle of plan, do, check, act. This cycle guides the continuous improvement process where team-generated decisions lead to constant, incremental change to improve organizational performance and customer satisfaction.

## ■ TYPES OF MANAGERIAL DECISIONS

The study of decision making has led researchers to posit and test many useful concepts for understanding the process. Given that decision making is an entirely human process, it is fraught with complexities and ambiguities that are reflective of human beings

## DECISION MAKING

Most management decisions should be rather routine because they should be based on policies that everyone has agreed to meet. Suppose we have a policy that says we will deliver no products or services until we receive payment for them. Then if someone wants us to perform the service now and send a bill later, the decision is a straightforward no. Suppose we have a policy that says we will give the customer exactly what we promised, but someone wants to deviate from that. The decision is clear.

Executives should concentrate on making policies that cover finance, quality, and relationships—particularly in the areas that come up regularly. This doesn't mean having a lot of policies—probably a dozen would take care of most companies. But having them lets many decisions be dropped down in the organization. That leaves senior management to deal with the unusual and original.

I had a friend whose company specialized in helping companies select locations for their operations. His particular area involved where they should place their corporate headquarters. "Somehow or other it always works out to be about 15 minutes from the chairman's home," he said. His job was to make a case for the location that would make the chairman happy. The quality of the location decision was measured in terms of the chairman's happiness "quotient."

Quality was like that in all cases not too long ago and in many cases today. Most organizations

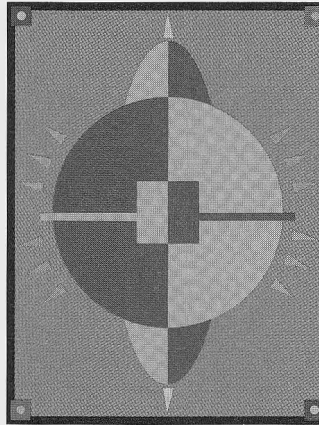
deliver the majority of their output in the last part of the reporting period. There comes a time when they have to get it out or suffer a cash shortage. So standards become lower as the month nears its close. The quality manager is in a position to accept or reject everything that comes along. Defects were categorized as A, B, or C. This evaluation was on the effect on form, fit, or function. It all came down to being able to ship whatever one wanted if a good enough case could be made for accepting nonconformances.

Managers who felt this was an expedient way of moving things along missed the point that it soon became apparent to all that it was not necessary to actually meet the requirements of the product or service. Close was good enough. Deviations were the norm, and neat records were kept about them. This was called *configuration control*. It produced a lack of integrity but was accepted as a normal way of doing business. Much

of it still goes on.

A quality policy stating that all requirements will be met, or officially changed for all time, eliminates pressure on the quality manager. It also lets those whose jobs are farther back in the process know that they have to get it right or things will not move along.

Decisions have to be consistent if people involved are to trust the decision maker. It is not possible to run an operation where whims and guesses parade as thought.



themselves. By gaining some understanding of the different concepts that researchers have used to understand decision making, the practicing manager can often avoid difficulties. For example, a manager who is used to making decisions based on intuition may notice that many recent decisions are less effective than they used to be. If he is aware of the distinction between intuitive and systematic decision making, he may understand that his intuitions are based on personal experiences that may no longer be informative in a changed environment. Changing to a more systematic approach may very well lead to more effective decisions.

Following are just some of the more useful concepts that have been studied and applied to management decision making. On your own, think of some that might not be mentioned here, but that you can investigate in other management books.

TABLE 5-1

## Types of Decisions

	Programmed Decisions	Nonprogrammed Decisions
Type of Problem	Frequent, repetitive, routine, much certainty regarding cause-and-effect relationships	Novel, unstructured, much uncertainty regarding cause-and-effect relationships
Procedure	Dependence on policies, rules, and definite procedures	Necessity for creativity, intuition, tolerance for ambiguity, creative problem solving
Examples	<i>Business:</i> Periodic reorders of inventory <i>University:</i> Necessary grade point average for good academic standing <i>Health care:</i> Procedure for admitting patients <i>Government:</i> Merit system for promotion of state employees	<i>Business:</i> Diversification into new products and markets <i>University:</i> Construction of new classroom facilities <i>Hospital:</i> Purchase of experimental equipment <i>Government:</i> Reorganization of state government agencies

Source: John M. Ivancevich and Michael J. Matteson, *Organizational Behavior and Management*, 3rd ed. (Homewood, Ill.: Richard D. Irwin, 1993), p. 584.

## Programmed versus Nonprogrammed Decisions

Decision making in an organization occurs during routine operations and in unexpected situations alike. Management thinker Herbert Simon (see Chapter 2) has distinguished between decision making under these different conditions:

**Programmed Decision:** If a particular situation occurs often, a routine procedure usually will be worked out for solving it. Decisions are programmed to the extent that they are repetitive and routine and a definite procedure has been developed for handling them.

**Nonprogrammed Decision:** Decisions are nonprogrammed when they are unstructured. There is no established procedure for handling the problem, because it is either complex or extremely important. Such decisions deserve special treatment.

Managers in most organizations face many programmed decisions in their daily operations. Such decisions should be treated without expending unnecessary organizational resources. On the other hand, the nonprogrammed decision must be properly identified as such since this type of decision forms the basis for allocating billions of dollars worth of resources in our economy every year. Table 5-1 gives examples of each type of decision in different kinds of organizations. It illustrates that programmed and nonprogrammed decisions require different kinds of procedures and apply to distinctly different types of problems.

Traditionally, programmed decisions have been handled through policies in the form of standard operating procedures. On the other hand, nonprogrammed decisions usually have been handled by general problem-solving processes, judgment, intuition, and creativity.

Many nonmanagerial jobs in service and manufacturing industries still consist largely of programmed decisions in the form of standard operating procedures. For example, a Lands' End customer dissatisfied with a mail-order sweater calls a toll-free service number. In response, the customer service manager (CSM) follows a routine set of steps to help the customer decide if she wants to (1) return the sweater for a refund, (2) exchange the defective sweater, (3) return the defective sweater and receive a different product, or (4) consider some other option. If the customer also wants to complain, the

Programmed decision  
A decision that is repetitive and routine, with a definite procedure developed for handling it.

Nonprogrammed decision  
Novel, unstructured decisions.

CSM can use this information by adding it to the product data base. Product designers, manufacturers, and other parties can then use this feedback to improve product quality. The CSM is trained to follow standard procedures and to ask appropriate questions in a pleasant tone of voice to avoid further angering the customer. The CSM may also be allowed to make routine decisions that might immediately satisfy the customer. For example, the CSM may be authorized to give the customer a coupon for discounts on other products or to promise overnight delivery of a replacement product.

Despite some managers' efforts to place all organizational processes under rigorous and invariant control regimens, we see that variation, complexity, and ambiguity in the workplace are the rule rather than the exception. Much day-to-day standard variation can be accommodated with routine responses, yet a creative response or nonprogrammed decision of some sort is often needed. Nonprogrammed decisions involve searching for information and alternatives that lie outside the routine decision-making process. These decisions are often time-consuming and (unlike routine decisions) demand that workers be prepared to create alternative solutions, analyze them critically, and choose a course of action.

Programmed decisions that do not allow for flexibility are not always useful for workers in manufacturing job either. Despite what we learned in this chapter's opening vignette, product design engineers are still often directed by management to create product assembly processes so simple that they require no input from assemblers on the factory floor. While such a design may be valuable to an untrained customer assembling a product at home (e.g., a piece of home exercise equipment), the same attitude behind the design for a trained assembly worker reflects contempt for workers' ability to make nonprogrammed decisions.

One company that has succeeded in employing an innovative form of Frederick Taylor's time-and-motion regimentation on the factory floor is New United Motor Manufacturing, Inc. (NUMMI) of Fremont, California. NUMMI is a joint venture between Toyota and General Motors set up to produce a version of the Toyota Corolla (renamed the Nova). NUMMI has used the principles of scientific management to create a highly programmed process flow and to increase quality, productivity, and employee motivation at the same time. How does the company manage this? It does so by allowing the workers themselves to design the formal work standards and establish the programmed decisions. As University of Southern California Professor Paul Adler stated following a two-year study of the company, "Procedures that are designed by the workers themselves in a continuous, successful effort to improve productivity, quality, skills, and understanding can humanize even the most disciplined form of bureaucracy."<sup>3</sup>

Programmed and nonprogrammed decisions affect organizations daily. Sometimes managers need to react to events and make decisions. Other times they can anticipate changes and make decisions before they happen. This distinction is captured in two more decision types: proactive and reactive.

## Proactive versus Reactive Decisions

Recall that *decision* has been defined as a conscious choice among analyzed alternatives. A decision made in anticipation of an external change or other conditions is called a **proactive decision**. Managers who utilize a systematic, proactive approach can prevent problems with the quality of products or services from developing.

In 1984 Michael Dell (an Austin, Texas, entrepreneur) made a proactive decision to drop out of college and tap an emerging customer need in the computer industry. He took an idea that is startling in its simplicity—selling computers by phone—and transformed it into a \$2 billion-a-year business. By 1993 his company, Dell Computer Corporation, has become the fourth largest PC maker in America. The company sells products in 18 foreign countries, markets 42 different PC designs, and distributes a full line of software

proactive decision  
A decision made in anticipation  
of an external change or other  
conditions.



and accessories—all of this in nine short years based on a proactive decision to meet a growing consumer need for computers by phone.<sup>4</sup>

A **reactive decision** is one made in response to external changes. Using a reactive approach, a city street department may wait for citizens to complain about poor street conditions before a crew is sent to repair pot holes. A manager may initiate action to correct product defects after customer complaints force him to do something. Rather than apply preventive maintenance (proactive), a machine shop manager may spend money only to repair broken machines (reactive).

During the past two decades, there must have come a time when American automakers realized that American consumers were purchasing a lot of foreign-made cars and trucks, when IBM noticed that its industry was moving away from mainframes and toward desktop workstations, and when Sears saw the move toward discount superstores like Wal-Mart. As a *Wall Street Journal* editorial noted, that was the time for decision. Unfortunately for these companies, they waited until it was too late. As the editorial stated,

*If [these companies] recognized that decisions were necessary, their institutions were long past the point of being able to act within the time frames mandated by the pre-21st century business milieu. They were embedded in union bureaucracies, or more likely in a corporate culture, that seems to dull the movements of otherwise forceful [people]. The inability or refusal to decide can be poison today.*<sup>5</sup>

Another distinction can be drawn between decisions that are based on facts, and those that stem from intuitive hunches or guesses. Quality organizations base most of their decisions on measurable facts, but occasionally a manager must rely on an intelligent guess. As the next section suggests, most decisions can be classified as either intuitive or systematic.

## Intuitive versus Systematic Decisions

**Intuitive decision making** involves the use of estimates, guesses, or hunches to decide among alternative courses of action. Most managers will admit that many of their decisions are influenced to a great extent by their intuitions. Nonetheless decisions based purely on intuitions can be premature, unnecessary, and even counterproductive. For example, one common flaw with “merit” pay systems is that management may falsely assume that it can determine meaningful individual differences among workers’ performances. If these differences are determined more by personal opinion and human biases rather than by systematic data collection and analysis, the concept of merit may be lost. Such biased pay raise decisions can be destructive rather than productive in encouraging workers to perform at high levels.

In contrast to intuitive decision making, **systematic decision making** is an organized, exacting, data-driven process, as represented by Table 5–2’s comparisons. Systematic decision making requires developing a clear set of objectives, a relevant information base, and a team-based, consensus-seeking sharing of ideas and creativity as well as exacting implementation and assessment. For example, a systematic decision-making approach to declining sales in a student-run snack bar requires careful measurement of the existing situation and a clear analysis of the products, sales figures, and patterns, plus an understanding of the buying and selling procedures, development of a cause-and-effect diagram, use of statistical tools to understand the problem, development of alternative solutions, analysis of the alternatives, and choice of a course of action.<sup>6</sup> An intuitive approach might consist of a brief meeting of workers and a recommendation to increase

Intuitive decision making

A decision made in response to external changes.

Intuitive decision making

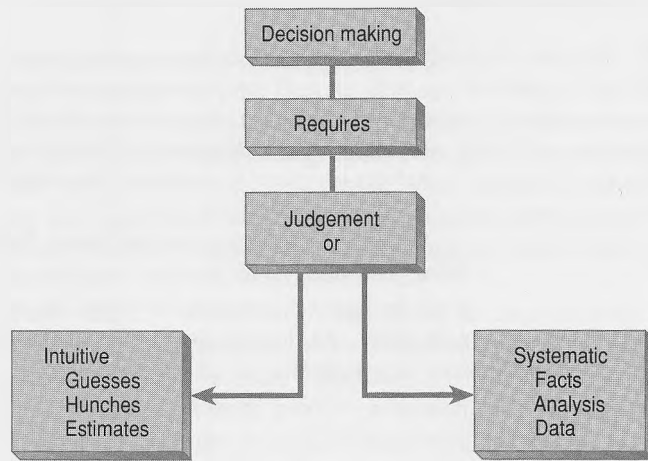
A process of estimating or guessing to decide among alternatives.

Systematic decision making

An organized, exacting, data-driven process for choosing among alternatives.

TABLE 5-2	Intuitive	Systematic
Intuitive versus Systematic Decision Making	My hunch is that we should improve customer support after we sell them our product.	Customer surveys have indicated that we need to improve postsale support.
	This process is out of control and needs adjustment.	Control charts indicate that this process has been operating beyond the control limits for seven consecutive weeks. This indicates that something needs to be done.
	My feeling is that this firm could benefit from TQM.	Based on success I've observed with TQM in firms similar to ours, we too could probably benefit from its principles and techniques.

FIGURE 5-3  
Judgment in Decision Making



advertising and the number of products offered. This would work if inadequate advertising was the problem, but not if the snack bar was supposed to offer only junk food when the customers preferred health foods.

Not all situations require systematic decision making. However, as Figure 5-3 shows, in all cases judgment is needed to determine when a decision could be intuitive or systematic. Neither approach is the best in all situations. Some surprises will occur. At times managers must react quickly and intuitively. Sound intuition, however, is developed primarily from experience and training as well as from practice in systematic decision making. For example, a service repair manager may have to react to an angry customer who is dissatisfied with a product. If the manager doesn't react appropriately, the customer may be lost. Yet the manager's reactive, intuitive decision will be better if it is based on training and experience with similar situations.

The Global Exchange on the next page shows how decision making is changing in companies around the world. It is easy to think that the forces of global competition have a unique effect on business in one's home country. But business is changing everywhere in response to global market pressures. Business around the world has learned to speed up the decision-making process to adapt to rapid, often unpredictable changes.

Later we will see that a quality-based decision-making approach encourages employees to apply creativity to programmed and nonprogrammed decisions alike. Continuous improvement in organizational performance requires creativity in making programmed

## GLOBAL EXCHANGE

## GLOBAL COMPETITION FORCES CHANGES IN DECISION MAKING WORLDWIDE

It is sound advice not to think that global competition is forcing changes only in American business. A quick look abroad reveals how global competition affects business in other countries, too. The steel industry is a good example of how the global economy forces changes no matter how good you are.

Nippon Steel Corporation's Kimitsu Works has long symbolized the might of the world—beating Japanese steel mills. The mill is the largest of the biggest steelmakers in the number 1 steel-producing country. But something has been happening behind the hulking gray buildings at the Kimitsu Works. The once vibrant plant is in decline.

Three hundred miles from the Kimitsu Works in Okinawa is another steel mill, the little Tokyo Steel Manufacturing Company. The plant is a mere 1/20th the size of traditional Japanese mills, but it is five times as efficient. It needs only one labor-hour for each ton of steel, compared with the five labor-hours needed by the larger mills. The new Tokyo Steel mill has undercut by 30 percent Nippon and other big steelmakers' sheet steel price. Tokyo Steel is planning two other "minimills," and other Japanese steelmakers are following suit with plans for even more small mills.

Net profits for the three largest Japanese steelmakers (Nippon Steel, NKK Corporation and Kawasaki Steel Corporation) were down 81 percent, 92 percent, and 77 percent, respectively, in the period from March 20, 1992 to September 30, 1992. Steelmakers are closing some operations and attempting to diversify. What's going on here?

The decline of Big Steel in Japan doesn't mean a return to glory for U.S. or European steelmakers. Instead, it

underscores a new reality facing all steelmakers: Big Steel can't survive in its traditional form, even among low-cost makers in nations like South Korea. The decline is part of a shift in many manufacturing industries, such as steel, autos, and machinery. Large, high-volume integrated plants with disjointed production lines are giving way to small plants with faster, cheaper production methods that can adjust quickly to demand variations. Many old-line producers remain saddled with slow-moving corporate culture, bloated staffs, and huge investments in increasingly outdated mills.

Although this shift is occurring in a variety of manufacturing industries, it is particularly apparent in the steel sector, where low-budget minimills like Tokyo Steel (often using new technologies) promise to flood the market with cheap but increasingly high-quality products. "The way of making steel is changing," says Francis Mer, president of France's Usinor Sacilor SA, the world's second largest steelmaker. "It's quite sure that the largest part of steel will be produced in smaller mills."

As these examples show, global competition forces changes in how business is conducted in all corners of the world. Even those corners that used to be number 1 are not safe from increasingly insistent demands for quality, flexibility, and variety. Such demands can be met in smaller steel mills where decisions can be made rapidly in response to changing customer needs, technological advances, and shifting market demands.

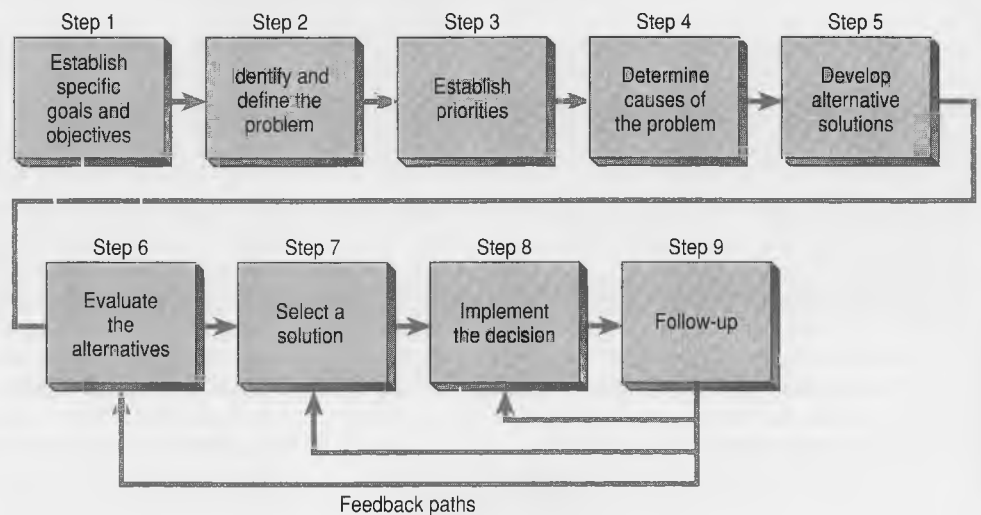
Source: Dana Milbank, "Big Steel Is Threatened by Low-Cost Rivals, Even in Japan, Korea," *The Wall Street Journal*, February 2, 1993, pp. A1, A4.

decisions or in establishing work processes. Furthermore, business success demands constant attention to detecting and responding to changes in customer needs and competitive challenges from abroad. To respond adequately to changes in customer needs and the global marketplace, employees at all levels within the organization should be able to use creativity in recognizing the need for change and in implementing the necessary changes. But decision-making creativity should be tempered by a well-developed decision-making process. One author has called such an approach "disciplined creativity."<sup>7</sup> In the next section you will learn about a decision-making process that managers and workers can follow to make creative, yet sound, organizational decisions.

## ■ THE DECISION-MAKING PROCESS

The decision-making process is a manager's mechanism for seeking some desired result. The process's nature and structure influence how effective the decision outcome is likely to be in solving or preventing the problem. But note again that decision making is a

FIGURE 5-4  
Decision-Making Model:  
A Sequence of Steps



sequential process rather than a single, fixed event.<sup>8</sup> In most decision situations, managers go through a series of steps or stages that help them identify the problem, develop alternative strategies, analyze these strategies, choose one among the alternatives, implement the choice, and assess the results. These stages are not always rigidly applied, and feedback is typically conceived to be a part of each step. Identifying steps in the decision process is valuable since it helps the decision maker to structure the problem situation in a meaningful, systematic way. A variety of models can be used. Figure 5-4 shows the segments of one common progression of events that leads to a decision.

The basic steps in the figure's model are (1) establish specific goals and objectives, (2) identify and define the problem, (3) establish priorities, (4) determine causes of the problem, (5) develop alternative solutions, (6) evaluate the alternatives, (7) select a solution, (8) implement, and (9) follow up. The first seven steps are the **decision formulation** stages; the last two steps are the **decision implementation** stages.

#### decision formulation

The process of (1) identifying a decision opportunity or need, (2) collecting information, (3) from the information, developing alternative courses of action, and (4) from the alternatives, selecting one alternative.

#### decision implementation

The process to implement the alternative, and then do follow-up to assess each of the implementation alternatives.

#### problem

The realization that a discrepancy exists between a desired state and current reality.

## Step 1: Establish Specific Goals and Objectives

Decision making is always done in the context of goals and objectives. We will discuss the setting of goals and objectives more in the next two chapters. Here it's important to point out that all behavior is basically goal oriented.<sup>9</sup> Especially in organizations, goals and objectives are needed in each area where performance influences effectiveness. If goals and objectives are adequately established, they will dictate what results must be achieved and the measures that indicate whether they have been achieved.

## Step 2: Identify and Define the Problem

A necessary condition for a decision is a problem—if problems did not exist, there would be no need for decisions. **Problems** are defined as the realization that a discrepancy exists between a desired state and current reality. Thus problems become apparent when clear goals and objectives are established. How critical a problem is for an organization is measured by the gap between the levels of performance specified in the organization's goals and objectives and the levels of performance attained. For example, a product defect rate of 10 per million does not meet the famous "six sigma" quality standard established by Motorola which allows for only three defects per million.

It is easy to understand that a problem exists when there is a gap between desired results and actual results. But certain factors often lead to difficulties in precisely identifying the problem. These factors are:

1. *Perceptual problems.* Individual attitudes, feelings, or mental models may prevent us from seeing problems. For example, prior to 1968 the Swiss dominated the world of watchmaking. They had continuously improved their products and were constant innovators. Yet by 1980 their market share had collapsed from 65 percent to 10 percent. Why? They did not perceive that world demand was changing from mechanical to electronic inner works. The Swiss themselves had invented electronic quartz movement. Yet when Swiss researchers presented the revolutionary idea to Swiss manufacturers in 1967, it was rejected. The new movement did not fit their mental model of watches, so they couldn't see its potential for the future.<sup>10</sup>
2. *Defining problems in terms of solutions.* This is really a form of jumping to conclusions. For example, prior to any research a quality engineer may state, "The excessive rework we're experiencing is due to bad supplies." Here the quality engineer is suggesting a solution before the problem has been adequately identified. The supplies may be of low quality, but there are other potential explanations of excessive rework, including poor employee training, out-of-date technology, or cumbersome process flow. Research needs to be conducted to identify the problem before solutions are suggested.
3. *Identifying symptoms as problems.* "Our problem is we have poor customer service." While it may be true that customer service is bad, the problem may be that the customer service staff has been trained inadequately for the job.

Problems usually are of three types: opportunity, crisis, or routine. Crisis and routine problems present themselves; opportunities, on the other hand, usually must be found. Opportunities await discovery. They often go unnoticed and eventually are lost by an inattentive manager. On the other hand, by their very nature, most crises and routine problems demand immediate attention. Thus a manager may spend more time handling problems than pursuing important new opportunities. Many well-managed organizations try to draw attention away from crises and routine problems and toward longer-range issues through planning activities and goal-setting programs that establish companywide priorities.

### Step 3: Establish Priorities

All problems are not created equal. Deciding whether to launch a new product in response to a competitor's move is probably a more significant decision than whether the employee lounge should be repainted. The process of decision making and solution implementation requires resources. Unless the resources an organization has at its disposal are unlimited, it must prioritize its problems. This means being able to determine each problem's significance, which involves considering three issues: urgency, impact, and growth tendency.

Urgency is defined as the amount of time available to solve a problem. Improving poor customer service is probably more urgent to most quality-based organizations than purchasing powerful new computers. Stopgap measures can affect problem urgency. For example, if customer service can be improved by hiring trained temporary workers, money that would have gone to training can be used for the computers.

Impact refers to the seriousness of a problem's effects. Effects may be on people, sales, equipment, profitability, public image, or any number of other organizational resources. Whether problem effects are short- or long-term, and whether the problem is likely to create other problems are also questions related to impact.

Growth tendency refers to future consequences of a problem. A problem may currently be of low urgency and have little impact, but if it is allowed to go unattended, its consequences may become more severe over time. For example, a decision to cut back on routine preventive maintenance of plant equipment as a cost-cutting measure may not create a significant problem immediately; but over time, major difficulties may arise.

The more significant the problem as determined by its urgency, impact, and growth tendency, the more important it is that it be addressed. A critical part of effective decision making is determining problem significance. Another critical part is determining the problem's cause.

#### Step 4: Determine Causes of the Problem

While not impossible, it is ordinarily difficult and ill-advised to determine a solution to a problem when its cause is unknown. For example, without knowledge of the cause of variation in a system, managers may act on common-cause variations, creating even greater deviations from quality standards. Managers need to know if a variation is due to a special cause or common cause. (See Chapter 16.)

If an organization wishes to address the problem of declining sales, how can it decide on an appropriate solution if it does not know the reason for the decline? If sales are falling because the product is no longer price competitive, possible solutions will be quite different than if the decline is due to poor service after the sale. Properly identifying causes helps decision makers avoid solving the wrong problem.<sup>11</sup> Frequently the search for problem causes leads to a better definition of the real problem. Causes can be turned into new—and better—problem statements.

#### Step 5: Develop Alternative Solutions

Before a decision is reached, alternative solutions to the problem need to be developed. This step involves examining the organization's internal and external environments for information and ideas that may lead to creative solutions to a problem. This search is conducted within certain time and cost constraints. A quality control manager may determine that a series of defects in a particular part may be due to a faulty machine. Searching the environment for possible solutions, the manager may decide to repair the faulty machine, purchase a new or used machine to replace the faulty one, or find a way to do without the machine altogether.

#### Step 6: Evaluate the Alternatives

Once alternatives have been developed, they must be evaluated and compared. In every decision situation, the objective is to select the alternatives that will produce the most favorable outcomes and the least unfavorable outcomes. This again reflects the need for objectives and goals since in selecting among alternatives, the decision maker should be guided by the previously established goals and objectives. The alternative–outcome relationship is based on three possible conditions:

1. **Certainty:** The decision maker has complete knowledge of the probabilities of the outcomes of each alternative.
2. **Uncertainty:** The decision maker has absolutely no knowledge of the probabilities of the outcomes of each alternative.
3. **Risk:** The decision maker has some probabilistic estimate of the outcomes of each alternative.

Decision making under conditions of risk is probably the most common situation.<sup>12</sup>

In evaluating alternatives under these conditions, statisticians and operations researchers have made important contributions to decision making. Their methods have proved especially useful in analyzing and ranking alternatives.

##### certainty

No element of chance, possible loss, or unpredictability.

##### uncertainty

The decision maker has absolutely no knowledge of the probabilities of the outcomes of each alternative.

##### risk

The chance of a possible loss, or unpredictability, in a decision.

In evaluating alternative solutions, two cautions should be kept in mind. First, this phase of the decision-making process must be kept separate and distinct from the previous step—especially in a group decision-making context. When alternatives are evaluated as they are proposed, this may restrict the number of alternative solutions identified. If evaluations are positive, there may be a tendency to end the process prematurely by settling on the first positive solution. On the other hand, negative evaluations make it less likely for someone to risk venturing what may be an excellent solution for fear of being criticized.

The second caution is to be wary of solutions that are evaluated as being “perfect”—especially when the decision is being made under conditions of uncertainty. If a solution appears to have no drawbacks or if, in a group setting, there’s unanimous agreement on a course of action, it may be useful to assign someone to take a devil’s advocate position. The devil’s advocate’s role is to be a thorough critic of the proposed solution. Research supports the benefits of devil’s advocacy and the conflict a devil’s advocate may cause, thus forcing a decision maker to reexamine assumptions and information.<sup>13</sup>

### Step 7: Select a Solution

The purpose of selecting a particular solution is to solve a problem in order to achieve a predetermined objective. An extremely important point, this means that a decision is not an end in itself but only a means to an end. Although the decision maker chooses the alternative that is expected to result in achieving the objective, the selection of that alternative should not be an isolated act. If it is, the factors that led to the decision are likely to be excluded. Specifically the steps following the decision should include implementation and follow-up. The critical point is that decision making is more than an act of choosing; it is a dynamic process.

Unfortunately for most managers, situations rarely exist in which one alternative achieves the desired objective without having some positive or negative impact on another objective. Situations often exist where two objectives cannot be optimized simultaneously. If one objective is optimized, the other is suboptimized. In a business, for example, if production is optimized, employee morale may be suboptimized, or vice versa. Or a hospital superintendent may optimize a short-run objective such as maintenance costs at the expense of a long-run objective such as high-quality patient care. Thus the multiplicity of organizational objectives complicates the decision maker’s real world.

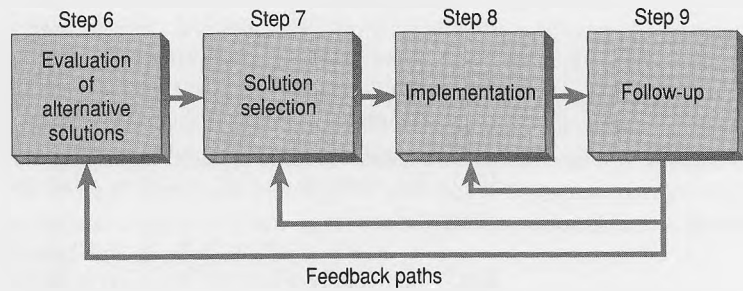
In managerial decision making, optimal solutions often are impossible. This is because the decision maker cannot possibly know all of the available alternatives, the consequences of each alternative, and the probability of these consequences occurring. Thus, rather than being an optimizer, the decision maker is a satisficer, selecting the alternative that meets a satisfactory standard. A satisficer is a person who accepts a reasonable alternative that is in many cases not the optimal alternative.

### Step 8: Implement the Decision

Any decision is little more than an abstraction if it is not implemented, and it must be effectively implemented to achieve the objective for which it is made. It is entirely possible for a good decision to be hurt by poor implementation. In this sense, implementation may be more important than the actual choice of the alternative.

Since in most situations, implementing decisions involves people, the test of a decision’s soundness is the behavior of the people who put it into action or are affected by it. While a decision may be technically sound, it can be undermined easily by dissatisfied subordinates. Subordinates cannot be manipulated in the same manner as other resources. Thus, a manager’s job is not only to choose good solutions but also to transform such solutions into behavior in the organization. This is done by effectively communicating with the appropriate individuals and groups.

FIGURE 5-5  
Follow-up Portion of  
Decision Making



### Step 9: Follow-up

Effective management involves periodic measurements of results. Actual results are compared with planned results (the objective). If deviations exist, changes must be made. Here again, we see the importance of measurable objectives. If such objectives do not exist, then there is no way to judge performance. If actual results do not meet planned results, changes must be made in the solution chosen, in its implementation, or in the original objective if it is deemed unattainable. If the original objective must be revised, then the entire decision-making process will be reactivated. The important point is that once a decision is implemented, a manager cannot assume that the outcome will meet the original objective. Some system of control and evaluation is necessary to make sure the actual results are consistent with the results planned for when the decision was made.

Sometimes a decision's outcome is unexpected or is perceived differently by different people. Dealing with this possibility is an important part of the follow-up phase in the decision process. As Figures 5-4 and 5-5 show, the follow-up step results in feedback to other steps in the decision-making process. This feedback can result in different means of implementation, selection of different alternatives, or a revised evaluation of the various alternatives.

### Summary of the Decision-Making Process

The nine-step decision-making process is an outline of how managers in the modern workplace spend much of their time. In an increasingly technological world, work has become less a matter of physical effort and more a matter of processing information, even in traditional "sweat" industries like agriculture and manufacturing. Yet making effective, quality-based decisions requires more than just the ability to process information, and then choose among and manage alternatives. A quality-based approach to decision making requires attention to what occurs before the decision-making process begins and to how the decision is made.

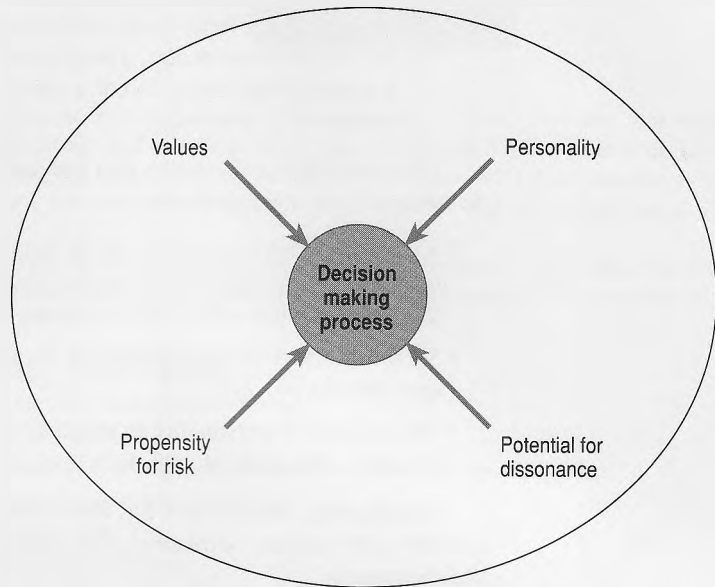
No matter what steps are involved, decision making always involves people. Some decisions are made by individuals acting alone. More often in today's quality-based organizations, decision making occurs in groups. The next two sections explore how decision making by individuals differs from group decision making.

## ■ INDIVIDUAL DECISION MAKING

Several behavior factors influence the decision-making process. Some of these factors influence only certain aspects of the process, while others influence the entire process. But each may have an impact and, therefore, must be understood if we're to fully appreciate decision making as a process involving individuals in organizations. Figure 5-1 listed individual factors as an influence in the decision-making process. Figure 5-6 extends the individual factors, highlighting four key elements: values, personality, propensity for risk, and potential for dissonance.



FIGURE 5-6  
Individual Influencers of  
Decision Making



## Values

In the context of decision making, values are the guidelines a person uses when confronted with a situation in which a choice must be made. Most of an individual's enduring values are acquired early in life and are a basic part (one often taken for granted) of the person's thoughts. Other values can be acquired in adulthood and are usually associated with group membership. In a quality-based organization, for example, the group values customer service, continuous improvement, and employee empowerment to make decisions. Values' influence on the decision-making process just discussed is most important:

- In establishing goals and objectives, we must make value judgments regarding the selection of opportunities and the assignment of priorities.
- In developing alternatives, we must make value judgments about the various possibilities.
- In selecting a solution, the values of the decision maker influence which alternative is chosen.
- In implementation, value judgments are necessary in choosing the means for implementation.
- In the follow-up stage, value judgments can not be avoided when corrective action is taken.

Values play a role throughout the decision-making process, so they need to be recognized by managers. In a quality-based organization, decision making is often done in teams, where managers build consensus on guiding values.

## Personality

Decision makers are influenced by many psychological forces. One of the most important is the decision makers' personality, which is reflected in the choices made. Several studies have examined the effect of selected personality variables on the decision-making process.<sup>14</sup> These studies generally have focused on three sets of variables:

- 1. *Personality variables.* These include the individual's attitudes, beliefs, and needs.

2. *Situational variables.* These pertain to the external (physical and social) situations in which individuals find themselves.
3. *Interactional variables.* These pertain to the individual's momentary state as a result of the interaction of a specific situation with characteristics of the individual's personality.

The most important conclusions concerning these personality variables' influence on the decision-making process are:

- It's unlikely that one person can be equally proficient in all aspects of the decision-making process. The results suggest that some people will do better in one part of the process, while others will do better in another part.
- Such characteristics as intelligence are associated with different steps of the decision-making process.
- The relation of personality to the decision-making process may vary for different groups on the basis of such factors as gender and social status.

Significantly, this research has determined that the decision maker's personality traits combine with certain situational and interactional variables to influence the decision-making process.

### Propensity for Risk

You probably know that decision makers vary greatly in their willingness to take risks. This specific aspect of an individual's personality influences decision making so strongly that it is broken out of other personality variables and considered separately. A decision maker with a low tolerance of risk will establish different objectives, evaluate alternatives differently, and select different alternatives than another decision maker with high risk tolerance in the same situation. The former will avoid decisions where risk is high; the latter will often seek more risky alternatives. You will see later that many people are bolder and more innovative and advocate greater risk taking in groups than when they're acting as individuals.

Risk propensity is also affected by whether potential outcomes are characterized in terms of losses or gains. This, in turn, depends on how the decision maker "frames" the decision. Framing refers to the decision maker's perception of the decision's possible outcomes in terms of gains or losses.<sup>15</sup> When the choice is perceived as being between losses, there is a greater propensity to take risks than when it is perceived as being between gains.

### Potential for Dissonance

Much attention has been focused on the decision itself and on the forces and influences affecting the decision maker before the decision is made. But only recently has attention been given to what happens *after* a decision is made. Specifically, behavioral scientists are focusing attention on the occurrence of postdecision anxiety.

Such anxiety is related to what Festinger calls *cognitive dissonance*.<sup>16</sup> Festinger's cognitive dissonance theory states that there is often a lack of consistency or harmony among an individual's various cognitions (attitudes, beliefs, and so on) after a decision has been made. That is, there will often be a conflict between what the decision maker believes and the consequences of a particular decision. As a result, the decision maker will have doubts and anxiety about her choice. The intensity of the anxiety may be greater when any of the following conditions exist:

1. The decision is important psychologically or financially.
2. There are a number of forgone alternatives.
3. The forgone alternatives have many favorable features.

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A common definition of risk is “the possibility of loss.” However, this definition is not elaborate enough and is not precise enough. It is best to think of risks in decision making as (a) the potential loss, (b) the significance of the losses, and (c) the uncertainty of the losses. Risk, then, involves an interaction between a person and the alternatives available to him or her.

How risky are the following situations to you personally? Think about the potential losses and the uncertainty in each situation. Which of these situations are or would be risky to you personally?

- Taking a more difficult job assignment
- Asking for a raise from your boss
- Quitting your job
- Giving a talk to colleagues about the benefits of total quality management
- Investing in a new start-up business
- Climbing a cliff
- Scuba diving in Cozumel
- Interviewing for a job
- Relocating to a new city
- Purchasing a new automobile
- Flying your own airplane around the United States

Perhaps none of these situations is considered important or relevant enough to generate risks.

Any or all of these conditions are present in many decisions in all types of organizations. You can expect, therefore, that postdecision dissonance will affect many decision makers across many decision opportunities.

When dissonance occurs, it can be reduced by admitting that a mistake has been made. Unfortunately many individuals are reluctant to admit they have made a wrong decision. They are more likely to use any of the following methods to reduce their dissonance:

1. Seek information that supports the wisdom of their decision.
2. Selectively perceive (distort) information in a way that supports their decision.
3. Adopt a less favorable view of the forgone alternatives.
4. Minimize the importance of the negative aspects of the decision and exaggerate the importance of the positive aspects.

While each of us may resort to some of this behavior in our personal decision making, it is easy to see how a great deal of it could be extremely harmful in terms of organizational effectiveness. The potential for dissonance is influenced heavily by one’s personality, specifically one’s self-confidence and potential to be persuaded. In fact, all of the behavioral influences are closely interrelated and are only isolated here for purposes of discussion. For example, what kind of risk taker you are and your potential for anxiety following a decision are closely related, and both are strongly influenced by your personality, your perceptions, and your value system.

Cognitive dissonance theory holds that a person’s desire to reduce dissonance is also related to the desire to appear consistent to oneself. But this desire for personal consistency is not always a positive attribute for decision makers as it can lead to inflexibility. As we have discussed in this chapter’s examples, the modern decision-making environment calls for flexibility and adaptability. The desire to reduce cognitive dissonance be-

**escalation of commitment**

An increased commitment to a previous decision despite contrary information.

comes dysfunctional when it leads to what has been called **escalation of commitment**. This is an increased commitment to a previous decision despite contrary information. Research has shown that individuals will escalate their commitment to a failing course of action when they view themselves as responsible for the action. According to dissonance theory, this behavior results from the individual trying to demonstrate that the original decision was correct.<sup>17</sup>

Before managers can fully understand the dynamics of the decision-making process, they must appreciate the behavioral influences on themselves and other decision makers in the organization when they make decisions. Understanding that you might respond to cognitive dissonance by escalating commitment to a bad decision should help you change bad decisions and maintain badly needed flexibility.<sup>18</sup>

The individual forces discussed in this section are heightened in a group decision-making environment. Quality-based managers should carefully study the dynamics of group decision making because it is an important part of the continuous improvement process. In the next section you will learn about some forces affecting groups as they wrestle with decision making.

## GROUP DECISION MAKING

In most organizations today, a great deal of decision making is achieved through groups with such names as committees, teams, task forces, and quality circles. This tendency toward group decision making is due in part to organizations' increased complexity and to the large amount of information needed to make sound decisions. This is especially true for the nonprogrammed decisions which typically have the greatest uncertainty of outcome and require the most creativity (creativity here meaning the application of new, perhaps untried approaches to problem solving). In most organizations it is unusual to find decisions on such problems being made by one individual. The complexity of many of these problems requires specialized knowledge in numerous fields, knowledge usually



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To be globally competitive, organizational decisions often require team input to handle the complexity and information needed to make a quality decision.

not possessed by one person. This requirement—coupled with the fact that decisions eventually must be accepted and implemented by many units throughout the organization—has increased the use of the group approach to the decision-making process.

## Individual versus Group Decision Making

Considerable debate has centered on the relative effectiveness of individual versus group decision making. Groups usually take more time to reach a decision than individuals do. But bringing together individual specialists and experts has its benefits since the mutually reinforcing impact of their interaction often results in better decisions. In fact, a great deal of research has shown that consensus decisions with five or more participants are usually superior to individual decision making, majority vote, and leadership decisions.<sup>19</sup>

On the other hand, research has also found group decision making to be negatively influenced by such behavioral factors as pressure to conform, a dominant personality type's presence in the group, "status incongruity" (whereby lower-status participants are inhibited by higher-status participants and acquiesce even though they believe that their own ideas are superior), and certain participants' attempts to influence others because these participants are perceived to be expert in the problem area.<sup>20</sup>

Certain decisions (such as nonprogrammed decisions) appear to be better made by groups, while others appear better suited to individual decision making. Usually calling for pooled talent, the decisions are so important that they're frequently made by top management and, to a somewhat lesser extent, by middle managers. Many major American corporations are creating executive teams at the top of the organization to deal with operations. Two major American companies, Xerox and Microsoft, are run by executive teams rather than a single individual. At Xerox a six-person committee meets at least once a week, sharing supervision of geographic regions. While each executive has some specific area of responsibility, the company has revised the top-executive compensation plan to make the bulk of compensation relate to Xerox's overall results, not just to the executive's own area.<sup>21</sup>

Keep in mind the following points concerning group processes for nonprogrammed decisions:

1. In establishing goals and objectives, groups probably are superior to individuals because of their greater knowledge.
2. In developing alternatives, the groups members' individual efforts are necessary to ensure a broad search in the various functional areas of the organization.
3. In evaluating alternatives, the collective judgment of the group, with its wider range of viewpoints, seems superior to that of the individual decision maker.
4. In selecting a solution, research has shown that group interaction and the achievement of consensus usually result in the acceptance of more risk than an individual decision maker would accept. In any event, the group decision is more likely to be accepted as a result of the participation of those affected by its consequences.
5. Implementation of a decision, whether or not made by a group, usually is done by individual managers. Thus, since a group cannot be held responsible, the responsibility for implementation rests with the individual manager.

## Techniques for Stimulating Creativity in Group Decision Making

If groups are better suited to nonprogrammed decisions than individuals are, then an atmosphere fostering group creativity must be developed. In this respect, group decision making may be similar to brainstorming in that discussion must be free-flowing and spontaneous. All group members must participate, and the evaluation of individual ideas

must be suspended in the beginning to encourage participation. Still a decision must be reached, and this is where group decision making differs from brainstorming.

Even though in many instances group decision making is preferable to individual decision making, we have heard the statement, “A camel is a racehorse designed by a committee.” Thus along with the necessity and the benefits of group decision making, numerous problems are also associated with it, some of which we’ve already noted. Practicing managers need specific techniques to increase the benefits from group decision making while reducing its problems.

When properly utilized, three techniques—brainstorming, the Delphi technique, and the nominal group technique—increase a group’s creative ability to generate ideas, understand problems, and reach better decisions. Raising a group’s creative capability is especially necessary when individuals from diverse sectors of the organization must pool their judgments to create a satisfactory course of action for the organization.

**Brainstorming** In many situations, groups are expected to produce imaginative solutions to organizational problems. In such instances, brainstorming has often enhanced the group’s creative output. **Brainstorming** includes a firm set of rules whose purpose is to promote the generation of ideas while at the same time avoiding members’ inhibitions that face-to-face groups usually cause. The basic rules are:

- No idea is too ridiculous. Group members are encouraged to state any extreme or outlandish idea.
- Each idea presented belongs to the group, not to the person stating it. In this way, group members utilize and build on the ideas of others.
- No idea can be criticized. The session’s purpose is to generate ideas, not to evaluate them.

Brainstorming is considered effective in advertising and various other fields. In some other situations, it has been less successful because there is no evaluation or ranking of the ideas generated. Thus the groups never really conclude the problem-solving process.

**The Delphi Technique** The **Delphi technique** involves soliciting and comparing anonymous judgments on the topic of interest through a set of sequential questionnaires that are interspersed with summarized information and feedback of opinions from earlier responses.

The Delphi technique retains the advantage of having several judges while removing the biasing effects that might occur during face-to-face interaction. The basic approach has been to collect anonymous judgments by mail questionnaire from a specified set of individuals—members of a management team, for example. Staff members summarize the responses as the group consensus and feed this summary back to the original respondents along with a second questionnaire for reassessment. Based on this feedback, respondents independently evaluate their earlier responses. The underlying belief is that the consensus estimate results in a better decision after several rounds of anonymous group judgment. While it is possible to continue the procedure for several rounds, research has shown that, typically, no significant changes occur after the second round of feedback.

**The Nominal Group Technique (NGT)** NGT has gained increasing recognition in health, social service, education, industry, and government organizations. The term **nominal group technique** was adopted by researchers to refer to processes that bring people together but do not allow them to initially communicate verbally. Thus the collection of people is a group nominally (in name only). In its present form NGT actually combines both verbal and nonverbal stages.

Basically NGT is a structured group meeting that proceeds as follows: A group of 7 to 10 individuals sit around a table but do not speak to one another. Talking to each other

#### brainstorming

A process whereby a group of individuals generate ideas according to a firm set of rules while at the same time avoiding the inhibitions that are usually caused by face-to-face groups.

#### delphi technique

A process involving soliciting and comparing anonymous judgments on the topic of interest through a set of sequential questionnaires that are interspersed with summarized information and feedback of opinions from earlier questionnaires.

#### nominal group technique

A process of bringing people together in a group to solve a problem. In the NGT participants are not allowed to communicate verbally in the initial phase.

is not permitted during the first stage of NGT. Rather, each person writes ideas on a pad of paper. After five minutes, a structured sharing of ideas takes place. Each person presents one idea. A person designated as recorder writes the ideas on a flip chart in full view of the entire group. This continues until all of the participants indicate that they have no further ideas to share. There is still no discussion.

The output of this phase is usually a list of 18 to 25 ideas. The next phase involves structured discussion in which each idea receives attention before a vote is taken. Discussion includes asking for clarification and stating the degree of support for each idea on the flip chart. In the next stage, independent voting, each participant privately selects priorities by ranking or voting. The group decision is the mathematically pooled outcome of the individual votes.

Both the Delphi technique and NGT have excellent records of successes. There are two basic differences between them: (1) In the Delphi process, all communication between participants is by way of written questionnaires and feedback from the monitoring staff. In NGT, communication is direct between participants. (2) NGT participants meet face-to-face around a table, while Delphi participants are physically distant, never meet face-to-face, and are typically anonymous to one another.

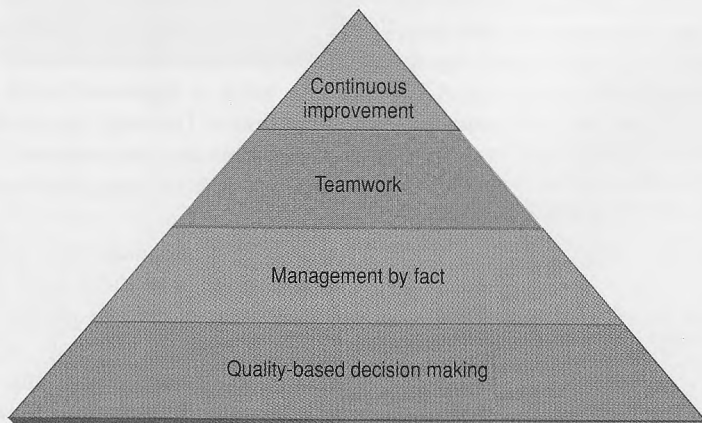
Practical considerations, of course, often influence which technique is used. These considerations can include the number of working hours available, costs, and participants' physical proximity.

## ■ DECISION MAKING IN A TOTAL QUALITY ENVIRONMENT

Total quality management (TQM) represents an important era in management decision-making thought. Although total quality management is still fairly new to American industries, it has been utilized broadly in Japan and other countries for over 40 years.

A quality-based decision-making process requires attention to three fundamental elements: *continuous improvement*, *management by fact*, and *teamwork*. These elements in combination result in what Figure 5-7 depicts as quality-based decision making. Organizations using TQM provide employees with the goals, information, and time needed for making decisions that affect quality. This system requires (1) an investment in worker training that instills in workers a quality-based value system, (2) clear communication from leaders concerning the organization's mission, goals, and objectives, (3) a focus on systems rather than on workers as the most likely source of organizational problems and solutions, (4) team decision making, and (5) a focus on customer satisfaction as the primary standard of effectiveness. Quality becomes both a cause and an outcome of effective decision making.

FIGURE 5-7  
Building Quality-Based  
Decision Making



American management's traditional goals often reflected (1) an emphasis on domestic markets, (2) the maintenance of a stable product line and growth, (3) minimum change in the production process, (4) consideration of workers as an expense rather than as an asset, and (5) an emphasis on short-term productivity, profits, and other financial gains for the firm.

In contrast, quality-based goals can be summarized as follows:

- Customer focus
- Continuous improvement
- Constancy of purpose
- Value added
- Teamwork
- Systematic approach
- Global perspective

This approach is derived from many different people's thoughts and experiences. Tom Peters and his colleague, Nancy Austin, identified quality goals as (1) the care of customers, (2) people, (3) constant innovation, and (4) management leadership.<sup>22</sup> IBM founder Thomas Watson stressed: (1) giving intelligent, responsible, and capable direction to the business, (2) serving customers effectively and efficiently, (3) expanding employee capabilities, and (4) advancing technology, improving products, and developing new products.<sup>23</sup> Taizo Watanabe, former director for public information for the Japanese Foreign Ministry, claims that the four fundamental elements of business are quality, cost, delivery, and service. Outside of Japan, he claims, delivery and service are most often ignored.<sup>24</sup>

These fundamental goals or principles determine the focus and basis for decision making. A quality-based approach focuses on the fundamental goal of customer satisfaction—even delight. For example, Rubbermaid is well known for its ability to spot trends and bring to market relatively mundane but highly desirable premium-priced products like rubber mailboxes and lunchboxes.<sup>25</sup>

## Continuous Improvement

### continuous improvement

A component of quality-based decision making that results in constant, incremental improvements in organizational processes.

### satisficing

The process of finding, accepting, and implementing the alternative that best meets certain minimum goals.

**Continuous improvement**—a process of constant, incremental improvements in an organization's process—is a fundamental tenet of a TQM organization. How does this affect decision making? March and Simon consider optimization to be a fleeting ideal that's rarely, if ever, attainable in practice. Instead they argue that most managers **satisfice**—they accept solutions to problems that may not be ideal, but do meet certain standards and can be implemented within constraints of time, money, and other resources. Continuous improvement builds on this principle, but goes on to encourage managers to return to their satisficing solution again and again to try to improve it. Total quality rejects the maxim, "If it ain't broke, don't fix it," encouraging management and worker teams to fix things even if they don't appear to be broken.<sup>26</sup>

Goals describe what is important to an organization and give its staff a sense of purpose. Recall the first of Deming's 14 points of quality, "Create constancy of purpose toward improvement of product and service."<sup>27</sup> Quality organizations need leadership to establish goals that are difficult enough to inspire great effort, but not too difficult to be attainable.

Firms using total quality management help shape workers' goals to develop a shared vision for the organization. Decisions tend to reflect the goals of the decision maker, whether the decision is made by one person or collectively by a team or a firm. Basic quality-based business management goals include (1) an emphasis on meeting the customer's needs, (2) a commitment to treating employees as an asset, (3) a focus on the long term, and (4) a commitment to world-class engineering and product design.



Over time, a pattern or stream of decisions emerges that best expresses the system of goals of the decision maker or firm. Quality-based goals are not determined by spoken or written policies, nor by a single decision. Goals are demonstrated by ongoing decisions and demonstrations of quality-based management, such as committing resources to ongoing training, measuring and managing quality improvements, and responding well to customer needs. Few decisions can be isolated and/or judged without recognizing past, concurrent, and future decisions.

A firm must ask itself, *What is our purpose?* While this question will be addressed in greater depth in the next chapter, here let's say that all quality-based management begins with an exhaustive analysis of this question. The Ethics Spotlight illustrates the difficulty of making business decisions that are economically sound, globally competitive, and consistent with the firm's underlying values.

The notion of continuous improvement is new to American managers, and stands in stark contrast to the scientific management approach which assumed that there was one best way to do any job. Note that if indeed there was a single best way to do a job, there would be no reason for continuous improvement. This approach to constant organizational change is at the heart of TQM and enables nonmanagerial employees to participate in major decisions. Continuous improvement does not assume that processes can be optimized but rather assumes that they can be altered, refined, and modified toward the ever-receding goal of quality.

## ETHICS SPOTLIGHT

### GLOBAL JOBS AND AMERICAN ETHICS

In 1946 American coal workers ended a massive strike that resulted in the guarantee of a five-day workweek, \$100 in vacation pay, and contributions to an employee welfare fund. President Truman had threatened to draft rail workers into the military to force them to return to work. Under this threat, the rail workers settled their crippling strike and the coal workers soon followed. Much of what American workers considered to be a traditional measure of a fair day's pay, a typical workweek, or standard benefits are relatively recent and hard-won. What's fair for workers or the environment? The 1992 North American Free Trade Agreement struggled to set acceptable levels of wages and environmental standards that form "free trade."

As American firms move jobs into foreign markets, corporate decision makers face tough decisions about whose rules apply. Profit and cost goals must be reconciled with a basic commitment to human values. Levi Strauss & Company, the global marketer of blue jeans, audited the human resource practices of its 400 foreign contractors, partners that supply about half of Levi Strauss & Company's product line. About one quarter of the contractors had unsatisfactory employment practices including use of child labor. Low wages, long hours, and low or absent benefits also prevailed for some Levi Strauss & Company contractors.

Levi Strauss & Company insists on a maximum of 60 hours a week—a heavy load by American standards yet a not uncommon load in less developed countries. It canceled its arrangement with one contractor that forced workers to labor over 75 hours a week. Levi Strauss & Company requires contractors to pay the prevailing local wage—or higher—and to provide safe, healthy working conditions.

Levi Strauss & Company explains its practice as good marketing of a positive global brand identity, not pure altruism. Customers, Strauss believes, encourage and expect firms to be ethically and environmentally managed. Unless management recognizes that customer expectation about ethics and environmental responsibilities, they are likely to create a poor image in the marketplace.

The projection of a poor image, as the managers of the Food Lion chain have found out, will likely result in lost customers. Food Lion was investigated by ABC's Prime Time Live for repackaging and selling outdated food. The company vehemently denies this breach of ethical behavior, but its image has suffered.



Source David McCollough, *Truman* (New York: Simon & Schuster, 1992), p. 506; Brian Dumaine, "Exporting Jobs and Ethics," *Fortune*, October 5, 1992, p. 10.

## Management by Fact

According to Harvard business professor, David Garvin, winners of the Malcolm Baldrige National Quality Award must “demonstrate ‘fact-based management’—a reliance on hard data, not assumptions, when making decisions. . . . The company’s information base must be comprehensive, accessible, and well validated. [T]he data must be easy to use.”<sup>28</sup>

Like a product or a service, information can be of high or low quality. High-quality information can convey assuredness as to its accuracy; low-quality information is often of suspect accuracy. The quality of the information used to make the decision helps to determine its success or effectiveness. Lacking adequate or accurate information, decision making erodes into a process of rough estimates, guesses, or “seat of the pants” management. The decision maker must be able to seek out, collect, and process information effectively to reach a successful decision.

The University of Michigan launched a quality-management program called “M-Quality.” In its planning document, the university wrote that a central principle of the M-Quality approach is “managing by fact” and that managing by fact “requires all of us to make a distinct effort to gather and analyze relevant facts as a guide to decision making.”<sup>29</sup> Managing by fact is an endorsement of systematic decision making over intuitive decision making. Managers using a total quality approach are sensitive to variations in the systems for which they are responsible, but they recognize that hasty tinkering with the system can worsen a problem.

**Rationality** Quality-based decision making is systematic and rational. **Rationality** suggests a logical, structured, goal-oriented approach to decision making. **Bounded rationality** (a term coined by March and Simon) reflects their belief that there are limits to human rationality in terms of resources and human nature. In a sense, Deming has indicated concurrence with this belief by stating that no system can be optimized, but all can be improved.

While people are generally rational, they are imperfect in the sense that time, information, and emotion can interfere with the achievement of any goal. For most organizational decisions, the realistic goal is to achieve a satisfactory state of conditions (satisficing), not the optimum level (optimizing).<sup>30</sup>

In most cases the search for an optimum solution is too expensive to consider. Thus some limits must be accepted to the search, and some tolerance must be applied to the solution. More importantly, optimizing implies that there is a single, permanent best alternative—an ideal product—while reality and experience suggest that such a solution is not likely to be achieved and that quality is a continuous process of incremental improvements. Under the TQM approach, organizations strive, not for perfection, but rather for constant incremental improvement.

**Candor** A key aspect of quality-based management is giving workers critical information about the firm’s activities. A recent small business group survey reported that over 30 percent of responding small businesses shared sales information with workers. over 20 percent provided workers with information on direct and overhead costs, and 17 percent gave workers profit-and-loss data. A spokesperson for the sponsoring group noted an increase in the number of owners willing to share information.<sup>31</sup>

Another of Deming’s 14 points is “Break down barriers between departments.” Traditional organizations are segmented into departmental “silos” where people are often oblivious to who receives their department’s output. Within such a structure, each department could be doing a wonderful job according to its own standards, yet the organization could be in dire trouble. Why? No one would have concern for the organization as a whole.

As an example of poor teamwork, consider that salespeople often have the most direct contact with the customer. If there is a recurring problem with a product, sales-

### rationality

A logical, structured approach to decision making.

### bounded rationality

A decision approach that recognizes decision making’s boundaries or limits in terms of available resources.

people will often be the ones to whom customers complain. Now if salespeople don't have an opportunity to speak with design engineers about the problem, the product will continue to be manufactured the same way with the same problem built in. In such a scenario a cross-functional team consisting of engineers, salespeople, customers, and manufacturing personnel could identify the problem, develop alternative solutions, choose an alternative, and follow its implementation. In a quality-based organization, that is exactly what would occur.

**Source Bias** Managers must be careful about potential biases that could be part of any information they gather. Rationality in decision making can be bounded by source bias as well as by time and money constraints. Source bias occurs when information is biased by the person or source that presents the information. For example, a magazine may present information that reflects its editors' values.

**Activity-Based Costing** Many traditional firms have made decisions based on faulty information. One important development in quality-based decision making is *activity-based costing* (ABC), which provides decision makers with more accurate cost information. Traditional cost accounting systems link overhead costs to the final product. ABC is a process of linking production costs to the activities involved in the process of production rather than to the final product. Costs are accumulated for each activity; final product costs are built up from the sum of the costs of the preceding activities. With ABC, costs associated with making production changeover, ordering and storing inventory, inspecting subassemblies, and other activities are clearly identified rather than assigned to overhead costs. ABC helps firms reduce low value-added overhead and lets them cost and price products and activities more effectively.<sup>32</sup>

Without accurate information, effective decisions are unlikely. Traditional cost measures often produce irrelevant or misleading information, leading to behavior that undermines achieving the firm's goals. Activity-based measures better represent internal and external customer needs and are designed to be available on a more timely basis to the decision maker. Implementing ABC-determined changes in one General Electric plant led to major improvements in the next nine months: product lead time declined by 60 percent, defects in final tests were reduced by 50 percent, total payroll cost per unit fell 21 percent, and work-in-process inventory was cut 50 percent.<sup>33</sup>

## Teamwork

Teams have been a staple of the modern workplace for the past two decades. Organizational development (OD) became an influential movement in management thought and practice starting in the mid-1970s. One of its central contributions was the focus on team building.

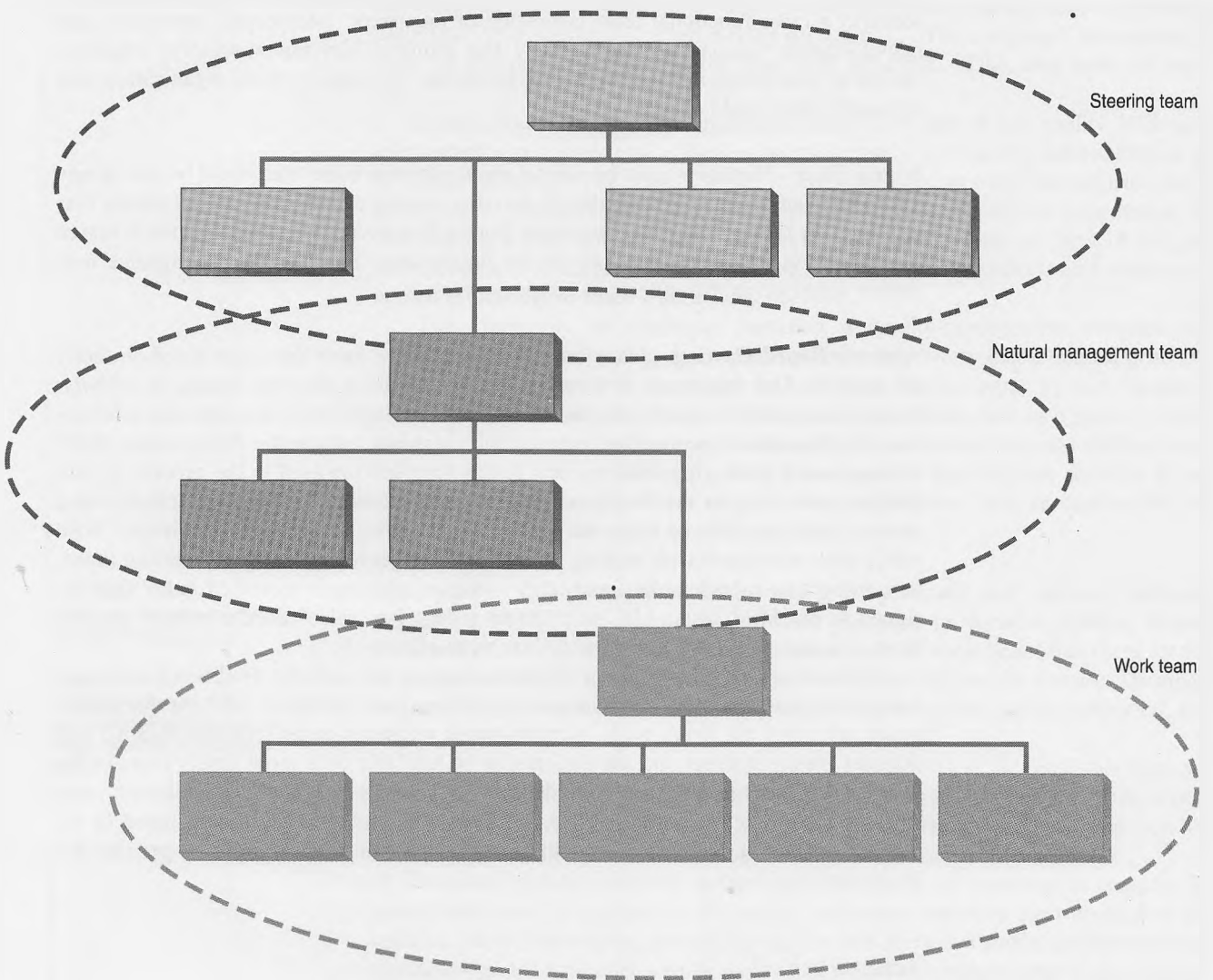
Perhaps it is fortunate that OD came along when it did, just prior to American management's discovery of the benefits of total quality management. OD paved the way for emphasizing the importance of teams and team problem solving that is a necessary part of quality management. Teams have been defined as "a group of individuals who are committed to achieving common objectives; who meet regularly to identify and solve problems; who work and interact openly and effectively together; and who produce desired economic and motivational results for the business."<sup>34</sup> Total quality management makes heavy use of teams in the continuous improvement process.

One useful model of a team structure in organizations identifies four different types of teams: steering teams, natural management teams, work teams, and process improvement teams.<sup>35</sup> The **steering team** in an organization consists of top managers. This team is responsible for identifying corporate goals, establishing the quality process and assessment techniques, and providing input into natural management teams about problem areas within the organization.

### Steering team

A team consisting of top management (the people who establish an organization's strategic goals and objectives).

FIGURE 5-8  
Quality-Based Decision-Making Team Structure



**natural management team**

A management team consisting of a manager and people directly reporting to her who are also managers or supervisors.

**work team**

A team of nonmanagerial employees and their manager or supervisor in a department or unit.

**process improvement team**

The “working team” of a continuous improvement process consisting of anyone from the organization who can contribute to a problem’s solution.

The **natural management team** consists of a manager and the lower managers or supervisors who directly report to her. This team learns of roughly identified problems from the steering team and attempts to clarify them

**Work teams** consist of nonmanagerial employees and a manager or supervisor in a department or unit. These are the so-called front-line employees who are closest to the organization’s operating systems and often also closest to its customers. Figure 5-8 shows how this three-part team structure fits within a typical organizational structure.

**Process improvement teams** are the key part of the continuous improvement process. These teams consist of anyone from any of the above-mentioned teams who may have knowledge about the problem. The process improvement team is chartered by the natural management team which has clarified a problem area that was initially identified by the steering team. Everyone on the team has equal status; no one is automatically appointed leader based on position within the firm. Many process improvement teams are cross-functional, drawing personnel from different (most likely interacting) departments.

Process improvement teams are given a problem to solve. Quality management also requires that the team be trained in the basics of teamwork, the decision-making process, and quality tools and techniques. The team must be given clear directions for conducting and concluding the process. Successful process improvement teams usually consist of six to eight people. One person is drafted as the leader, another as the facilitator, and a third as the meeting recorder. The leader is responsible for activities like setting the agenda, arranging meeting times, and getting a room. The facilitator is charged with ensuring that everyone has a chance to speak at the meetings, that no person is attacked for airing unpopular views, and so on. The recorder takes the minutes and reports after each meeting to the natural management and steering teams about the process improvement team's progress.

### Summary of the TQM Approach

Decision making is a common responsibility shared by all employees at all levels of the firm. Decisions made each day shape the vision and future of the firm. A focus on quality as the primary value of both the firm and its employees leads to decision making that is proactive, team-generated, fact-based, and focused on continuous improvement. Figure 5-9 compares additional characteristics of traditional and quality-based decision making.

Decision making is a process of making choices. In an expanding, global, more technologically complex, competitive economy, choice opportunities increase. For example, in 1980 the average American home had nine TV channels from which to choose; in 1990, 33 channels, and by 1995, 50 channels. The increase in customer choice underscores the growing competitiveness among the firms that supply TV programming. Pressure on firms will continue to increase as customers have increased alternatives. Decision making—by customers and businesses—will continue to drive the quality process.

Everyone in today's workplace benefits from an understanding of the types of decisions to be made, the approaches to making decisions, and the goals of the decision-making process. By understanding goals, developing essential information, and making timely decisions, managers support quality-based practices. With a strong underlying sense of ethics and social responsibility, careful attention to internal and external customers will lead to more effective decisions, better quality, and more competitiveness.

As this chapter has shown, managerial decision making has changed somewhat from the traditional approach. Total quality management places a large burden for significant decision making on the workers who are closest to the customers and to the organizational systems. Japanese managers have been using this approach with success for over 40 years, and American managers are now beginning to adjust to their new roles. It is

FIGURE 5-9  
Traditional versus Quality-Based  
Aspects of Decision Making

	Traditional	Quality-based
<b>Who decides</b>	Management	Team of management and workers
<b>Climate</b>	Management versus workers Quality by inspection Management knows best	We're all in this together Quality built in Value-added experts
<b>Mentality</b>	Divide a fixed pie	Make the pie bigger; share it
<b>Role of union</b>	To fight management Productivity leads to layoffs	To help the business Productivity leads to profit sharing
<b>Objectives</b>	Efficiency, profit	Quality, customer satisfaction, growth
<b>Information</b>	Management keeps secrets	Management shares information with workers, suppliers
<b>Execution</b>	Fast to formulate Slow to implement	Slow to formulate Fast to implement

not easy for American managers to relinquish their authority to subordinates. The professional managerial class in the United States has many years of higher education. This is often cited as the basis of managerial authority—more know-how.

But the team approach has proven effective for many companies that have been able to convince their managers to give it a chance. In such cases, managers have found that their authority comes less from their technical education than from their ability to serve as a coach or guide. American workers no longer leave their brains at the door as they did under scientific management. Under a total quality management approach, they need those brains more and more as they participate in teams that make significant decisions for their organization.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Compare programmed and nonprogrammed decisions.*

Decisions are programmed to the extent that they are repetitive and routine and a definite procedure has been developed for handling them. Decisions are nonprogrammed when they are novel and unstructured.

### *Contrast intuitive and systematic decision making.*

Intuitive decision making involves the use of estimates, guesses, or hunches to decide among alternative courses of action. Most managers will admit that many of their decisions are influenced to a great extent by their intuitions. Systematic decision making is an organized, exacting, data-driven process. Systematic decision making requires the development of a clear set of objectives; a relevant information base; a team-based, consensus-seeking sharing of ideas and creativity; and exacting implementation and assessment.

### *Identify and explain the nine steps in the decision-making process.*

(1) Establish goals and objectives. Decision making is always conducted in the context of goals and objectives. (2) Identify and define the problem. Problems are defined as the realization that a discrepancy exists between a desired state and current reality. (3) Establish priorities. Unless the resources an organization has at its disposal are unlimited, it must prioritize its problems. (4) Determine causes of the problem. It is ordinarily difficult and usually ill advised to determine a solution to a problem when the problem's cause is unknown. (5) Develop alternative solutions. Before a decision is reached, alternative solutions need to be created and developed, and their potential consequences must be explored. (6) Evaluate alternative solutions. Once alternatives have been developed, they must be evaluated and compared. (7) Select a solution. The purpose of selecting a particular solution is to solve a problem in order to achieve a predetermined end. (8) Implement the decision. Any decision is little more than an abstraction if it is not implemented. (9) Follow up. Effective management involves periodic measurements of results.

### *Explain the difference between individual and group decision making.*

Individual decision making is subject to behavioral factors involving a person's values, personality, propensity for risk, and potential for dissonance. These forces are heightened in a group decision-making environment. Groups usually take more time

than individuals to reach a decision. However bringing together specialists in a group situation has benefits in that the mutually reinforcing effects of their interaction can result in better decisions. Research has shown that consensus decisions with five or more participants are usually superior to individual decision making, majority vote, and leader decisions.

### *Define the terms cognitive dissonance and escalation of commitment.*

Cognitive dissonance is the lack of consistency among a person's cognitions after a decision is made. The escalation of commitment is when there is an increased commitment to a previous decision despite contrary information.

### *Describe brainstorming, the Delphi technique, and the nominal group technique.*

In the process of **brainstorming**, a group of individuals generates ideas according to a firm set of rules while at the same time avoiding the inhibitions that are usually caused by face-to-face groups. The **Delphi technique** involves soliciting and comparing anonymous judgments on the topic of interest through a set of sequential questionnaires that are interspersed with summarized information and feedback of opinions from earlier responses. The **nominal group technique** is a process of bringing people together but initially not allowing them to actually communicate verbally. At a later stage in the NGT process, structured discussion is encouraged and monitored.

### *Explain the team approach to decision making in a TQM environment.*

Through the use of steering teams, natural management teams, work teams, and process improvement teams, organizations can make decisions that result in continuous improvement of their operations. The steering team consists of top management (the people who establish the organization's strategic objectives). The natural management team consist of a manager and those managers or supervisors who report directly to her. Work teams consist of nonmanagerial employees and their manager or supervisor in a department or unit. Process improvement teams consist of anyone from the above-mentioned teams who may have knowledge about the problem. The process improvement team is the unit that sets out to make decisions that solve organizational problems within the context of organizationwide objectives.

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. Why is decision making sometimes called the essence of management?
2. Identify and connect the nine steps in making a decision.
3. Name the different types of decisions.
4. What are the three components of decision making in a TQM environment?

### Understanding

5. Decision making occurs at both the individual and group level in most organizations. Managers need to know the strengths and weaknesses of both approaches. Explain and provide examples of situations where managers should use individual or group decision making.
6. Why does decision making in a TQM environment focus on continuous improvement? Can't managers simply make one right decision that solves problems completely?
7. Decision making always ends with implementation and follow-up steps. Why are these so important to the process?

### Application

8. Say you are the manager of 50 people in a department of a major retail discounter. You have recently received word that the customer service center has been receiving complaints about the quality of the goods in your department. How would you decide what to do with this information?
9. Much of what we believe about decision making has a historical basis, not just an experimental or research basis. Identify an important decision facing a local politician or national business figure. Then develop a list of goals and information associated with the particular decision. What information is the politician or businessperson likely to have that you lack? How might that person's goals differ from yours? How can a decision maker effectively combine many different people's goals or information?
10. Describe an experience where you have decided to stop doing business with a company. What led to this decision?

## KEY TERMS

bounded rationality, p. 155	escalation of commitment, p. 149	rationality, p. 155
brainstorming, p. 151	intuitive decision making, p. 138	reactive decision, p. 138
certainty, p. 143	natural management team, p. 157	risk, p. 143
continuous improvement, p. 153	nominal group technique, p. 151	satisficing, p. 153
decision, p. 132	nonprogrammed decision, p. 135	steering team, p. 156
decision formulation, p. 141	proactive decision, p. 136	systematic decision making, p. 138
decision implementation, p. 141	problem, p. 141	uncertainty, p. 143
decision-making process, p. 132	process improvement team, p. 157	work team, p. 147
Delphi technique, p. 151	programmed decision, p. 135	

## CASE 5-1

### Federal Express

Who needs Federal Express? A recent Fed Ex ad says that it is for people subject to pressure, pressure such as:

*It's your job not to screw this up or to make any mistakes or drop the ball or blow the game. Get it there faster and quicker and more reliably and more efficiently. Do it right, first-rate, top-notch, without a hitch and absolutely flawlessly. Botch this one and you are out of here, history, finished, terminated, toast, lunch, gonzo, dead, kaput. And one more thing. Do it for LESS MONEY than you've done it before!*

In December 1990 Federal Express (Fed Ex) became the first service company to earn the coveted Malcolm Baldrige National Quality Award. Says Fed Ex President Frederick W. Smith, "The receipt of the award is simply our 'license to practice.'" Federal Express opened for business in April 1973 with eight planes and the general skepticism of business and academic experts. Founder and president Smith had first detailed his idea for overnight delivery service in a paper he had written as a Yale undergraduate. His paper only earned a C grade.

Federal Express became the first U.S. company to reach \$1 billion in annual revenues in 10 years (a mark later surpassed

Sources: Advertisement in *The Wall Street Journal*, September 18, 1992, p. A11; Frederick W. Smith, "Our Human Side of Quality," *Quality Progress*, October 1990, pp. 19-21. Also, *Blueprint for Service Quality: The Federal Express Approach* (New York: American Management Association, 1991); Marion Mills Steeples, *The Corporate Guide to the Malcolm Baldrige National Quality Award: Proven Strategies for Building Quality into Your Organization* (Milwaukee: ASQC Quality Press, 1992), pp. 287-92; Daniel Pearl, "Federal Express Pins Hopes on New Strategy in Europe," *The Wall Street Journal*, March 18, 1992, p. B2; Frederick W. Smith, "Empowering Employees," *Small Business Reports*, January 1991, pp. 15-18, 20; advertisement in *The Economist*, October 3, 1992, p. 85.

by Compaq computer among others). By 1990 Federal Express was earning \$7 billion annually in revenues, with almost 100,000 employees and almost half of the now-crowded air express market. When Desert Storm broke in 1990, one third of the cargo flights commandeered by the government came from Fed Ex's 420-plane fleet. That same year Fed Ex won the Baldrige Award. In 1991, despite serious global recession, Federal Express had revenues of \$7.69 billion. Earnings were well down, due in part to the global economy, but also due to continuing troubles with the European market in particular, where Federal Express found its U.S.-bound shipments to be less than half the volume bound for Europe from the United States. By early 1992 Fed Ex had restructured its European operations to actually employ competitors to deliver packages in some parts of Europe, yet Fed Ex insisted on maintaining its long-term commitments to the market and to standards for delivery and customer satisfaction. In a business logistics agreement with the Laura Ashley fashion group (a British company operating in 28 countries) it provided management systems and shipping service enabling Ashley to deliver anywhere in the world within 48 hours by late 1993. The agreement was worth £150 million—almost \$300 million.

Fed Ex's progress and success has been driven by its vision. The company's corporate philosophy is expressed in three words: *people, service, quality*. There are only five levels in the hierarchy between Smith's highly motivated workers and his office. This both aids and reflects Smith's need to communicate quickly, regularly, and effectively with all employees. With worldwide service, Fed Ex has its own in-house television network, FXTV.

Technology and structure allow Fed Ex to make full use of its committed work force. Employees—as internal customers—quickly learn the answer to basic questions: What do you expect from me? Where do I go with a problem? What's in it for me? Employees can question any policy and look forward to a written response in less than 10 days.

Says CEO Smith, "I am convinced that we don't motivate anybody to do anything." Rather, Fed Ex creates the environment that allows people to reach their full capacities. Employees' commitment is matched by Fed Ex's commitment to employees, including a no-layoff policy. When its successful ZAPmail service was discontinued, 1,300 affected employees were retained. Fed Ex also guarantees employees fair treatment with an appeals process that allows grievances to go before the chief operating officer if a complaint is appealed after two earlier reviews. This process is used to revise and, in some cases, discard policies. An open door policy assures employees that they'll receive a response from the appropriate manager whenever a question is raised.

With this commitment to people, Fed Ex empowers its employees to make big decisions on their own—anything from chartering a helicopter to repairing a storm-broken communications system, to paddling through flood waters to make sure that a delivery is made.

Fed Ex relies on its goals of 100 percent customer satisfaction, reinforced on a constant basis, to drive all of its decisions. Thorough measurement of quality and service failures promotes continuous improvement. The communication, training, and service goals give employees the power and ability to take risks and innovate on an ongoing basis. Employee satisfaction also results, which boosts service and profits.

Quality decisions are driven by careful measurement. Quality is defined by the customer, not by internal standards. Service failures (not just the percentage of service achievements) are carefully noted. Elements of customer service are weighted to reflect their importance and impact on customer service. Performance is tightly monitored and compared to goals of customer service and satisfaction. This in turn is tied to the service component of the company philosophy and the reward system, including complete and accurate feedback. Pay for performance is used to reward individual and team results; excellent ratings on customer service earn bonuses possibly every six months.

In 1988 Fed Express initiated its Service Quality Indicator (SQI), with 12 weighted items ranging in importance from the most critical (damaged or lost packages, missed pickups) to the less irritating (late deliveries and slow-to-answer phones). The 12 items reflect critical points in the value chain. SQI performance is tracked and plotted against surveys of customer satisfaction trends. In four years SQI failures declined while customer satisfaction increased.

According to chief operating officer James Barksdale, "If someone called Federal Express asking for the person in charge of quality, I would hope they could speak with anyone."

Fed Ex has a five-point strategy, all tied to its goal of quality of service:

1. Use the quality improvement process to reach service levels of 100 percent and to lower costs at the same time. Quality equals productivity ( $Q = P$ ).
2. Use information as a strategic weapon to achieve  $Q = P$  goals.
3. Recognize our need to be a global firm.
4. Get close to the customers.
5. Emphasize people first; invest in employees.

A Quality Academy was developed to provide quality training. Basic principles include the quality advantage, quality teams, management skills, and Statistical Quality Control (SQC). By 1990 four of five managers had received Quality Academy training.

Since 1984 Fed Ex customers have consistently rated their satisfaction with Fed Ex service at over 94 percent nationally and around the world. While 53 percent rated Fed Ex service as perfect, the closest competitor had a 39 percent perfect rating. Fed Ex's share of the U.S. market was 43 percent, with the next closest competitor having 26 percent. Fed Ex had created a new market and maintained its ongoing advantage thanks to scrupulous attention to customer service.

## Questions

1. Imagine you're a manager of a small start-up company specializing in overnight delivery of computer accessories. Using systematic decision making, develop a set of solutions to your problem of guaranteeing overnight delivery. One solution should be to use Federal Express; one should be not to use Federal Express.
2. What type of decision did Smith make when he decided to start Federal Express? Was it reactive or proactive?
3. Do you think Federal Express corporate culture is more likely to encourage programmed or nonprogrammed decision making? Why?



## ■ CASE 5-2

### Marks & Spencer

Michael Marks arrived in England in 1882 and began life as a peddler in Leeds. By 1884 he had opened a stall which did business Tuesdays and Saturdays. Above one section of his small table a sign read DON'T ASK THE PRICE, IT'S A PENNY—a simple, profound, effective message to the customer. From this vendor's stall, Marks & Spencer grew to provide 20 percent of the retail sales and service in the United Kingdom. Marks & Spencer has become a retail model of success. It's best known in Britain but has aspirations for a greater global role.

From 1981 to 1991 Marks & Spencer tripled its profits to nearly \$1 billion (£680 million) on sales of about \$10 billion (£5.6 billion), doing business in 30 countries. Marks & Spencer's success is built on a policy of paying attention to people. According to the *Economist*, "Marks & Spencer started being nice to its employees, customers, suppliers, and neighbors decades before it was fashionable to do so. In the 1890s Michael Marks, the firm's founder, put wooden platforms behind his market stalls to keep salesgirls' feet warm; these days the company pays for everything from in-house dentists to local community projects."

In a recent survey of 1,800 British business people, Marks & Spencer placed in the top three in six of the eight categories. It ranked number 1 in the ability to attract and retain the best employees. It also ranked number 1 in value as a long-term investment and in community responsibility, number 2 in quality of management and in quality of products and services, and number 3 in financial soundness.

Marks & Spencer, if it has any secrets, is very open with its secrets. Its fundamentals are simple: quality, value for the money, and human relations. To maintain quality, M&S closely monitors each stage in product development, distribution, and marketing. By maintaining long-term commitments with suppliers, M&S can use its wide product line to full advantage, reducing costs continuously while keeping bureaucracy low. Paralleling the firm's close relationship with suppliers, it offers employees above-average salaries and benefits coupled with training and development for all staff.

In business decisions, M&S follows six basic fundamentals:

- Offer selective, high-quality, well-designed, attractive products.
- Encourage suppliers to use the most efficient and modern production techniques.

- Work with suppliers to maintain the highest standards of quality control.
- Provide friendly, helpful service along with shopper comfort and convenience.
- Simplify operating procedures to improve the business's efficiency.
- Cultivate excellent human relations with customers, suppliers, staff, and the community where we do business.

Marks & Spencer long ago asked, "What does the customer really want?" Its decision to focus on the customer led it to define its business as supplying targeted customers with a range of affordable, good-quality products. M&S has always viewed itself as the interpreter to industry of a burgeoning consumer market. M&S quickly moved to using its "St. Michael" brand to simplify its product line, build a brand image, and make advertising unnecessary.

Deciding to work with suppliers has been a strength in the long term. Making sure that suppliers make a profit—rather than Marks & Spencer squeezing them mercilessly—builds quality. M&S also then has no need—and no desire—to produce. M&S stays in the area it knows best: retailing. The firm's decision to forgo vertical integration benefits both suppliers and customers.

The real challenge for Marks & Spencer will stem from the unification of Europe and the further globalization of the retailing business. It's widely known on its home turf, but few Americans have even heard of M&S. And, if Europe becomes more like the United States, is M&S destined, like Sears, Roebuck in the United States, to be threatened by a brash European upstart equivalent to Wal-Mart? While Sears and M&S have roots in the 1800s, Wal-Mart took only 30 years to muscle its way past Sears as the dominant U.S. retailer. Marks & Spencer will have to decide how to respond to such challenges.

### Questions

1. Using an intuitive approach, what do you think are the chances that Marks & Spencer can successfully compete in the global economy?
2. Determine what causes Marks & Spencer should consider in deciding how to resolve its current problem: to go global or not to go global.
3. How does a company the size of Marks & Spencer keep itself moving on the path of continuous improvement?

Source: K. K. Tse, *Marks & Spencer: Anatomy of Britain's Most Efficiently Managed Company* (Oxford, England: Pergamon, 1985). Also, "Britain's Most Admired Companies," *The Economist*, January 26, 1991, pp. 66-67.

## ■ APPLICATION EXERCISE

### What Car Buyers Look for in a Car

A study asked potential car buyers what characteristics are very important in their purchase decisions. The eight characteristics are:

1. Price: dollar amount of purchase.

2. Features: options (e.g., tape player, power controls, sports package).
3. Styling: exterior design and look.
4. Foreign origin: model bears a non-U.S. nameplate (e.g., Honda).
5. U.S. origin: model bears U.S. (Big Three) nameplate.

6. Reliability: record of absence of need for repair; low maintenance.
7. Safety: crash, repair, and survival record of the make.
8. Feel: interior features of the car (e.g., seating, controls).

First, rank each of the eight features in terms of their importance to you. Second, rank the items in terms of how you believe the typical American car purchaser would rate them. That is, which item would receive the most votes of "very important"? Which would be second, third, and so on.

Then compare your rankings with other class members' rankings. Next listen to the survey rankings provided by your teacher. Now divide the class up into groups of six to eight people. Use different techniques described in the chapter to try to reach group consensus on the most important features. Notice how your own decisions are influenced by decisions of others in the group. What values influence yours and others' decisions?

How do the different personalities in the group affect the ability to reach consensus?

	Your Ranking	Your Estimated Typical Ranking	Survey Ranking
1. Price	_____	_____	<u>3</u>
2. Features	_____	_____	<u>7</u>
3. Styling	_____	_____	<u>6</u>
4. Foreign origin	_____	_____	<u>8</u>
5. U.S. origin	_____	_____	<u>5</u>
6. Reliability	_____	_____	<u>1</u>
7. Safety	_____	_____	<u>2</u>
8. Feel	_____	_____	<u>4</u>

Source: "Detroit May be Missing the Mark That Matters Most," Survey of 1,250 adults conducted July 13-18, 1990 for *Business Week* by Louis Harris & Associates, Inc. Results should be accurate to within three percentage points. *Business Week*, October 22, 1990, p. 91.

## CHAPTER

# 6

## PLANNING

*After studying this chapter, you should be able to:*

Define *planning* and discuss the characteristics of effective planning.

Describe four factors that underscore the need for planning.

Discuss the benefits organizations gain by planning.

Describe the steps in the planning process.

Explain the following quality-based planning methods: (1) plan, do, check, act (PDCA), (2) zero defects, (3) time-based planning, and (4) planning for continuous improvement.

Describe quantitative measures for different types of business objectives.

Compare quality-based planning with other approaches.

## BOEING PLANS FOR A BETTER FUTURE

In early 1990 as Boeing Company reached the peak of the biggest business boom in its history, then-CEO Frank Schrontz detected trouble on the horizon. He warned company managers that, despite record sales, Boeing's production methods were falling behind world competition. Schrontz knew that in the years to come competition for commercial aircraft sales would be based largely on price as quality became about even among the major players. ■ This came as a shock to Boeing managers, who were straining to maintain high production to meet insistent demand. Said one, "We saw right away what he meant. If we failed to cut costs, we risked a fall in profits, then a decline in our ability to develop new products. It would be the beginning of a death spiral." To protect the firm's long-term interests, Schrontz and his key lieutenants decided that the company needed to cut the cost of building a plane by 25 to 30 percent. ■ True to Schrontz's prediction, in 1992 Boeing's commercial revenues began to decline. Some analysts have predicted that by 1995 Boeing's commercial aircraft sales could drop 26 percent from the 1992 peak. Europe's Airbus Industrie (the world's number 2 plane maker) is a chief competitor. But Boeing also faces competition from its own planes—many airlines are purchasing used airplanes that are cheaper to own and operate than the new models. ■ Boeing has responded to these challenges by



The Boeing Company

launching a fast-moving commitment to reinvent the way it does business. In January 1993 the company announced plans to cut production by 35 percent and reduce its work force by 28,000. In addition, the company has reexamined the way it produces airplanes. Every aspect of planning, designing, and building planes has been changed. For example, Boeing now provides office space in its building for key customers so they can work side-by-side with Boeing in producing the highest-quality product that meets customer expectations. This change represents a remarkable transformation for the company whose management style—born in the era of World War II military production—had been hierarchical, rigid, and secretive. ■ As an example of how the new customer-

centered planning has altered the way aircraft are produced, consider the story of the movable lavatories. Allan Mullally, the Boeing executive in charge of the 777 program, loves to tell about the customers who wanted a plane in which the galleys and lavatories, pipes and all, could be relocated almost anywhere in the plane's cabin within hours. When customers first expressed the wish for such flexibility, Mullally responded, "You want to do *what?*?" But in May 1995, when the first 777 rolls off the line, its owners will be able to rearrange a plane within hours configuring it with one, two, or three classes to fit the market at the time. ■ All in all, Boeing has set an ambitious and sometimes uncertain course for the future in response to a more highly competitive global airplane market. By planning its course of action, the company stands a better chance of stabilizing its decline and beginning to grow again in the near future. Here is an overview of how the company intends proactively to confront the changed environment:

- Slash costs by 25 to 30 percent by the year 2000.
- Speed up manufacturing time for the 737 from 13 months to 6 months.
- Cut inventory, moving toward a just-in-time delivery system.
- Train the entire work force in "competitiveness;" 15,000 managers have already completed the four-day course.
- Bring customers and suppliers into the once-secret process of designing new planes.

How does an organization or a manager prepare for the future? Understanding and applying the basic principles of planning can help. This means continually looking ahead for opportunities and threats, and calculating the next move. Planning forces a firm to ask: What decisions need to be made today for us to be ready for tomorrow and the years beyond? In a total quality management environment, planning focuses on exceeding customer expectations, meeting competitive challenges, and committing to long-term organizational performance.

All organizations operate in uncertain environments, although some are less predictable than others. For an organization to succeed, management somehow must cope with, and adapt to, change and uncertainty.<sup>1</sup> Planning is management's only tool to help it adapt to change. If an organization does no planning, its position and fate a few years hence will mostly be the result of luck and any momentum built up previously. On its own, the organization would follow some kind of course during the next few years. But if management wishes to have any control over that course, it must plan. Otherwise it will have to rely on defensive reactions rather than planned actions. Management will be forced to respond to current pressures rather than act to achieve the organization's long-run goals.

In one way or another, every manager plans. But the approach to planning, the manner of arriving at plans, and those plans' completeness can differ greatly from organization to organization. Formal planning distinguishes effective managers from ineffective ones.

If you wish to effectively manage the performance of individuals and organizations, you must understand the concept of, and the necessity for, planning. Planning is the part of the management process that attempts to define the organization's future.<sup>2</sup>

This chapter examines planning and its uses for modern organizations. There are different types of planning activity and different ways of putting plans together. You will gain an understanding of operational, tactical, and strategic plans, and then learn a six-step planning process. The chapter concludes with an overview of several planning methods, including those used in a quality-based organization.

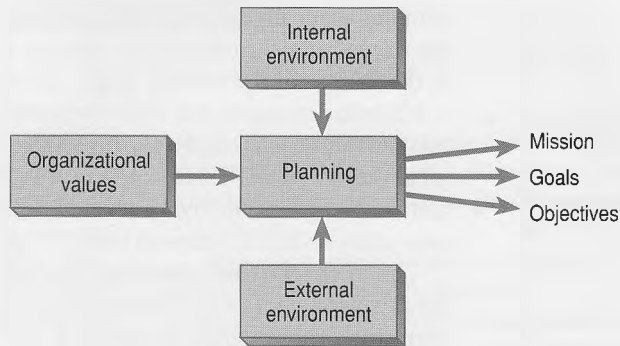
## ■ WHAT IS PLANNING?

As technology expands, global markets become invaded by new players and the speed of new product development increases. Clearly, planning can help a firm be more competitive in such a volatile environment. Planning enables a firm to respond quickly to changing business demands, market conditions, and customer expectations. To be effective, planning must be flexible and responsive and should include input from persons throughout all levels of an organization. It shouldn't be totally controlled by a few planners at the top of the hierarchy.

Chapter 5 introduced you to the central management function of decision making. Decision making can only be conducted within the context of company values, a mission statement, and goals and objectives. As noted in Chapter 1, *planning* is the process by which managers examine their internal and external environments, ask fundamental questions about their organization's purpose, and establish a mission, goals, and objectives (Figure 6-1). Planning includes all the activities that lead to the definition of objectives and to the determination of appropriate courses of action to achieve those objectives.

Quality pioneer Armand Feigenbaum emphasized objectives and the actions necessary to achieve them when he defined planning as "thinking out in advance the sequence of actions to accomplish a proposed course of action in doing work to accomplish certain objectives."<sup>3</sup> Peter Drucker emphasized the importance of values, mission, and goals when he wrote that all managers act on what he calls a "business theory." He wrote, "Every business, in fact every organization, operates on such a theory—that is, on a set of assumptions regarding the outside (customers, markets, distributive channels, com-

FIGURE 6-1  
 Planning Results in  
 Organizational Mission, Goals,  
 and Objectives



petition) and a set of assumptions regarding the inside (core competences, technology, products, processes).” According to Drucker, it is on such a business theory that executives “base their decisions, their actions, and their behavior.”<sup>4</sup>

Planning, at its best, means that decisions made today will produce useful results at a later date—results that follow from the organization’s mission and goals. The planning process is dynamic, involving many variables that must be considered and linked in putting together the plan. The outcome of this process is a written plan that should be widely distributed in the organization and used to guide behavior, make decisions, and judge the quality of outcomes.

### Planning Is Systematic

Planning, like decision making, is most effective when it is systematic. Consider a firm that brings together employees from several departments to form a committee charged with updating the firm’s personal computers. As part of the planning process, the committee considers costs and budgets, technical specifications, and the type and amount of hardware and software purchases and support. This part of the planning process leads to the development of a plan for a timely and cost-effective acquisition of personal computers. Final budgets, financing arrangements, delivery timetables, and operating policies are set. This systematic approach to planning is likely to result in effective action.

Now consider a plan based on hunches rather than facts. The business of garbage collection and disposal is surprisingly competitive. Major firms within the industry had long taken for granted that annual customer turnover of over 14 percent should be expected. To deal with the problem, these major players simply gobbled up smaller competitors to maintain market share. Planning was based on the hunch that customer turnover was unavoidable.

Houston-based Browning-Ferris Industries (BFI) rejected that hunch, took its trash collection business seriously, and organized a multimillion dollar market research effort to find out why people became unhappy with their garbage man. The initial stages of the research cut to about 12 percent the annual rate of customer loss. Company CEO William Ruckelshaus says, “We want to be a company that is almost totally dedicated to satisfying the customers. That’s not the way the company is used to thinking about the business. We were for years in a seller’s market.” Thus BFI has overturned the hunches that guide its competitors’ planning; it now uses a more systematic approach to gain an advantage.<sup>5</sup>

### Who Has Responsibility for Planning?

Around the political world large centralized states have succumbed to global pressures. No longer able to produce quality goods and services for its people, the Soviet Union broke apart at the end of 1991. The large, centralized bureaucracy that planned the production and distribution of goods and services in the former Soviet Union was not efficient enough to match world levels. And people of the former Soviet Union, with their

access to information about the outside world, knew that countries with less centralized planning were able to offer more and better-quality goods and services. In a sense it was the decentralized control of the world's newest primary resource—information—that led to the demise of the world's largest centralized bureaucracy—the former Soviet Union.

Similar struggles are occurring in the business world. In fact, some management thinkers argue that applying the lessons of political planning to management makes a great deal of sense. Charles Handy used the term **federalism** to describe organizations that encourage autonomy for planning among strategic business units (SBUs). This autonomy allows SBUs to respond better to specific market pressures.<sup>6</sup>

With **centralized planning**, responsibility for planning lies with the highest level of the organization. For the Soviets, this meant the central government. With **decentralized planning**, responsibility for planning lies with workers and lower levels of the organization. Figure 6-2 presents models of both centralized and decentralized planning. As it shows, with centralized planning mission, strategy, goals, and objectives are all established at headquarters, and the SBUs merely carry out the operational details. On the other hand, with decentralized planning (a federalist structure) SBUs are allowed to set their own goals and objectives within the strategic mission of the organization.

More large organizations are moving toward Handy's federalism or decentralized planning. Percy Barnevik, CEO of Asea Brown Boveri (ABB), has described his sprawling enterprise of 1,100 separate companies and 210,000 employees as a federation. John Akers, former IBM CEO, has called IBM's restructuring a move toward federalism.<sup>7</sup> Swiss chemical company Ciba-Geigy has moved from a management pyramid with a matrix designed around businesses to an organization with 14 separate businesses controlling 94 percent of the company's spending.<sup>8</sup> Each of these moves is away from centralized and toward decentralized planning.

In quality-based organizations, workers are called upon regularly to participate in the planning process and to implement the plan. Quality-based planning emphasizes worker involvement in determining objectives, the use of resources, and implementation. But sometimes quality-based planning can lead managers into some tough decisions, as the Ethics Spotlight shows.

**federalism**

An organizational structure that encourages autonomy for planning among strategic business units.

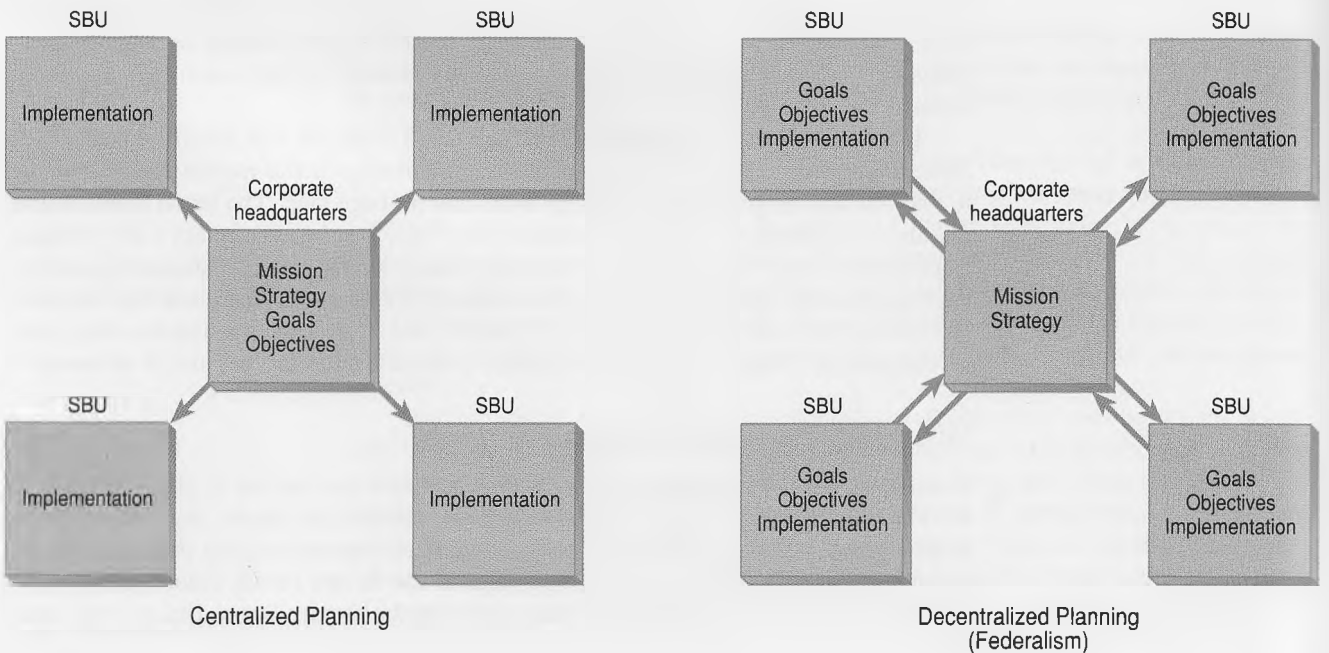
**centralized planning**

System in which responsibility for planning lies with the organization's highest level.

**decentralized planning**

System in which responsibility for planning lies with workers and lower levels of the organization.

FIGURE 6-2  
Centralized versus Decentralized Planning



## ETHICS SPOTLIGHT

## REENGINEERING INCREASES PRODUCTIVITY AND DECREASES JOBS

One popular term used to describe organizations' transformation to a total quality culture is *reengineering*. The term was coined by management consultant Michael Hammer to refer to wholesale changes in an organization based on the quest for increased productivity and competitiveness. Virtually all economists agree that reengineering ultimately should bring about faster economic growth, greater international competitiveness, higher real wages on average for the work force, and improved living standards.

Reengineering embraces such techniques as work teams (training employees in multiple skills so they can do more than one job) and empowerment (pushing decision-making authority as far down in an organization as possible). It also entails reorganizing assembly lines and offices to simplify and speed the flow of work. In one sense, it is the application of just-in-time inventory controls to all phases of a company's operations. In another way of looking at it, reengineering is a technique for finally getting the elusive productivity improvements that companies had hoped to reap from the hundreds of billions of dollars they invested in data processing equipment over the past few decades.

That's the good side to reengineering. The bad side is that it often results in the dislocation of people whose current jobs will disappear. William Baumol, a Princeton University economist said, "Absorbing displaced workers could be a very great problem in the short term—and a real tragedy for many families." With millions being laid off as corporate downsizing and rightsizing continues, nearly everyone (blue-collar and white-collar alike) may feel threatened. Some economists are now beginning to lament that the new management techniques, like reengineering, are "productivity-led," meaning that rising productivity has enabled corporations to raise output without hiring many new workers. Some experts predict that reengineering could knock out between 1 million and 2.5 million jobs each year for the foreseeable future.

Hammer describes this job loss as a matter of companies realizing they had a lot of people in jobs that they don't really need.

"Most companies have a lot of people whose functions don't add any value to the product or service. They are the corporate glue that holds the real work together. When you design the real work better, you need a lot less glue." But what happens to the old "glue"?

Some companies have acted to minimize the impact of job loss on people displaced by reengineering. Capital Holding, for example, offered most of its displaced workers jobs at other divisions that were adding employees. Workers at the Hills Pet Foods division of Colgate-Palmolive have had similar good fortune. When the company reengineered, it found that it could increase productivity—measured in pounds of pet food per person—by up to 50 percent in just four years. But rising volume along with normal attrition enabled the company to retain everyone who wanted to stay.

In most cases, however, reengineering brings layoffs. Research has shown that the average downsizing company reduces its work force by 9.3 percent. And even those that do not reduce their work force, like Hills Pet Foods, do not create new jobs. According to Harvard economist Richard Freeman, the group facing the greatest hardship in this productivity-led process is middle-aged men without college degrees who had union jobs and were earning more than competitive wages.

What happens to these people? Some economists believe they will all find new jobs, but many will have to work for drastically reduced wages. Princeton University professor Orley Ashenfelter says, "Just let the market take care of it." He is critical of those who lament the lack of "good jobs" for the displaced. "I think what that means," he says, "is a job that pays more than you are worth."

Not many managers could help but feel ethical tension over displacing so many workers in the name of productivity. This tension is eased in companies that provide outplacement services or find new jobs within the company for displaced workers.

Source: Adapted from Al Ehrbar, "'Reengineering' Gives Firms New Efficiency, Workers Pink Slip," *The Wall Street Journal*, March 16, 1993, pp. A1, A11; and "The Promise of Reengineering," *Fortune*, May 3, 1993, pp. 94–97.

Planning is central to competitiveness and quality for firms of all sizes and types in the global economy. The ability to allocate resources according to a plan ensures that firms are able to meet the new competitive challenges. The next section examines more closely some primary reasons planning is necessary.

## ■ WHY PLANNING IS NECESSARY

Planning forces a firm to link its decision-making process to its superordinate values and mission, and to establish goals and objectives. Planning puts purpose into action. Without planning, firms can only react to changes in the environment, technology, and customer demands. With careful planning, a firm can both anticipate and influence upcoming events.



In 1987 when Dexter F. Baker was named president of Air Products & Chemicals, his vice president in charge of planning recommended that he take a good look at the future. “Sit down,” the vice president proposed, “and imagine you are writing the company’s 1996 annual report.” Baker did, and found the experience to be productive. “It worked out just as we planned,” says Baker, who set higher goals for profits, developed a strategy for his new goals, and decentralized production to locate facilities at customers’ factories. In the next five years, Baker increased return on equity from 9 percent to over 14 percent as sales rose from \$1.9 billion to \$2.9 billion.<sup>9</sup>

Four characteristics of the modern organization underscore the need for planning: (1) the increasing time span between present decisions and future results, (2) increased organizational complexity, (3) increased global competition, and (4) the impact of planning on other management functions.<sup>10</sup> Planning is one effective way that managers can address each of these characteristics, as we will describe next.

### Time Span between Present Decisions and Future Results

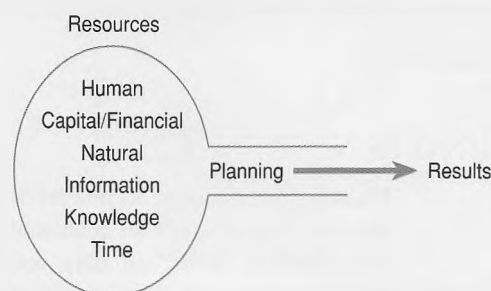
Boeing spent 10 years developing the supersonic jet. Campbell Soup Company spent 20 years developing its dry soups. Hills Brothers worked 22 years to develop instant coffee. Clearly, a great deal of time often passes between the decision to develop a particular product and actually bringing it to market. Careful planning can help a firm control resource expenditures and remain focused on its goals during the intervening time period (Figure 6-3).

Planning also reduces uncertainty by helping managers anticipate the changes likely to develop during the long period between a decision to pursue a particular objective and results. Without a plan and a commitment to long-term goals, firms may tend to overreact to short-term conditions and tamper unnecessarily with their system. For example, introducing a new product is not likely to result in immediate sales. Customer interest, acceptance, and purchases may take time to develop. If management expects that 20 percent of the projected sales will be made in the first 20 percent of the sales period, it may be disappointed when sales fall short. Without a long-term commitment to the sales plan, management may panic, adjust advertising, cut product support, and otherwise tamper with the original plan.

### Increased Organizational Complexity

As firms and economies become larger and more complex, so does the manager’s job. Few decisions made in a firm—research and development, production, finance, marketing—can be made independently of other areas. More products and more services add to the complexity of managing the business. The more markets a firm competes in, the more products it offers, and the more competitors in the markets, then the greater is the internal complexity. Formerly the Big Three auto firms—GM, Ford, and Chrysler—competed among themselves only. Now they compete among at least 30 major auto firms worldwide. American consumers choose from over 300 car models. Personal computers

FIGURE 6-3  
Planning Turns Resources  
into Results



were not even available to most consumers in 1975, but today the models are too numerous and change too quickly for analysts or customers to count. Research and development, product cycle time, and variety of products and services all are affected by competition. And, as global competition heats up, each of these business functions becomes more important and more complex. Planning and disciplining an organization's actions and resources to remain focused on goals and objectives helps firms deal with this complexity.

## Increased Global Competition

New customers, new markets, and new parts of the world pose both opportunities and competitive threats to a firm. Planning is vital to survival in this expanded marketplace. In the last 10 years, Eastern Europe and the former Soviet Union have entered the global economy in a more meaningful way as restrictions have been lifted on trade and transportation. Smaller countries in Southeast Asia—Hong Kong, South Korea, Singapore, and Taiwan (the so-called “little tigers”)—have attempted to emulate Japan's manufacturing success. China, India, Vietnam, Latin America, and Africa pose similar market opportunities and competitive threats in the future.

A more diverse consumer population has created new market opportunities. Firms have been able to expand their opportunities through the Hispanic, Oriental, African-American, single-parent, and single-person markets. This diverse population has also created a challenge to traditional hiring and managing practices. Firms have had to reexamine and adjust their hiring, managing, and benefit plans.

As global competition increases, time horizons for action decrease. Intel CEO Andrew Grove remarked that in the global marketplace, “The customer isn't locked in anymore. And when companies lose their proprietary advantages, speed seems to be what matters most.”<sup>11</sup> In the vanishing era of primarily domestic competition, a firm could count on a more stable environment and thus make long-term plans with greater confidence. Under these conditions, planning was often a process of extrapolating pertinent trends (e.g., sales, profits, market share growth) into the future. If demand for a product



© Mary Beth Camp/Matrix

Asia has grown significantly as a market for imported consumer products.

was 1 million units the first year and 2 million the second, then using strict extrapolation, the firm could plan on a demand for 5 million units in the fifth year. That leisure no longer exists. Companies today have to plan to change.

### Impact on Other Management Functions

Plans direct most other key organizational activities—organizing, managing, selling, training, promoting—so plans must be in place prior to a company's embarking on these activities. Unplanned activities can cause a firm to tamper with the system, to move in multiple, contradictory directions, and to give workers an unclear vision. Plans must cover this wide domain of subsequent organizational activities or else the firm will likely find itself adrift.

As we've seen, internal and external forces have made planning necessary for the modern organization's survival. The next section explains some specific benefits to planning.

## ■ BENEFITS OF PLANNING

The fact that most managers plan in some form shows planning's importance in management. Specific benefits of planning include (1) coordination of effort, (2) preparation for change, (3) development of performance standards, and (4) development of managers (Table 6-1).

### Coordination of Effort

Management exists because the work of individuals and groups in organizations must be coordinated, and planning is one important technique for coordinating effort. An effective plan specifies goals and objectives both for the total organization and for each of its parts. By working toward planned objectives, each part contributes to and is compatible with the entire organization's goals.

### Preparation for Change

An effective plan of action allows room for change. The longer the time between completion of a plan and accomplishment of an objective, the greater the necessity to include contingency plans. Yet if management considers the change's potential effect, it can be better prepared to deal with it. History provides vivid examples of what can result from failure to prepare for change. The collapse of many banks, savings and loans, and airlines in the past few years is due in large part to those industries' managements' lack of preparedness.

TABLE 6-1

Benefits of Planning

Benefit	Example
Coordinating efforts	Our firm gains competitive advantage based on a least-cost approach: thus our efforts are aimed at increasing productivity.
Preparing for change	We anticipate another oil embargo. Thus we're planning to produce smaller, gas-efficient cars.
Developing performance standards	We plan to develop cars that get 40 to 50 miles per gallon on the highway.
Developing managers	These performance standards will be difficult to achieve. Let's make sure our managers are adequately trained to reach them.

## Development of Performance Standards

Plans define expected behaviors. In management terms, expected behaviors are **performance standards**. As plans are implemented throughout an organization, the objectives and courses of action assigned to each individual and group are the bases for standards, which can be used to assess actual performance. In some instances the objectives provide the standards. Managers' performance can be assessed in terms of how close their units come to accomplishing their objectives. In other instances the actions performed are judged by standards. A production worker can be held accountable for doing a job in the prescribed manner. Through planning, management derives a basis for developing performance standards based on organizational goals and objectives. Without planning, performance standards are difficult to define, and those standards developed may be contrary to the organization's values and mission.

## Development of Managers

Planning involves managers and workers in high levels of intellectual activity. Those who plan must be able to deal with abstract and uncertain ideas and information. Nonetheless planners must be able to think systematically about the present and future.

Planning also involves managers in concrete action. Through planning, the organization's future can be improved if its managers take an active role in moving the organization toward that future. Thus planning implies that managers should be proactive and make things happen, rather than be reactive and let things happen.

Through planning, not only do managers develop their ability to think futuristically, but also, to the extent that their plans lead to effective actions, their motivation to plan is reinforced. The act of planning sharpens managers' ability to think as they consider abstract ideas and possibilities for the future, and it reinforces the planning cycle as objectives are met through systematic actions. Thus both the result and the act of planning benefit the organization and its managers.

## ■ TYPES OF PLANNING

**Scope**  
The range of activities covered by a plan.

**Time frame**  
The period considered by a plan.

**Level of detail**  
The specificity of a plan.

While all effective planning focuses on the customer and issues of quality and competitiveness, planning activities differ in scope, time frame, and level of detail. **Scope** refers to the range of activities covered by the plan. **Time frame** is the period considered by the plan, ranging from immediate/short-term to distant/long-term. **Level of detail** concerns the specificity of the plan. All plans must be specific enough to direct actual decisions, but multiple contingencies and uncertain futures require some plans to be more general than, for example, a mattress factory's production schedule for the coming month.

## Strategic, Operational, and Tactical Planning

*Strategic planning* (detailed in Chapter 7) is comprehensive, long-term, and relatively general. Strategic plans focus on the broad, enduring issues for ensuring the firm's effectiveness and survival over many years. A strategic plan typically states the organization's mission and may describe a set of goals to move a company into the future. For example, it may establish a mission of world dominance in a particular product area, and set a goal to penetrate new markets based on targeted consumer research and development work.

**Operational planning** is focused, short-term, and specific. Operational planning translates the broad concepts of the strategic plan into clear numbers, specific steps, and measurable objectives for the short term. Operational planning requires efficient, cost-effective application of resources to solving problems and meeting objectives.

**Operational planning**  
Focused, short-term, specific planning. Translates the broad concepts of the strategic plan into clear numbers, specific steps, and measurable goals for the short term.

**tactical planning**

On the continuum between the strategic and operational planning processes, a more narrow, intermediate-term, and specific form of planning than strategic planning.

**single-use plans**

Plans that have a clear time frame for their utility.

**standing plans**

Plans that have ongoing meaning and application to an organization.

**Tactical planning** falls on the continuum between the strategic and operational planning processes. It is more narrow, intermediate-term, and specific than strategic planning. Tactics deal more with issues of efficiency than with long-term effectiveness.

As you see, the type of planning process followed is determined by the type of goals and/or objectives to be achieved by the plan. Broad, long-term goals require strategic planning; short-term, precise objectives demand operational planning.

### Single-Use versus Standing Plans

**Single-use plans** have a clear time frame for their utility. For example, a task force may be established to plan the development of a new product. This single-use plan will include detailed goals and objectives, but will become obsolete when the product has been developed. Then the organization will have no need to further consult this plan.

A **standing plan**, in contrast to a single-use plan, has ongoing meaning and applications for an organization. A good example is the U.S. Constitution. This standing plan for the organization of American government and jurisprudence has provided guidance for over 200 years. Burt Nanus wrote, “The Constitution is a written description of the founding fathers’ vision for the United States, setting a clear direction and defining values but not specifying how to get there.”<sup>12</sup> Although many single-use plans (such as the Clinton administration’s economic plan) have been developed within the parameters of the Constitution, the Constitution constantly controls the powers and discretion of government.

## ■ STEPS IN THE PLANNING PROCESS<sup>13</sup>

**planning process**

A six-step process: (1) Assess current status. (2) Determine objectives. (3) Identify the actions required. (4) Allocate resources. (5) Assign responsibilities for implementation. (6) Control the planning decision.

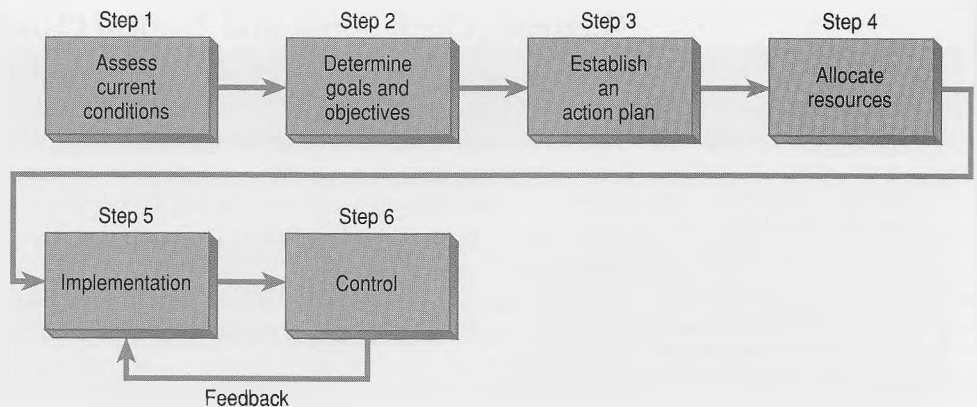
The **planning process** (Figure 6–4) is very much like the decision-making process studied in Chapter 5. It consists of six steps: (1) assess current conditions, (2) determine goals and objectives, (3) establish an action plan, (4) allocate resources, (5) implement, and (6) control. This six-step process does not distinguish among the different types of plans we’ve just discussed. Instead it is generally applicable to all types of plans, differing only in the issues considered as well as in specificity, scope, and time frame. Throughout the discussion of these planning steps, we’ll describe TQM tools and techniques. Later we will examine other quality planning approaches.

### Step 1: Assess Current Conditions

Before goals and objectives can be established, the current state of the firm must be assessed. In strategic planning, for example, this includes the firm’s resources as well as market trends, economic indicators, and competitive factors. Strategic planning takes a

FIGURE 6–4

Steps in the Planning Process



broad view of the organization's internal and external environments. Strategic plans typically state the organization's mission and establish a set of long-term goals that the organization should pursue to take advantage of opportunities and avoid specific threats.

In operational planning, a manager's assessment of current conditions focuses less on trends and more on hard information about cash flow, market share, employee turnover ratios, and so on. In contrast to strategic planning, operational planning focuses on more specific goals and objectives.

Effective quality-based operational planning is participative; that is, managers seek out information from a broad base of organizational constituencies to form a picture of

## REFLECTIONS BY PHILIP B. CROSBY

### PLANNING

Those who would plan for something to happen inside organizations sometimes become so involved in the process and mechanics of creating a plan that they forget the obvious, and the results they obtain are not what they had hoped for. The obvious is that no plan works unless those who have to execute it understand their personal roles, and have had an opportunity to contribute some information to the creation of the plan. Simply, if plan requirements are not understood in detail, they can never be accomplished properly.

Elaborate computer-driven planning and control systems, such as PERT, have been created over the years in an attempt to make plans more comprehensive. Many companies now have planning departments that plaster the walls with diagrams and issue hourly status reports. But these approaches are often much like taking a physical several times a day rather than learning how to prevent illness. Prevention consists of taking actions that head off difficulty, rather than learning how to identify and treat it.

Recently I was involved in a video project for which we were planning to create a dozen sessions, each complementary to the others. We planned to market them through national advertising and allow people to call an "800" number and order the product by paying with a credit card. We resolved that we were going to use the project as an example of how to plan something so that each and every action was completed according to requirements the first time. There would be no wasted effort or money.

Rather than lay everything out on some process plan with a lot of arrows and diagrams we decided to bring the people involved together before any funds were expended. First we wrote a two-page description of the

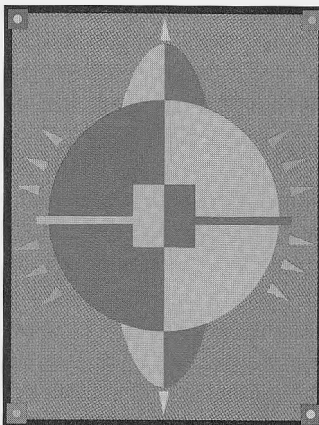
project, complete with the dates we would like to have it on the market. Then we invited the video producer, the advertising agency, the fulfillment house, the public relations person, the accounting firm, the members of Career IV staff who would be involved, and the studio people.

In an hour-long meeting, with plenty of time allotted, we laid out the project as we saw it and obtained agreement on the various completion dates. Each attendee was asked to think through their operation over the interval before the next meeting and return with suggestions and questions. We went around the room making certain we worked out the implementation details and wrote them carefully into a plan.

A great many preventive and money saving actions came out of that meeting. For instance, the studio people said that they could take my computer disk containing the scripts and transmit them directly to the teleprompters. We would also be able to make changes easily at their terminal. The advertising people learned that the box they had designed was not the best size for processing and packaging. The fulfillment people suggested that we hire a company of handicapped workers to do the packaging.

The result was a plan everyone understood, with clear and measurable requirements that everyone agreed to meet, and a completely hassle-free execution. The participants subsequently knew each other well enough to deal directly with one another when they had questions. Nothing had to be done over, except for a few takes during the video shoot.

Quality, after all, means conformance to the agreed requirements.



the current situation. For example, a firm's assorted functional areas—sales, engineering, finance, personnel—may have competing definitions of the basic difficulties facing the organization. All these points of view must be considered to obtain a reliable assessment of the organization's internal and external operating environments. Using a TQM approach, managers may choose to utilize cross-functional teams to break down barriers between departments. Some quality management thinkers use the term *silos* to refer to isolated units or departments within an organization. Silos are impediments to the flow of information and obstructions to TQM-based participative planning.

*Competitive benchmarking* is another approach to assessing current conditions that is widely used among quality-based organizations. Benchmarking sets standards for performance based on what others have been able to achieve. Among TQM-based organizations there has been a transformation from a sense of suspiciousness when other firms inquire about operations, to an openness toward sharing information and learning from others. Planners who use benchmarking are motivated by the knowledge that, if they don't use this technique, other firms are likely to gain competitive advantage.

## Step 2: Determine Goals and Objectives

Once current conditions are assessed, goals and objectives can be set. Often these two terms are used interchangeably by managers, but it is useful to distinguish between them. **Goals** are defined as future states or conditions that contribute to the fulfillment of the organization's mission. More concrete and specific than a mission, goals express relatively intermediate criteria of effectiveness. They can also be stated in terms of production, efficiency, and satisfaction. In a business setting, a goal might be "to establish viable sales outlets in every major population center of the country by the end of 1995."

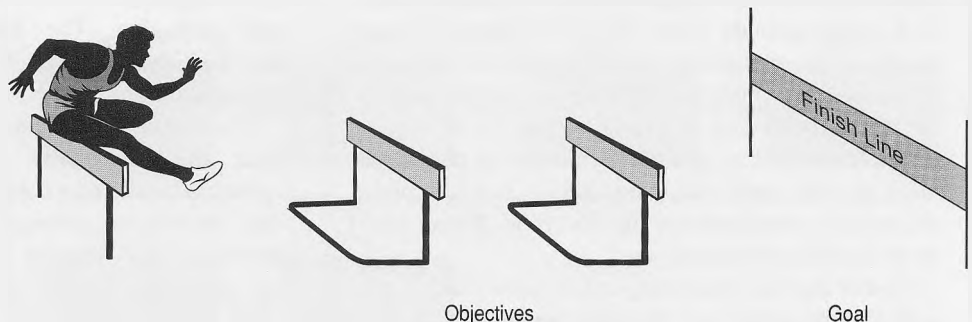
Goals describe what is important to an organization and give its staff a sense of purpose. The first of Deming's 14 points of quality is "Create constancy of purpose toward improvement of product and service."<sup>14</sup> Quality organizations need leadership to establish goals that are difficult enough to inspire great effort, but not so difficult that they are unattainable.

**Objectives** are short-term, specific, measurable targets that must be achieved to accomplish organizational goals. Figure 6-5 shows this distinction with a hurdler who must clear a set of obstacles (hurdles) to get to the finish line. The hurdles can be seen as objectives on the way to the final goal (the finish line). For a concrete example, a firm seeking to have sales outlets in all major population centers (the goal) could state its current year's objective as "to open and begin operations in Chicago, Los Angeles, Louisville, and Milwaukee." Thus, just as goals are derived from the organization's mission, objectives are derived from the organization's goals.

Future states or conditions that contribute to the fulfillment of the organization's mission.

A specification of desired future conditions.

FIGURE 6-5  
Difference between Goals and Objectives



The runner sets objectives to clear each hurdle on the way to his goal: crossing the finish line first. This activity is carried out within the context of a larger mission, winning the track meet for the team.

Objectives let workers and citizens know what is important. Objectives must be relevant, challenging, and focused. Management initiates planning to determine the priority and timing of objectives. In addition, management must also resolve conflict between objectives.

**Priority of Objectives** It is entirely possible for an organization to have multiple goals and objectives contributing to its mission. In fact, some writers today insist that the old profit-centered enterprise needs to be replaced in a postindustrial society by “multi-purpose” institutions that involve employees, customers, and the public as well as investors in establishing multiple goals.<sup>15</sup> For example, a hospital may pursue patient care, research, and training. Universities typically state three significant goals: research, teaching, and service. The existence of multiple goals and objectives places great pressure on managers not only to coordinate routine operations, but also to plan and allocate scarce resources.

Managers always face alternative objectives that must be evaluated and ranked, and they must establish priorities if they want to allocate resources in a rational way. Managers of nonbusiness organizations are particularly concerned with the ranking of seemingly interdependent objectives.<sup>16</sup> For example, a university president must determine the relative importance of teaching, research, and service. Because determining objectives and priorities is a judgmental decision, it is a difficult process.

Several Japanese firms including Toyota Motor Corporation, Toshiba, Pioneer Electronics, and Sony have had problems in their attempts to balance objectives.<sup>17</sup> As both foreign and domestic competitors rushed new products to market, these companies felt increased pressure to cut production costs and speed new product development. New parts and materials were integrated into products without proper testing. As a result, quality problems surfaced that threaten these companies’ reputations for producing quality goods.

**Time Frame of Objectives** An organization’s activities are guided by different objectives, depending on the duration of the actions being planned. Plans are typically classified as long-term, middle-term, or short-term. Long-term plans are implemented over a period of perhaps 5 to 25 years. Long-term plans must be closely linked to the firm’s mission, goals, and strategy. (See Chapter 7.) A firm’s long-run objective could be a desired rate of return on capital, with intermediate and short-run plans stated in objectives that must be accomplished to realize the ultimate goal. Management can then assess the effectiveness of each year’s activities in achieving not only short-run but also long-run goals.

Middle-term plans have an intermediate time horizon of roughly three months to five years. These may cover the organization’s desire to transform the culture and management style to total quality management. Short-term plans cover a period of approximately one week to three months. These may be concerned with performance-related matters or operational processes. For example, a manager may establish a short-term plan with workers to reengineer process flow between two particular machines in a large manufacturing shop. Such planning is important, but hardly requires the kind of environmental scanning and information gathering that long-term planning needs.

**Conflicts among Objectives** At any time, shareholders (owners), employees (including unions), customers, suppliers, creditors, and government agencies are all concerned with the operation of the firm. The process of establishing objectives and setting priorities must not overlook these interest groups, and plans must incorporate and integrate their interests. The form and weight to be given to any particular interest group is a matter of managerial judgment. Common planning trade-offs managers face include:

1. Short-term profits versus long-term growth.
2. Profit margin versus competitive position.



3. Direct sales effort versus development effort.
4. Greater penetration of present markets versus developing new markets.
5. Achieving long-term growth through related businesses versus achieving it through unrelated businesses.
6. Profit objectives versus nonprofit objectives (that is, social responsibilities).
7. Growth versus stability.
8. Low-risk environment versus high-risk environment.

Management must consider the expectations of the diverse groups on whom the firm's ultimate success depends. For example, present and potential customers hold power over the firm. If they are not happy with the price and quality of the firm's products, they withdraw their support (stop buying), and the firm fails because of lack of sales. Suppliers can disrupt the flow of materials to express disagreement with the firm's activities. Government agencies can enforce compliance with regulations. Managers must recognize these interest groups and their power to affect the firm's objectives. A firm exists only as long as it satisfies the larger society.<sup>18</sup>

Studies of objectives that business managers have set for their organizations confirm the difficulty of balancing the concerns of interest groups. These studies also suggest that the more successful firms consistently emphasize profit-seeking activities that maximize stockholder wealth. This is not to say that successful firms seek only profit-oriented objectives, but rather that such objectives are dominant.<sup>19</sup>

**Measuring Objectives** Objectives must be understandable and acceptable to those who will help to achieve them. In fact, many people believe that specific, measurable objectives increase the performance of both employees and organizations, while difficult objectives—if employees accept them—result in better performance than easier objectives. In practice, effective managerial performance requires establishing objectives in every area that contributes to overall organizational performance. Peter Drucker has stated that firms' objectives should be established in at least eight areas of performance: market standing, innovation, productivity, physical and financial resources, profitability, managerial performance and development, worker performance and attitude, and public responsibility.<sup>20</sup> Table 6–2 lists Drucker's planning objectives and how they can be measured or demonstrated.

Effective planning requires measurements of objectives. A number of measurements exist to quantify objectives in some of the general areas that Drucker suggests.

TABLE 6–2  
Drucker's Planning Objectives

Concept	How It Is Measured and Demonstrated
1. Market standing	Ranking of firm's market share among competitors
2. Innovation	Firm's record in bringing new products and processes onto the market
3. Productivity	The efficient use of resources
4. Physical and financial resources	Nonhuman assets the firm owns
5. Profitability	Earnings, operating income, or net income after taxes
6. Managerial performance and development	Management's record for achieving objectives over time
7. Worker performance and attitude	Workers' record for achieving objectives over time
8. Public responsibility	Firm's record for meeting and exceeding social expectations

*Profitability Objectives* Profitability objectives include the ratios of (1) profits to sales, (2) profits to total assets, and (3) profits to capital (net worth). Managers have a tendency to emphasize the ratio of profits to sales as an important measure of profitability. Both quantities in this ratio are taken from the income statement, which management generally regards as a better test of performance than the balance sheet.

But some managers believe that the true test of profitability must combine the income statement and the balance sheet. These managers would use either the profit/total asset ratio or the profit/net worth ratio. Which of these two measures is preferred depends on whether the source of capital is an important consideration. The profit/total asset ratio measures management's use of all resources, regardless of origin (i.e., creditors or owners). The profit/net worth ratio measures how management used the owner's contribution.

The measures are not mutually exclusive. All three ratios are profitability objectives because each measures, and therefore evaluates, different yet important aspects of profitability.

The purposes of profit are to measure efficiency, to recover one cost element of being in business (return on invested capital), and to provide funds for further expansion and innovation. The minimum profitability is that which ensures the continuous stream of capital into the organization, given the inherent risks of the industry in which the organization operates.

*Marketing Objectives* Marketing objectives measure performance relative to products, markets, distribution, and customer service. They focus on prospects for long-run profitability. Thus well-managed organizations measure performance in such areas as market share, sales volume, number of outlets carrying the product, and number of new products developed.

*Productivity Objectives* Productivity is measured with ratios of output to input. Other factors being equal, the higher the ratio, the more efficient is the use of inputs.

Drucker has proposed that the ratios of value added to sales and to profit are the superior measures of productivity.<sup>21</sup> He believes that a business's objective should be to increase these ratios and that departments in the firm should be evaluated on the basis of these increases. The argument for value added is that it measures the increase in value of the purchased materials due to the firm's efforts, since value added is equal to the difference between the purchase price and the market value of materials and supplies. In this way, a firm's efficiency is measured directly. This measure of productivity also could be used for comparisons among a firm's individual departments.

*Physical and Financial Objectives* Physical and financial objectives reflect the firm's capacity to acquire resources sufficient to achieve its objectives. Measurement of physical and financial objectives is comparatively easy since numerous accounting measures can be used. Liquidity measures such as the current ratio, working capital turnover, debt/equity ratio, and accounts receivable and inventory turnover can be used in establishing objectives and evaluating performance in financial planning.

*Quality Objectives* As we have noted, Deming and Crosby have specified fundamental principles or guides for quality management. Another quality expert, Joseph Juran, has recommended 10 steps to quality improvement, with an emphasis on the sequence or process of achieving quality (Table 6-3).<sup>22</sup>

Drucker, Deming, Crosby, and Juran offer a mix of goals and procedures that provide managers with guidance for planning. When businesses define their goals in terms of customer satisfaction, planning requires them to translate customer satisfaction into meaningful areas and measures. Parasuraman, Zeithaml, and Berry offer 10 dimensions of service quality that define customer satisfaction: access, communication, competence, courtesy, credibility, reliability, responsiveness, security, tangibles, and knowing the cus-

TABLE 6-3  
Juran's Planning Objectives

1. Build awareness for opportunities to improve quality.
2. Set specific goals for quality improvement.
3. Organize resources to meet the goals.
4. Provide worker training.
5. Conduct projects to solve quality problems.
6. Report on progress toward goals.
7. Give employees recognition.
8. Communicate results.
9. Keep score.
10. Maintain momentum by institutionalizing improvement as part of the regular systems and procedures for the company.

TABLE 6-4  
Measures of Service  
Quality Objectives

Concept	How It Is Measured and Demonstrated
1. Access	Availability to customers
2. Communication	Providing clear descriptions to customers, answering their questions
3. Competence	Proven expertise at a task
4. Courtesy	Friendliness, respect for customer
5. Credibility	Believability, meeting promises
6. Reliability	Error reduction
7. Responsiveness	Speed at meeting customer requests
8. Security	Maintaining customer safety and privacy
9. Tangibles	Physical appearance of workplace
10. Knowing the customer	Demonstrated capacity to listen to, respond to, and satisfy the customer

customer (Table 6-4).<sup>23</sup> These 10 dimensions provide management with key areas on which to concentrate to satisfy customer expectations. Quality derives from meeting or exceeding customer expectations on each dimension.

These dimensions show the planning values that underlie other corporate objectives (e.g., profit, market share, return on assets). **Planning values** are the underlying decision priorities that determine planning objectives and decisions. Five values underlie a quality-based planning process: (1) The firm is customer-driven, not product-driven. (2) All employees manage, not just the managers. (3) Decisions are fact-based, not based on hunches or tampering. (4) The basic, ongoing work emphasis is on producing quality and continuous improvement, not on short-term profits or fear. (5) Prevention (not detection) of defects is emphasized.

Effective planning also follows from effective strategic thinking and planning in today's turbulent economy. History is not always an effective predictor of future trends. As the Global Exchange shows, merely assuming that demographic trends, market share, or relative competitiveness will be the same tomorrow as they are today simply does not work.

Regulated standards for products or practices are often used as planning values. But making plans that simply meet standards is a reactive approach to planning that does not motivate higher performance. Proactive, quality-based planning, on the other hand, involves setting objectives that add value by exceeding mandated standards or even setting standards of quality where none had previously existed. For example, innovative hiring or compensation plans, maternity and family leave programs, and financial support for ongoing education of workers at local colleges and technical schools are examples of proactive objectives that display quality-oriented planning values.

Objectives need to emphasize quality over quantity. Harvard business professor David Garvin identified eight planning values that are the basis of a quality-based system: performance (primary operating characteristics, e.g., speed), features (supplements to performance), reliability (no malfunctioning or need for repair), conformance (to established standards), durability (product life), serviceability (speed and ease of repair, if

planning values  
Underlying priorities that determine  
planning objectives and decisions.

needed), aesthetics (appeal to taste, looks, feel), and perceived quality (customer perception).<sup>24</sup> (See Chapter 1.)

Garvin's planning values highlight the difference between traditional and quality-based views. In the traditional view, quality meant the performance characteristics and the number of features available to the customer. These were the primary planning values.

Managers should establish planning values that are responsive to both the internal and external environments of the organization. Internal features are people, processes, and practices that promote quality and continuous improvement. External features relate to external customer satisfaction, such as product attributes that exceed expectations.

*Other Objectives* Objectives for profitability, market standing, productivity, and physical and financial resources are amenable to measurement. But objectives for innovation, employee attitudes, managerial behavior, and social responsibility aren't so easily identifiable or measurable in concrete terms. This is important because, without measurement, any subsequent evaluation is inconclusive. Table 6-5 summarizes the different objective measures.

## GLOBAL DILEMMA

### INFORMATION INFRASTRUCTURE: A NEW SOURCE OF GLOBAL COMPETITIVE ADVANTAGE

For the past decade or so, many political, business, economic and sociological thinkers have asserted that knowledge and information are becoming the primary resources in the global economy. Across a range of industries from banking and retail to automotive and aerospace, information technology is increasingly instrumental in product development, manufacturing, marketing, sales, and service. The flow of information has become the foundation for improving productivity and increasing innovation in almost every enterprise.

As we enter the 21st century, the United States has the lead over foreign competitors in computing and communications technologies. But to remain on top, experts argue, the country must continue to develop its "information infrastructure." This infrastructure refers to a nationwide system of fiberoptic "information superhighways" that will allow everyone to take advantage of communication and computing technologies. The information infrastructure, used in conjunction with a collection of "information appliances"—tools that will combine computing, communications, and video technologies, for example—will give people ready access to libraries, museums, job information, medical care, and other things. By making information resources readily available and easy to use, the information infrastructure of the future will revolutionize the ability to access information needed to collaborate and cooperate with others.

How does a nation plan for an information infrastructure? Should the United States adopt a centralized approach (i.e., let government direct it)? Or should the country leave construction of this important new national resource to private interests?

Despite its current lead in computing and communications, many experts believe the United States is lagging

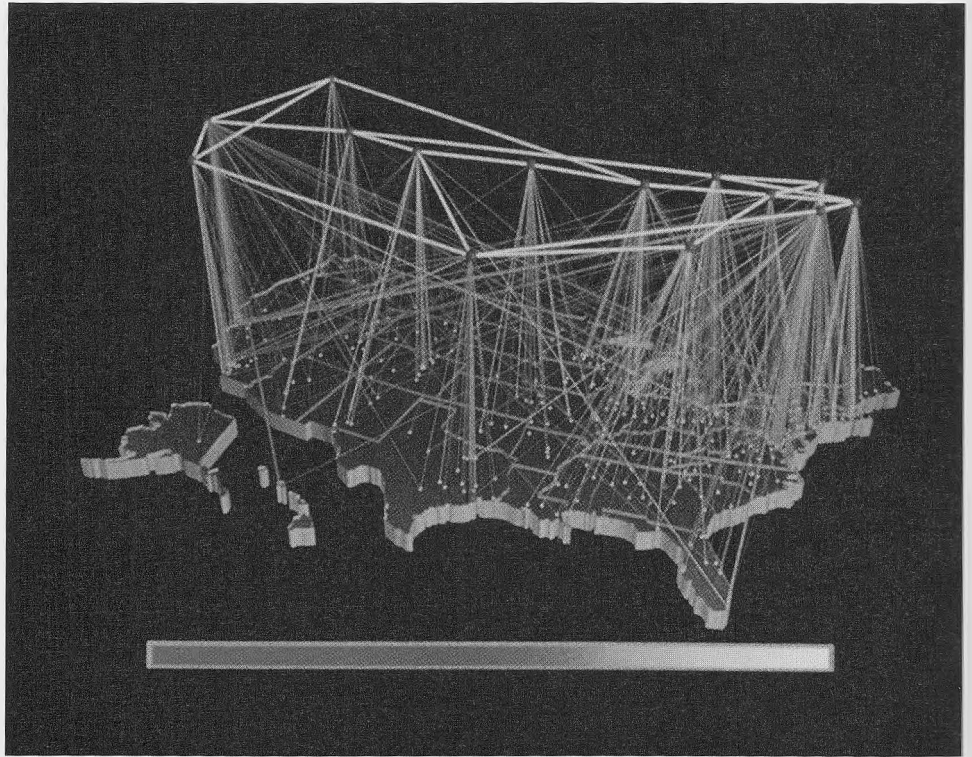
behind its trading partners in building an information infrastructure—a failing that could reduce the country's competitiveness. Corning, the number 1 maker of optical fiber, estimates that if telephone companies upgrade existing installations at their historical pace, rewiring will take until the year 2037.

Japan, in contrast, has made a national commitment to completing a national fiber network by 2015. Further, government leaders believe the resulting productivity gains will boost Japan's GNP by 30 percent or more. Its information infrastructure is being planned at the federal level.

Germany, France, and Singapore are not far behind in their plans for national information superhighways. These countries are all using centralized planning to direct the construction of their information infrastructures. As Michael Morrison (manager of advanced operations testing at GTE) observed, "These nations see how attracting and keeping companies with telecommunications helps them be competitive."

Foreign competition is forcing the United States to choose between centralized or decentralized planning for its information infrastructure. Choices in the coming years will affect the project's pace and progress for generations. Which way will the United States choose to go? Will it opt for a mix of government and private industry? Major foreign competitors—Japan, Germany, France, Singapore—have already opted for a centralized approach. Without question, the project's complexity requires long-term planning. The question is, who should do the planning?

Source: Adapted from *Perspectives on the National Information Infrastructure* (New York: January 12, 1993), Computer Systems Policy Project; and Andrew Kupfer, "The Race to Rewire America," *Fortune*, April 19, 1993, pp. 42-61.



Donna Cox, Robert Patterson/NCSA, University of Illinois

The National Science Foundation network envisions electronic traffic measured in billions of bytes. Traffic volume range is depicted from zero bytes (purple) to 100 billion bytes (white).

TABLE 6-5

Key Managerial Planning Issues

Planning Element	Key Managerial Decisions
Objectives	<ol style="list-style-type: none"> <li>1. Which objectives will be sought?</li> <li>2. What is the relative importance of each objective?</li> <li>3. What are the relationships among the objectives?</li> <li>4. When should each objective be achieved?</li> <li>5. How can each objective be measured?</li> <li>6. Which person or organizational unit should be accountable for achieving the objective?</li> </ol>
Actions	<ol style="list-style-type: none"> <li>1. Which important actions bear on the successful achievement of objectives?</li> <li>2. What information exists regarding each action?</li> <li>3. What is the appropriate technique for forecasting the future state of each important action?</li> <li>4. Which person or organizational unit should be accountable for the action?</li> </ol>
Resources	<ol style="list-style-type: none"> <li>1. Which resources should be included in the plan?</li> <li>2. What are the interrelationships among the various resources?</li> <li>3. Which budgeting technique should be used?</li> <li>4. Which person or organizational unit should be accountable for preparing the budget?</li> </ol>
Implementation	<ol style="list-style-type: none"> <li>1. Can the plan be implemented through authority or persuasion?</li> <li>2. What policy statements are necessary to implement the overall plan?</li> <li>3. To what extent are the policy statements comprehensive, flexible, coordinative, ethical, and clearly written?</li> <li>4. Who or what organizational units would be affected by the policy statements?</li> </ol>

Source: James H. Donnelly, Jr., James L. Gibson, and John M. Ivancevich, *Fundamentals of Management*, 8th ed. (Homewood, Ill.: Richard D. Irwin, 1992), p. 151.

### Step 3: Establish an Action Plan

The last of Deming's 14 points of quality states. "Take action to accomplish the transformation."<sup>25</sup> To achieve objectives, action plans are required. Actions need to be specified prior to implementation as part of the planning process.

**Actions** are specific, prescribed means to achieve objectives. Actions determine success or failure in meeting objectives. Planned courses of action are called strategies and tactics, and are usually differentiated by scope and time frame as we have described. Whatever the name, a planned action is directed toward changing a future condition—that is, achieving an objective.

In some instances, managers simply do not know what action to take. For example, productivity increases can be achieved through a variety of means, including improved technology, employee training, management training, reward systems, and improved working conditions. In such cases, managers must select the most effective alternative. Often several possible courses of action exist for top managers who are planning for the total organization. As the plan becomes more localized to a simple unit in the organization, the number of alternatives tends to become fewer yet more familiar.

The important point is that courses of action and objectives are causally related. That is, the objectives are caused to occur by the courses of action. The intellectual effort required in planning involves knowing not only what alternatives will accomplish an objective but also which one is most efficient. Planning is a management process, deductive in nature and designed to produce orderly results.<sup>26</sup>

**Forecasting** In some instances managers can test the effects of a course of action by **forecasting** (the process of using past and current information to predict future events). With a forecast, a firm attempts to determine the likely outcome of alternative courses of action. For example, a sales forecast would include past and current information about the firm's product, price, advertising, and cost of goods sold. External conditions to be measured include the price of competing products, the levels of consumer income, consumer credit interest rates, and other measures of local economic activity.

Forecasting models range from the subjective to the sophisticated. Forecasts based on brief, personal, subjective estimates are called hunches. For increasing sophistication, there are statistical studies of predicted consumer purchases (market surveys), historical analyses of past sales to convert into estimates of future sales (time-series analysis), and even more sophisticated models of a wide range of past, current, and predicted economic variables (econometric forecasting). Forecasts are used to predict hiring requirements, factory space needs, employee training expenditures, and health care costs, among other decisions important to the firm.

Some firms have successfully established action plans through use of scenarios. Scenario construction is a technique for combining possible environmental developments in a systematic way to help managers assess possible consequences of alternative courses of action. The process was initiated in the 1950s in classified military studies at the RAND Corporation. Since then the concept of using hypothetical alternative futures for planning purposes has been used by strategic planners.<sup>27</sup>

### Step 4: Allocate Resources

The fourth step in the planning process is budgeting resources for each important plan. **Resources** are defined as the financial, physical, human, time, or other assets of an organization. Expenditure of resources is usually controlled by use of a budget. A **budget** is a predetermined amount of resources linked to an activity. For example, as part of the plan to bring a new product to market, a budget is likely to include salaries, materials, facilities, travel, and other resources. A good budget recognizes and allocates the needed resources to ensure implementation.

**action**  
Specific, prescribed means to achieve the objective(s).

**forecast**  
A prediction of future events based on past and current data.

**resources**  
Financial, physical, human, time or other assets of an organization.

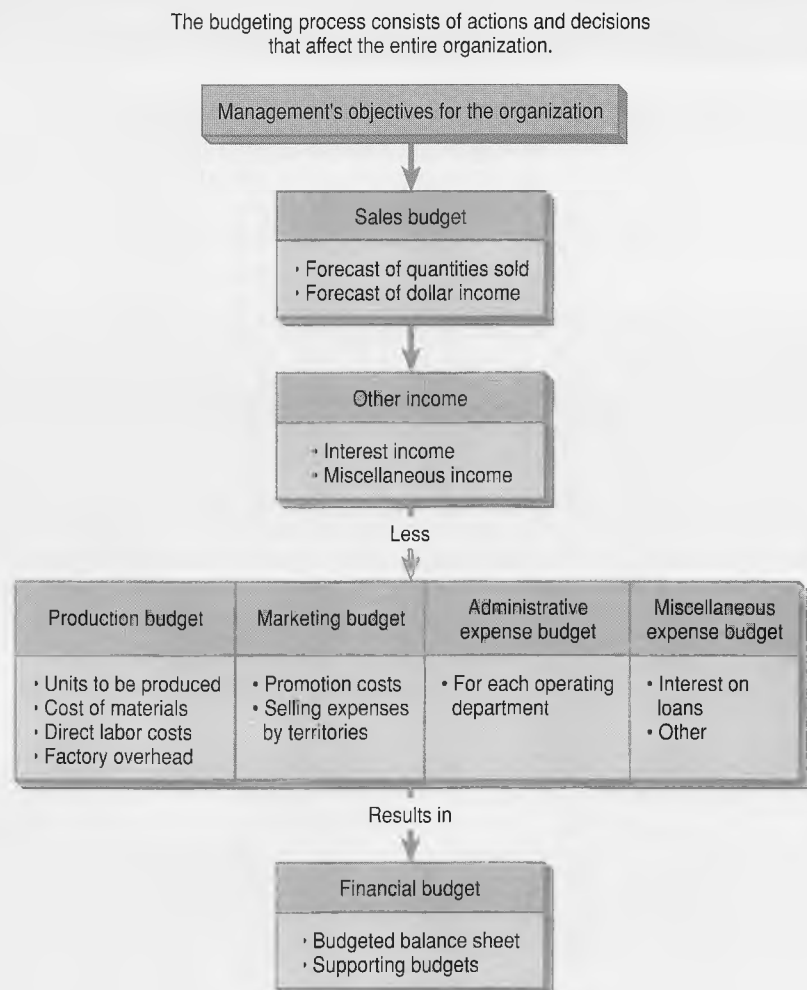
**budget**  
A predetermined amount of resources linked to an activity.

A close relationship exists between budgeting as a planning technique and budgeting as a control technique.<sup>28</sup> After an organization has been engaged in activities for a time, actual results are compared with the budgeted (planned) results, which may lead to corrective action. This, as we will see in Chapter 16, is the management function of controlling.<sup>29</sup>

The complexity of the budget phase is shown in Figure 6-6. The sales forecast plays a key role, as is evident in its placement at the top of the chart. All other budgets are related to it either directly or indirectly. The production budget, for example, must specify the materials, labor, and other manufacturing expenses required to support the projected sales level. Similarly the marketing expense budget details the costs associated with the sales level projected for each product in each sales region. Administrative expenses also must be related to the predicted sales volume. The projected sales and expenses are combined in the financial budgets, which consist of formal financial statements, inventory budgets, and the capital additions budget.

Forecast data are based on assumptions about the future. If these assumptions prove wrong, the budgets are inadequate. So financial budgets' usefulness depends mainly on how flexible they are to changes in conditions. Two principal means exist to provide flexibility: variable budgeting and moving budgeting.

FIGURE 6-6  
The Budgeting Process



Source: James H. Donnelly, Jr., James L. Gibson, and John M. Ivancevich, *Fundamentals of Management*, 8th ed. (Homewood, Ill.: Richard D. Irwin, 1992), p. 157.

*Variable budgeting* provides for the possibility that actual output deviates from planned output. It recognizes that variable costs are related to output, while fixed costs are unrelated to output. Thus if actual output is 20 percent less than planned output, it does not follow that actual profit will be 20 percent less than that planned. Rather, the actual profit varies, depending on the complex relationship between costs and output.

*Moving budgeting* is the preparation of a budget for a fixed period (say, one year) with periodic updating at fixed intervals (such as one month). For example, a budget is prepared in December for the next 12 months (January through December). At the end of January, the budget is revised and projected for the next 12 months, (February through January). In this manner, the most recent information is included in the budgeting process. Premises and assumptions are being revised constantly as management learns from experience.

Moving budgets have the advantage of systematic reexamination; they have the disadvantage of being costly to maintain. Although budgets are important instruments for implementing a firm's objectives, they must be viewed in perspective as one item on a long list of demands for a manager's time.

Some experts have begun to question the value of budgets.<sup>30</sup> The major criticism is that by strictly adhering to a planning process based solely on numbers and dollars, companies tend to overlook critical variables such as quality and customer service. In addition, critics claim that budgets encourage dumb moves—cutting prices too sharply or wooing weak customers—and discourage smart ones such as investing for growth.

Information is also a resource that needs to be budgeted. Information is perhaps the most important resource in modern, knowledge-based organizations. Employees cannot be expected to help plan without full access to the company's information—cost and market data, product developments, and so on. *Inc.* reported several small firms' success in sharing once confidential data with employees. *Inc.* also noted three major trends pushing this idea: new demands on managers' time, a new definition of work, and widespread use of computers in the workplace.<sup>31</sup> While time pressures increase, more information can be supplied to workers and their input can be critical to implementing the plan. "We don't have time" is not a valid reason to preclude workers from the planning process.

One small manufacturer of measuring devices in Ohio reduced manufacturing costs from 56 percent to 52 percent of sales, saving about \$1 million. One firm reduced tensions over a shrinking bonus pay pool simply by showing employees the numbers. The next year the firm created teams, gave the teams responsibility for developing their own budgets, and created a sense of employee ownership of information and results. A \$45 million annual sales direct mail firm in Illinois held a Brain Day to discuss annual and long-term plans with employees, including plans to discontinue some operations and to eliminate some workers. With advance notice, employees were able to adjust to changes, to train for new work, and to better trust management.

Although it's much more difficult to do, large quality-based organizations also share information broadly. For example, David Kearns remade Xerox so that planning and decision making would occur at each level of the organization. After years of declining market share due to higher-quality Japanese products, Kearns established a new quality program based on the four planning values of competitive benchmarking, pushing responsibility down the organization hierarchy, emphasis on quality, and customer satisfaction. Today every department at Xerox is *expected* to know what organization in the world is the best at what that department does. And each department is expected to measure that competitor's performance, find out how it is being done, adopt the best practices for its own performance, and improve upon it—constantly. This downward push of information and responsibility goes right to the front-line workers. Under Kearns's leadership, management invited labor leaders in and gave them full information about the nature of the firm's challenge. According to John Foley, then vice president of personnel, "When we hired a production worker in the old days, we used to say crudely that we hired his hands and not his head. Very frankly, what we are finding out is that there is an awful lot in his head."<sup>32</sup>



## Step 5: Implementation

**Implementation** concerns the delegation of tasks, objective-driven action, and collection of feedback data. Without effective implementation, the four preceding steps are pointless. Implementation means using resources to put a plan into action. In some instances, such as small businesses and entrepreneurial ventures, the manager carries out each step of the planning process, including implementation. In most large organizations, however, the manager must implement plans through others, motivating them to carry out the plan, rewarding them for successful performance, and redirecting them when their actions lead to outcomes that differ from the objectives. Managers have three ways to implement plans through others: authority, persuasion, and policies.

**Authority** is a legitimate form of power in the sense that it accompanies the position, not the person. The nature of authority in organizations involves the right to make decisions and to expect subordinates to comply with those decisions. With authority, a manager can expect subordinates to carry out a plan so long as it does not require illegal or unethical behavior. Authority is often sufficient to implement simple plans, but a complex plan can seldom be implemented through authority alone.

**Persuasion** is a process of selling a plan to those who must implement it, communicating relevant information so individuals understand possible implications. Persuasion requires convincing others to accept a plan on its merits rather than on the authority of the manager. There is a danger involved with using persuasion. What happens if persuasion fails? If the plan is crucial, management must implement it by use of authority. It is usually good advice to managers that, if they have failed once in use of persuasion, to limit its use in the future.<sup>33</sup>

**Policies** are written statements that reflect a plan's basic values and provide guidelines for selecting actions to achieve objectives. When plans are expected to be rather permanent, policies are developed to implement them. Standard operating procedures (SOPs) are a typical example of formal guidelines used by workers and managers to make consistent decisions across consistent situations. Effective policies have these characteristics:

- **Flexibility.** A policy achieves a balance between rigidity and flexibility. In quality-based organizations, policies always leave some room for workers at all levels to exercise their discretion.
- **Comprehensiveness.** A policy must cover multiple contingencies. The degree of comprehensiveness depends on the scope of action controlled by the policy itself. Narrow issues require narrow policies.
- **Coordination.** A policy must readily coordinate among other decisions, teams, and departments. Activities must conform to the policy without building conflict across activities.
- **Clarity.** A policy must be stated clearly and logically. It must specify the aim of the action, define appropriate methods, and describe the limits of discretion provided to those applying the policy.
- **Ethical.** A policy must be ethical and responsive to cultural differences. This may be most difficult to follow when a firm is doing business in a foreign country if local standards are inconsistent with the firm's standards as developed in another country or society. Again, judgment must often be applied.

Policies are "a guide to managerial action."<sup>34</sup> Some examples of policy include:

- Our company's policy is to accept all customer returns without question.
- It is our policy to maintain a lifetime of service support for any product we produce.
- The company's policy is to promote and affirm integrity in our people, our products, and our services.

### implementation

The assignment of people and responsibilities for achieving a plan.

### authority

The legitimate use or form of power stemming from the position, not from the person.

### persuasion

The process of convincing workers of the value of a plan prior to implementation.

### policy

A written statement that reflects a plan's basic objectives and provides guidelines for selecting actions to achieve the objectives.

FIGURE 6-7

## Nordstrom's Employee Policy



According to Crosby, the basic purpose of a policy should be “*to perform exactly like the requirement or cause the requirement to be officially changed to what we and the customers really need*” (italics in the original).<sup>35</sup> Policies can sometimes be brief, enduring, and dramatic. For example, Nordstrom provides each employee with a brief, complete statement of policy (Figure 6–7).

## Regulation

A standard procedure providing a set of instructions to implement a policy.

While a policy is a general guide to decision making, a **regulation** (or standard procedure) provides a set of instructions to implement the policy. For example, a policy of “employee empowerment” may translate into a procedure for team leaders where work process changes can only be instituted after a meeting with all affected employees, where the employees must approve any changes. Team leaders may also be trained to follow specific procedures in initiating the discussion, recording employees’ recommendations, and documenting the approved changes.

Some quality-based firms have adopted quality function deployment (QFD) as a method for ensuring effective implementation of plans.<sup>36</sup> This process has six steps:

1. Determine and prioritize customer needs. The customer will likely have a variety of demands, some more important than others.
2. Identify technical requirements of the customer and the firm’s production process; then correlate them. Strongly negative relationships (e.g., the customer wants the product to withstand high pressure; the firm is unable currently to provide such a product characteristic) must be addressed and, hopefully, converted into positive relationships (i.e., customer demands closely correspond to the firm’s production expertise).
3. Identify and score each pairing of *what* the customer wants with *how* the firm will meet those needs. Better matches merit higher scores.
4. Multiply each pair of “what–how” relationships by the weight or priority the customer attaches to it. That is, first the “how” analysis shows that the firm can easily match “what” the customer wants. The final score for this item depends on how important the “what” is to the customer. For example, the customer may have “speed of delivery” as a factor in his decision to do business with the firm and the firm may be able to deliver the product quickly. However the customer may assign a low rank of importance to “speed of delivery.” In this case, the firm does something well that is of low concern to the customer.
5. Use benchmarking to determine competitive disadvantages and advantages, and to improve the firm’s ability to satisfy important customer expectations.
6. Repeat the process until the customer’s requirements are translated into specific production processes. By identifying customer priorities and the firm’s strengths and weaknesses, and then applying benchmarking to improve upon the firm’s key weaknesses, plans become production actions.

This approach both enacts and produces quality values throughout the planning process. To ensure that such a process is followed regularly across the diverse implementation opportunities that organizations encounter, managers develop policies, regulations, and rules.

### Step 6: Control the Implementation

After completing the first five steps in the planning process, management must control the planning decision. The firm must manage ongoing work activities to ensure that the intended objectives are met or, in some cases, adjusted. Controlling includes all managerial activities dedicated to ensuring that actual results conform to planned results.

Managers must provide information that reports actual performance and permits comparison of the performance against standards. Such information is most easily acquired for activities that produce specific and concrete results; for example, production and sales activities have results that are easily identifiable and for which information is readily obtainable.

More will be said about control issues in Chapter 16. Here you should note that controlling results in a part of the planning function. People responsible for taking corrective steps when actual results are not in line with planned results must know that they are indeed responsible and that they have the authority to take action.

## ■ TOTAL QUALITY APPROACH TO PLANNING

Firms that use the total quality management approach employ a number of specific planning methods. This section examines four of those methods: the plan, do, check, act cycle; zero defects planning; time-based planning; and planning for continuous improvement. These approaches form the basis for quality planning.<sup>37</sup> Deming describes **quality planning** as the activity of (1) determining customer needs and (2) developing the products and processes required to meet those needs. Quality planning is required for every product and service within an organization, not only for goods and services sold to external customers. Many internal processes (such as writing purchase orders, sending reports, recruiting new employees, preparing sales forecasts, and producing invoices) are overlooked because they do not directly affect external customers. This is a mistake. Total quality planning recognizes that organizations have internal as well as external customers.

Following Deming, each of the quality approaches to planning discussed in this section emphasizes the value of exceeding customer expectations. But you will also find the values of continuous improvement and team-based problem solving equally important. Additionally, although each of these planning approaches is based on a similar concept of quality, each is developed by a different thinker and has some unique aspects.

This section concludes with a look at control methods within a quality management environment. You will be introduced to several tools quality-based organizations use to identify problems. Chapter 16 says more about quality control.

#### quality planning

The activity of (1) determining customer needs and (2) developing the products and processes required to meet those needs.

#### plan, do, check, act (PDCA)

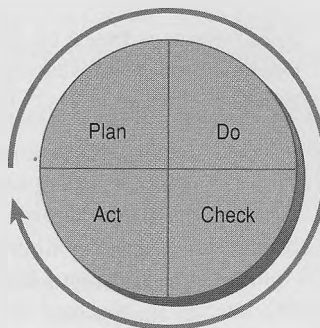
A four-step cycle. The first step is to plan the quality improvement. Second, workers produce a small version or batch of the procedure/product. Third, workers check the results of this pilot project. Fourth, workers implement the complete process.

### The Plan, Do, Check, Act Cycle

The **plan, do, check, act (PDCA)** planning process introduced the concept of planning as a cycle that forms the basis for continuous improvement.<sup>38</sup> In the PDCA cycle, the first step is to plan the quality improvement. Second, workers perform or produce a small version or batch of the procedure/product. Third, workers check the results of this pilot project. (The word *study* is sometimes used in place of *check* to reduce some of the

FIGURE 6-8

The PDCA Cycle



negative ideas associated with checking work.) Fourth, workers implement the tested process. The PDCA cycle (Figure 6-8) is then repeated.<sup>39</sup> It's also called the Shewhart Cycle after its originator, Walter Shewhart.

Employees at Cincinnati-based Procter & Gamble use the PDCA cycle to manage its environmental quality efforts. First, they develop a *plan* to remove pollutants from each stage of production as well as from packaging and the final product. Next (*do*) they reduce discharges to the environment and correct other potentially harmful environmental defects. Then they *check* the results, using statistics, charting, and other measurement tools. Once the results are assessed, employees install permanent systems to maintain the quality improvement and to apply it to other aspects of the business (*act*). Using this technique, a Procter & Gamble pulp mill cut landfill dumpings by 75 percent; a coffee-processing plant in Missouri added a machine to compact chaff from coffee beans, cutting solids in sewage by 75 percent. New packaging cut 3.4 million pounds of waste in deodorant product cartons. As a result of PDCA, P & G's redesigned Crisco bottle uses 28 percent less plastic than the earlier bottle.<sup>40</sup>

QUALITY		BENCHMARK	
THE IMPORTANCE OF A PLAN			
Plan	Do	Check	Act
1. Set mission.	9. Implement plan.	10. Monitor indicators and check with customers.	11. Act to improve.
2. Identify products.			
3. Prioritize.			
4. Identify customers.			
5. Determine needs.			
6. Translate.			
7. Set indicators.			
8. Set unit plan.			

Source: Thomas H. Berry, *Managing the Total Quality Transformation* (New York: McGraw-Hill, 1991), p. 107.

## Zero Defects Planning

Zero defects is based on the concept of conformance to standards, of doing things right the first time, of preventing defects and “causing” quality, of rejecting the need for “acceptable” quality levels.<sup>41</sup> Crosby has summarized his 14 steps for zero defects planning:

1. Management commitment is the willingness to give away something you cherish, something very personal, in order to improve the quality of other people's lives.
2. The quality improvement team is the “health care” group that is charged with supervising and coordinating the surgery, recovery, and wellness process in an organization.
3. Quality measurement is determining if the various “life support systems and procedures” are operating to the required results.
4. The cost of quality evaluation reveals the expense and inconvenience of doing things wrong.
5. Quality awareness is communicating continually in order to let everyone know they are on the same track.
6. Corrective action is identifying, curing, and then preventing the diseases that impair the enjoyment of life, be it personal or business.
7. Zero defects planning is arranging for the day—commencement day—when management will stand up in front of everyone and declare they have been converted.
8. Employee education involves building a base for comprehension and implementation through a common language and the application of special skills.
9. Zero defects day is the day when everyone gets together and celebrates their commitment to quality.
10. Goal setting is describing the specific achievements that each individual is going to accomplish.
11. Error cause removal is a system of pinpointing and eliminating the obstacles to zero defects.
12. Recognition is acknowledgment—saying “thank you” to those who earn and deserve it.
13. Quality councils are meetings of those responsible for an organization's wellness.
14. Doing it over: To quote Albert Schweitzer, “Example is not the main thing in influencing others, it is the only thing.”<sup>42</sup>

Crosby says management must become committed to quality planning, whose guiding principle is “satisfy the customer, first, last, and always.” He emphasizes that this principle is not a cliché, “it is the ultimate reality. No one ever gets so wonderful at what they do that they don't need customers.”<sup>43</sup>

## Time-Based Planning

Speed can often determine the success or failure of a plan's implementation. General George Patton once remarked that a partial plan, forcefully executed, is better than a complete plan, timidly pursued. This underscores the importance of speed as well as management leadership. (See Chapter 14.)

The important period between the time a product is first considered and the time it is sold to the customer is called **concept to customer**. Speed in planning and delivering a product or service can be a strategic competitive advantage. All other things equal, the prize (typically, market share) goes to the fastest firm. Further, paying attention to time usually forces the firm to look at other issues (e.g., design, staffing, and inspection) affecting products' and services' quality. For example, it is not uncommon for a product to lie idle during 90 percent of the time allocated for its assembly. Paying attention to

concept to customer

The period between the time a product is first considered and the time it is sold to the customer.

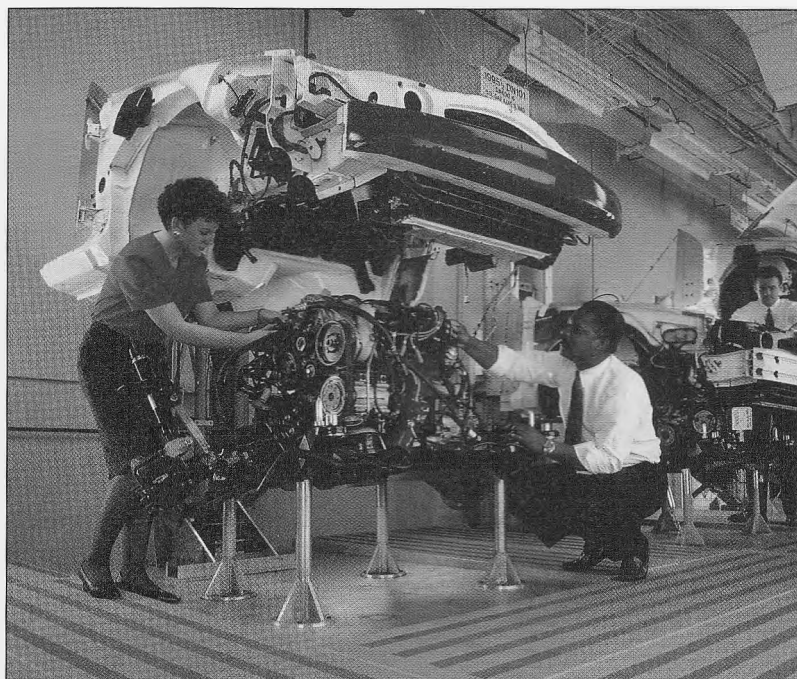
production speed can lead to reductions in these idle periods. Not only are time-sensitive firms likely to deliver products to their customers faster than competitors, they are likely to develop greater customer loyalty and to learn more about improving the production process itself.<sup>44</sup>

Line employees work directly with the product, in contrast to overhead employees (staff, planners, supervisors, and other forms of indirect labor). The productivity advantage of Japanese-managed companies is often found in their overhead employees' productivity. With one third the volume and three times the variety, one Japanese company has only one eighteenth the number of overhead employees of a comparable U.S. firm.<sup>45</sup> More overhead employees lead to slower production. A 1988 study found that in the electronics industry, U.S. plants had 8 to 10 percent defects and rework, while the Japanese had less than 1 percent. Also Japanese plants were three to six times faster in delivering an order.<sup>46</sup>

The pace of innovation varies by industry. The pharmaceutical industry, for example, takes 10 years to research, develop, and test drugs prior to bringing them to market. In contrast, the computer software industry is famous for rapid innovation and introduction of new products. Most of you probably have experienced this as you have purchased software labeled something like "Version 5.3" or you may have been frustrated to learn of upgrades in programs that require you to purchase new versions each year just to keep up.<sup>47</sup>

There are also important variations in the pace of innovation within industries. In automotive development time, Honda beats Ford which beats General Motors. The product design cycle—from concept to customer—turns out to be four to five years for General Motors and European auto firms, three years for Ford, two and one half years for Toyota, and about two years for Honda.<sup>48</sup> Those firms that fall behind in the product design cycle can (1) proceed as planned with outdated product or (2) stop the development and restart the cycle.

By examining its product design cycle, a boot manufacturer found that it took seven weeks to complete an order and deliver the product to the customer, although actual production required less than two days of value-added labor. Over 95 percent of the time



Ford Motor Company

In the automobile industry, rapid innovation requires a detailed understanding of the process of designing, manufacturing and selling cars.

was spent doing nothing of value to the firm or to the customer. A telecommunications firm found a similar delay in simply converting a customer's order into a work order for the factory. A full 95 percent of the time was wasted.<sup>49</sup> By eliminating the time when a product or process lies idle, speed is added to the planning process. Much improvement stems from simply not wasting time.

## Planning for Continuous Improvement

Effective planning and plans lead to quality outcomes and to continuous improvements in performance. Quality pioneer Joseph M. Juran notes three main negative outcomes resulting from a lack of attention to quality in the planning process:

- *“Loss of sales due to competition in quality.”* In the United States this has affected almost any manufactured product, from TVs to lawn mowers to cars.
- *“Costs of poor quality, including customer complaints, product liability lawsuits, redoing defective work, products scrapped, and so on.”* Like Crosby, Juran estimates that 20 to 40 percent of all costs of doing business are from redoing poor-quality work.
- *“The threats to society.”* These include minor annoyances like home appliance breakdowns as well as global disasters such as the Three Mile Island nuclear emergency, the Bhopal, India, poison gas release, and the Chernobyl, Ukraine, nuclear reactor explosion and contamination.<sup>50</sup>

Managers can minimize the possibility of negative outcomes by using quality-based planning methods and by establishing quality goals. The primary outcome of quality planning is customer satisfaction and delight. Juran's description of quality planning includes the following main points:

- Identify customers, both external and internal.
- Determine the customer's needs.
- Develop product features that satisfy customer needs.
- Establish quality goals that meet customers' and suppliers' needs at a minimum combined cost.
- Develop a process to produce the needed features.
- Prove that the process can meet the quality goals under operating conditions (i.e., prove process capability).<sup>51</sup>

Thus the focus of quality outcomes is on the customer—both external and internal customers. For example, a global manufacturer of lawn care products has provided an 800 number that allows consumers to call and receive advice on service, operation, and repair of the firm's products. But such a service is not available to the dealers who sell and service the products. Although the individual consumer is the ultimate user of the product, the dealer is the manufacturer's primary customer. Unless this primary customer receives good service, the ultimate customer will not be satisfied, especially if the dealer chooses to drop the manufacturer from its product offerings.

A plan to satisfy internal customers would begin with identification of customers at various stages of the design, production, distribution, and sales processes. For example, a manufacturer might work with an overnight delivery service and dealers to develop a warehouse of commonly requested parts situated at the delivery service's distribution center. This would allow the manufacturer to promise inexpensive delivery within 12 hours of a call from the dealer. Further, the manufacturer's billing department could help simplify the billing process so that the order would immediately be known to the carrier and produce an instantaneous charge to the dealer's account.

To achieve customer satisfaction, work processes must be improved on a continuous basis. According to Juran, planning for continuous improvement in the production process requires the following steps:

- Prove the need for improvement.
- Identify specific projects for improvement.
- Organize to guide the projects.
- Organize for diagnosis (the discovery of causes).
- Analyze to find the causes.
- Provide remedies.
- Determine if the remedies are effective under operating conditions.
- Provide for control to maintain the gains.<sup>52</sup>

The notion that customer expectations are a moving target underlies planning for continuous improvement. There is no single, ultimate solution that will permanently meet customer demands. The firm must plan for continuous innovation and improvement of all products and services.

Some models of planning aim to identify and implement the “big hit,” the one-time, massive change in the production process or in the product that reduces costs or improves the product in a significant fashion. Then no other changes or improvements are made until the next “big hit” occurs at the end of another planning cycle. But between planning cycles, the original improvements tend to erode. Eventually the improvements erode enough to initiate another plan for improvement. In quality-based management, the planning cycle is continuous. Improvements typically are not dramatic, but they are consistent and incremental. There is no backsliding, no lulls, and no satisfaction with the status quo.

Quality-based planning is dynamic, continuous, and flexible, yet firmly wedded to the customer and continuous improvement. The value of planning is in its ability to lower the overall cost of doing business by anticipating and responding to change in a systematic fashion. Planning is inherently quality-based; it reduces the cost of doing business while also anticipating and satisfying customer needs.

Table 6-6 summarizes traditional and quality-based characteristics of planning. As you can see, the quality-based planning values emphasize the system as the source of organizational problems rather than the employees. Quality-based planning values regard the employee as an asset, and assume that a process can never be optimized, but rather needs to be improved continuously.

TABLE 6-6  
Traditional versus  
Quality-Based  
Planning Characteristics

Traditional	Quality-Based
Quality is expensive to produce.	Quality lowers costs.
Inspection.	Defect-free goods don't need to be inspected.
Workers cause defects.	System causes defects.
Optimization by experts.	No process is ever optimized.
Standards, quotas, goals.	Eliminate standards, quotas.
Manage by fear of layoff, job loss.	Drive out fear.
Employees are a cost.	Employees are an asset.
Buy from lowest cost vendor.	Buy on basis of lowest total cost.
High revenues – low costs = high profits.	Loyal customers = long-term profit.
Profit is best indicator of success.	Profit tells history, not the future.



## Quality Control

Quality-based organizations use a number of different methods to control the implementation of a plan. The more popular methods include:

- *Pareto charts.* This tool enables managers to determine which of a vital few causes account for the majority of the problems. A Pareto chart is a bar chart that illustrates problem causes in order of severity by frequency of occurrence, cost, or performance.
- *Fishbone charts.* These are used to identify possible causes of a problem and isolate the most likely causes at a particular point in time. Construction of a fishbone chart does not solve a problem, but ensures that possible causes are not overlooked and that managers do not apply “fixes” where they are not necessary.
- *Flow charts.* A flow chart is a diagram of the product or work flow through each process. Such a chart is used to (1) detect obvious redundancies and inefficiencies in the work flow, (2) identify places for data collection and control charts, and (3) set up channels of communicating control chart signals to help solve problems.
- *Run charts.* A run chart is a graph of data points in time order. These data points may be measurements, counts, or percentages of a product or service characteristic. Run charts can illustrate trends or cycles in the characteristic or can serve as a preliminary step to using control charts.<sup>53</sup>

Examples of each of these quality control tools are given in the appendix.

Statistical process control (SPC) provides another set of tools that are commonly used to direct the implementation of a plan in a TQM-based organization. Using SPC, managers can determine whether variation in a system is within expected parameters (in which case they should leave it alone) or whether the variation is beyond expected parameters and in need of intervening action. SPC is explored in more detail in Chapter 16.

Planning, as a fundamental activity of managers, can cover any time span from short to long term. We have surveyed the steps involved in planning, some key quality planning tools and techniques, the benefits of planning, and other topics. These certainly do not cover all of the important issues associated with planning. However this chapter has highlighted the fact that planning is an important management function. All organizational goals and objectives flow from planning. Without planning, organizations drift and react to environmental changes. Planning enables firms to act rather than merely react.

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## ■ SUMMARY OF LEARNING OBJECTIVES

### ***Define planning and discuss the characteristics of effective planning.***

Planning means that decisions made today will produce results at a later date. The planning process is dynamic, involving many variables that must be considered and linked in putting together the plan. Effective planning requires consistency in pursuing the plan's objectives and flexibility in its implementation. Planning, like decision making, must be proactive and systematic. Effective planning needs clear priorities and flexibility.

### ***Describe four factors that underscore the need for planning.***

Four factors underscore the need for planning: (1) the length of time between decisions and results, (2) increased internal complexity of organizational processes, (3) increased external change in markets, and (4) the impact of planning on other management functions. A great deal of time often passes between the decisions and results. Careful planning can help a firm to control the expenditure of resources during this time period.

### ***Discuss the benefits organizations gain by planning.***

The fact that most managers plan in some form is evidence of its importance in management. Four specific benefits of planning are (1) coordination of effort, (2) preparation for change, (3) development of performance standards, and (4) development of managers.

### ***Describe the steps in the planning process.***

The planning process consists of six steps: (1) assess the current state, (2) determine goals and objectives, (3) establish an action plan, (4) allocate resources, (5) implement the plan, and (6) control.

### ***Explain the following quality-based planning methods:***

***(1) plan, do, check, act (PDCA), (2) zero defects, (3) time-based planning, and (4) planning for continuous improvement.***  
In the PDCA cycle, the first step is to plan the quality improvement. Second, workers perform or produce a small version or batch of the procedure/product. Third, workers check the results

of this pilot project. Fourth, workers implement the tested process. The PDCA cycle is then repeated.

Crosby's zero defects approach is outlined in 14 sequential steps. Zero defects is based on the concept of conformance to standards, of doing things right the first time, of preventing defects and "causing" quality.

Speed in planning and delivering a product or service—time-based planning—can be a strategic, competitive advantage. Time is important in the planning cycle.

Planning for continuous improvement revolves around the notion that customer expectations are a moving target. There is no single, ultimate solution that will permanently meet customer demands.

### *Describe quantitative measures for different types of business objectives.*

For the objective of profitability, possible quantitative measures include profit/sales ratio, of profit/total assets ratio, and profit/capital ratio. For the objective of marketing, possible quantitative

measures include market share, sales volume, rate of new product development, and number of outlets. For the objective of productivity, possible quantitative measures include output/labor costs ratio, output/capital costs ratio, and value added/profit ratio. For physical and financial objectives, possible quantitative measures include current ratio, working capital turnover, debt/equity ratio, accounts receivable turnover, and inventory turnover.

### *Compare quality-based planning with other approaches.*

Quality-based planning differs from other approaches in its reliance on participative planning and statistical process control techniques, its emphasis on continuous improvement, and its focus on exceeding customer expectations. Other planning approaches may do one or more of these, but quality approaches use all of these principles for all organizational planning.

Statistical process control is a central feature of quality-based planning. Using simple statistical tools, quality-based managers know when to act to correct variation in their system. But, more important, they know when not to act.

## KEY TERMS

actions, p. 183

authority, p. 186

budget, p. 183

centralized planning, p. 168

concept to customer, p. 190

decentralized planning, p. 168

federalism, p. 168

forecast, p. 183

goals, p. 176

implementation, p. 186

level of detail, p. 173

objective, p. 176

operational planning, p. 173

plan, do, check, act (PDCA), p. 188

performance standards, p. 173

persuasion, p. 186

planning process, p. 174

planning values, p. 180

policy, p. 186

quality planning, p. 188

regulation, p. 187

resources, p. 183

scope, p. 173

single-use plans, p. 174

standing plans, p. 174

tactical planning, p. 174

time frame, p. 173

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. Name the elements of the quality planning process.
2. What are the important outcomes of planning?
3. How does PDCA differ from MBO?

### Understanding

4. What is the difference between a "plan" and a "decision"? Which outcome or process do you feel is more difficult to do well on a consistent basis? Why?
5. Even with a carefully constructed plan, managers and workers are often required—or they demand—to change the plan. What would cause the people who made the plan to later want to change it? Are there good and bad reasons to change a plan? Who should best decide to make the change: those who made the plan or those who are putting the plan into action?
6. A senior manager has said "It's not the plan, but the planning process that counts. A good plan can be filed away as soon as it is finished yet still produce all the important outcomes I desire." Explain.

7. Explain the benefits of planning for an organization involved in global competition.

### Application

8. Prepare a 5- to 10-step action plan for writing a term paper for a college business course. Be sure to identify each step in the plan in such a way that you can be sure you know when you have completed the step. After putting the steps in order, date each step or deadline, using the current school term as the overall time frame, with the paper due the last day of class.
9. Prepare a short-term plan for the coming week's activities. After a brief assessment of the current status, name objectives, resources, and actions to be pursued. One week from now, review the implementation and success of your plan.
10. Interview a practicing manager (one with planning or budgeting responsibilities) to find out his or her thoughts on planning. How does planning help in performing the job?



## ■ CASE 6-1

### Harley-Davidson

Harley-Davidson (H-D) is a widely known, revered name in American manufacturing. The company produces what has been called the “Cadillac of motorcycles,” a symbol of American strength and style. For a generation of baby boomers, Harley defined motorcycling, power, and American machismo. An American success story, Harley-Davidson had begun by building the simplest of motorized bicycles almost 100 years ago. After World War II, Harleys became a symbol of American freedom and spirit, an image immortalized in movies and spread around the globe. By 1973 Harley had 75 percent of the super-heavyweight motorcycle market in the United States. Japanese inroads in the 1960s and early 1970s were minor; their bikes were small and certainly not powerful.

But with the first global oil crisis in 1973, Harley-Davidson began to slip. Customers no longer pined for the big, sleek Harley-Davidson look. Smaller bikes, even mopeds (many from the Japanese), began to earn the attention of energy-conscious American consumers. Worse, Harley quality was abysmal. Half of its motorcycles had parts missing as they came off the assembly line. Dealers told of having to wipe oil drips off their showroom floor, thanks to leaks from brand new bikes. Sales were sustained by a small, loyal group who found motorcycle repair not only interesting, but also necessary. Ironically Robert Pirsig’s cult classic, *Zen and the Art of Motorcycle Maintenance*, described the author’s fascination both with quality and the need to carefully maintain his motorcycle.

Harley-Davidson responded late and defensively. Soon H-D was spending an additional \$1,000 on a \$4,000 bike just to put it in shape to sell. The company survived on makeshift designs—culled from existing patterns, pieces, and parts—trying to just keep the Harley look. Customers began to look elsewhere.

Then H-D realized that the Japanese competitors were now well ahead, if not in style, then surely in quality. After visiting Japanese manufacturers, H-D realized it had to completely overhaul its York, Pennsylvania, assembly line, adding just-in-time (JIT) manufacturing, worker participation, and decision making by consensus. Workers also received training on statistical quality control; managers learned to become team leaders, not supervisors of shoddy work. The transformation began. In a short time, rework declined 70 percent and morale improved. Harley’s “productivity triad” consisted of employee involvement, JIT, and statistical process control training. In 1982 a full 50 percent of finished motorcycles had defects; by 1986 only 1 percent of finished bikes contained defects.

Revitalized marketing and short-term quota protection from the Reagan administration helped H-D through its worst years.

Celebrities “found” motorcycling, Harley-style, once again. Malcolm Forbes, Liz Taylor, Jay Leno, and others praised their Harleys and displayed them proudly. And H-D executives formed the Harley Owners Group (HOG) to promote their image. Driving a big, powerful machine became respectable and reliable once more; HOG had 100,000 members, and Harley executives mingled with yuppies at HOG events around the country, listening closely—and responding quickly to customers. By 1991 H-D had to add a second production line—a unique, small, automated electrified monorail (AEM) in its Wauwatosa, Wisconsin, plant—supporting dedicated assembly for the plant’s two engine types. A worker-controlled start-stop system also helped increase product quality. Despite booming demand, H-D declined to stretch production, fearing a return to old days and old ways of high production and low quality.

Recovering from its near-death experience, by the late 1980s Harley came to represent the resurgence of pride in workmanship, of responding to the market, and of meeting the global challenge. When import restrictions were lifted, Harley found no problem in meeting the competition head on. Formerly sloppy assembly had become characterized by precision work performed by workers organized in small work “cells” rather than on long, impersonal production lines. Retired production workers volunteered to provide interested visitors with tours of the new Harley production process. Harley hogs once again ruled the road and the market. Foreign sales boomed, and Harleys became a Japanese favorite.

By 1992 Harley owned over 60 percent of the market for motorcycles with engine displacements over 900 cc—the true big-ticket bike. Sales in 1992 increased over 1991, despite a sluggish economy and a 10-week strike at its York, Pennsylvania, plant. Selling lifestyle, not transportation, Harley expected to hold onto a graying market of middle-aged men and women. “Harleys make the same kind of statement as wearing a Rolex watch or driving a classic wing-tailed Cadillac,” says one enthusiast. With this customer attitude and remarkable new quality, Harley has big plans for the future.

### Questions

1. How has planning restored Harley-Davidson to its previous prominence among the large motorcycle consumer?
2. How has Harley-Davidson utilized quality planning principles to recapture flagging sales?
3. If you were in charge of long-term planning for Harley-Davidson, what sorts of environmental factors would you consider for the next five years?



## ■ CASE 6-2

### Toyota

To American automakers, Toyota symbolizes the rapid rise of Japanese automotive clout. Its introduction of the Lexus in 1989 showed how an economy-minded firm could build luxury cars. Yet much of Toyota's post-World War II history, chronicled in books such as *The Reckoning* and *The Machine That Changed the World*, is marked by pressure, frustration, and the occasional failure. For instance its first imports to the United States in 1957 failed their basic market test. Toyota's cars were unable to sustain necessary, extended freeway driving speeds common to Americans—speeds yet unheard of in tiny Japan. Also, in the late 1970s Toyota found that distributing and selling a car cost it twice as much as manufacturing it. Toyota's solution: merge its manufacturing and sales companies. Within 18 months all of the directors of the sales company had been retired; their jobs were left unfilled or were staffed by personnel from the manufacturing company.

Toyota's greatest impetus was the simple fact that following World War II the company had to build literally from the ground up. Often working and assembling cars in factories with dirt floors, Toyota could not afford to build large, mass-production, American-style assembly lines. Factories had to be focused and flexible. Machines had to be able to make several models and, when they were done making one model, their changeover to another model had to be done quickly.

Toyota is known for its development of the "lean production process," which contradicts much of the mass-production mentality that prospered in the United States following the war, when U.S. manufacturing dominated the globe. American assembly lines worked to produce volume, generating profits through massive economies of scale. Quantity triumphed over quality. In the early 1950s General Motors could build over a million units of a single Chevrolet model to feed an insatiable American appetite for cars in the postwar boom. Today a quarter million units mark a best-seller; 40,000 units mean a successful sales year.

By the early 1960s Toyota had mastered lean production. On the manufacturing side, lean production meant low overhead. Lower overall costs were achieved with just-in-time parts supply, few supervisors, limited inspection, and very limited finished products inventory. Workers had great responsibility for building and managing the process. Quality circles grew in abundance. Lean production also put the power to stop the assembly process in the hands of the workers. If a defect is noted, the line is halted, and the defect is tracked to its source and fixed. Almost every worker can be seen directly adding value to the car. A 1986 com-

parison of Toyota's Takaoka assembly plant with GM's Framingham, Massachusetts, plant found that, by dividing the total number of hours of work in the plant by the number of cars produced, Toyota consumed 18 hours per car, while GM Framingham took 41 hours. Defects were also lower at Toyota: 45 assembly defects per 100 assembled cars, versus 130 at the GM plant.

Toyota used teams operating rather independently, instead of rigid assembly lines and fixed job titles. Cross training was the standard, and, typical of most Japanese auto firms, employees received up to 10 times the training of their U.S. Big Three counterparts. Little space was set aside for fixing mistakes; few occurred so even more money was saved. Workers made scores of suggestions, many improving the process and further reducing costs. Measuring value added per employee, Toyota workers were four to five times more productive than General Motors workers.

Part of the Toyota production process actually begins with its sales approach. Toyota starts with highly developed data bases on households and buying patterns in Japan. Salespeople do not wait for customers; they go calling, targeting their efforts on well-defined buyers and honing customer loyalty. Customers become part of the entire planning process, carefully tracked by lifestyle and purchase patterns.

The introduction of the Lexus in 1990 and publication of the Massachusetts Institute of Technology's five-year \$5 million study of global automaking, *The Machine That Changed the World*, finally silenced any of the remaining skeptics who believed that Toyota's success was limited to small, inexpensive cars. While Ford purchased Jaguar and General Motors purchased Lotus, Toyota jumped into the luxury car market and shot to the top of the respected J. D. Power customer satisfaction measures. Not until GM's success with Saturn could an American car company make such a stellar introduction.

### Questions

1. Do you think that Toyota would have planned to use the manufacturing techniques that made it famous without the devastation of World War II? Explain how the world would be different had not Japanese manufacturing been destroyed in World War II.
2. What are some important issues U.S. automakers need to consider in long-range planning?
3. How can planning help American automakers become more competitive in the future?

Source: James P. Womack, Daniel T. Jones, and Daniel Roos, *The Machine That Changed the World* (New York: Harper Perennial, 1990). David A. Garvin, *Managing Quality: The Strategic and Competitive Edge* (New York: Free Press, 1988), and Joseph Blackburn, ed., *Time-Based Competition: The Next Battleground in American Manufacturing* (Homewood, Ill.: Business One Irwin, 1991).

## ■ APPLICATION EXERCISE

### Team Planning

As project development manager (PDM) for a \$14 billion global high-tech communications firm, you are responsible for manag-

ing a team of engineers, marketing directors, manufacturing reps, legal staff, financial analysts, and other key personnel as they take an idea from the basic research and development stage to the market/sales stage. You have been assigned to lead a team that

will soon pick up a project from research and development. As part of their efforts to train new PDMs, management has asked you to prioritize the list of activities your team will follow. The accompanying 16 steps are recognized as required to do the job. Read the following instructions, and complete this exercise in team planning.

### Instructions

1. On your own, order the activities from first (1) to last (16) in the sequence you feel they need to be completed. Write your numbers in column 1.
2. As a team, agree on a sequence of activities. Record it in column 2.
3. The instructor will then provide an expert's list as to the recommended rank ordering. Write these numbers in column 3.
4. Compute your individual accuracy by calculating the absolute difference between the numbers in columns 1 and 3. Write these numbers in column 4. Then add the figures from column 4 to determine your personal score.
5. Compute your team accuracy using columns 2 and 3 to determine the score. Write these in column 5. Then add the figures in column 5 to determine your team score. Write the personal scores of other team members below, along with your team score.

<i>Activity</i>	1	2	3	4	5
Find qualified people to fill the team positions.	—	—	—	—	—
Measure team progress toward project goals.	—	—	—	—	—
Identify all the tasks needed to complete the project.	—	—	—	—	—
Develop your team strategy and major priorities.	—	—	—	—	—
Recognize and reward team performance.	—	—	—	—	—
Prepare team members for their responsibilities.	—	—	—	—	—
Gather and assess the facts of the current situation.	—	—	—	—	—
Establish the qualifications for each team position.	—	—	—	—	—
Take corrective action on project, and recycle plans.	—	—	—	—	—
Lead and coordinate ongoing team activities.	—	—	—	—	—
Allocate the team operating budget.	—	—	—	—	—
Compare actual team results to original objectives.	—	—	—	—	—
Set team performance goals.	—	—	—	—	—
Define the scope and authority of each team position.	—	—	—	—	—
Decide on a basic course of action for the team.	—	—	—	—	—
Determine checkpoints for intermediate review.	—	—	—	—	—

### Scores:

Your personal score  
 Your team score

## CHAPTER

# 7

## STRATEGY

*After studying this chapter, you should be able to:*

Define *strategic thinking* and *strategy*.

■  
Explain the five elements of strategic planning.

■  
Identify the four characteristics of a mission statement.

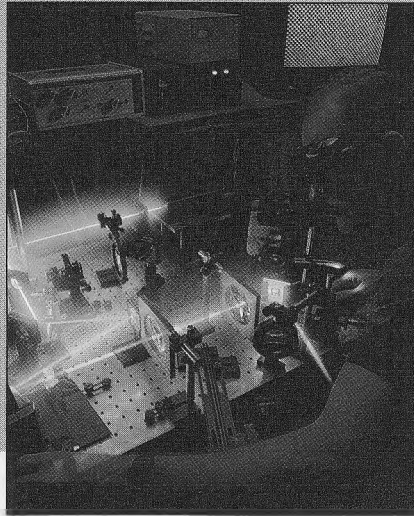
■  
Describe the cost-leadership, niche, and differentiation operating strategies.

■  
Discuss the four classifications of an organizational portfolio matrix.

■  
Explain how quality-based strategy differs from a traditional approach.

## STRATEGIC COOPERATION BEATS THE COMPETITION

In the past 50 years, 10 British aircraft manufacturers have merged to form one company, British Aerospace. In Germany during the same period, 7 firms merged to form Deutsche Aerospace. In France 8 firms have been consolidated to form Aerospatiale and Dassault Aviation. U.S. aircraft manufacturers now number 9 from an original 17, including Boeing, Bell, Lockheed, Northrop, and Grumman. ■ Competition is a fundamental part of a free marketplace. The American government at times has acted forcefully to instill competition in the marketplace. American antitrust legislation and enforcement led to the breakup of the original AT&T and, years earlier, of large petroleum companies. In Britain, the government has worked to instill competition by privatizing the national steel industry (British Steel), the national airline (British Airways), and, most recently, the national railway (BritRail). Water and energy are expected to follow the path to competitive markets. In Russia by the end of 1993 about 2,000 medium-to-large firms and about 100,000 small shops had been transferred to private, competitive ownership with 4,000 more large firms privatized the following year. ■ For many, cooperation—not competition—is taking hold as a strategic means to survival. Strategic corporate alliances are an alternative way to make firms more competitive in the long term. In the



Zigy Kaluzny/Gamma-Liaison

Reading data by laser at MCC, an electronics consortium.

1990s *keiretsu* (the Japanese term to describe the web of companies linked by a cooperative strategy) entered the American vocabulary. IBM and Apple agreed to study common personal computing platforms. Digital, General Electric, 3M, and Westinghouse partnered with Texas-based Microelectronics & Computer Technology Corporation (MCC), which markets high-tech breakthroughs. Toshiba, Siemens, and IBM cooperated on developing advanced memory chips for computers. ■ In the auto industry, the Big Three (GM, Chrysler, and Ford) agreed to “precompetitive” research on batteries and light-weight plastics. Ford Motor Company devel-

oped working relationships and partial ownership with auto firms in Japan (Mazda), Korea (Kia), Britain (Aston Martin, Jaguar, and Iveco trucks), and Argentina (Autolatina). Strategic cooperation moved to the factory floor. Britain, historically ravaged by antagonistic relationships between ownership and labor unions, worked to build worker-management cooperation. In Nissan’s Newcastle (U.K.) auto assembly plant, 230 first-line supervisors became a regular part of the strategic process. “A properly trained first-line manager is the first building-brick in lean management,” said engineering union president Bill Jordan. ■ McKinsey & Co. (the management consulting firm) estimated the rate of joint venture growth between American and global partners at over 25 percent a year since 1985. Yet about one third of the 49 alliances they studied failed. Successful alliances require firms to have a long-term perspective, to treat partners as equals, to allow partners autonomy, and to maintain flexibility. ■ Why have so many of these strategic alliances failed in America? Perhaps the American way of doing business is not yet receptive to working cooperatively with former competitors. Yet the tide toward these types of alliances has clearly turned in their favor, and the coming years should bring more of these often surprising relationships between former arch rivals.

Sources: Adapted from Howard Banks, “The Thin Line,” *Forbes*, October 12, 1992, pp. 45–47; Otis Port and John Carey, “This Research Consortium Gets Its Research to Market,” *Business Week*, January 27, 1992, p. 58; Kevin Kelly and Otis Port, “Learning from Japan,” *Business Week*, January 27, 1992, p. 55; “Remember Us?” *The Economist*, February 1, 1992, p. 71; “Chip Diplomacy,” *The Economist*, July 18, 1992, p. 65; “Russian Privatisation: Free for All,” *The Economist*, July 18, 1992, p. 70; G. Pascal Zachary, “High-Tech Firms Find It’s a Good Time to Line Up Outside Contractors,” *The Wall Street Journal*, July 27, 1992, p. A1; and Stratford Sherman, “Are Strategic Alliances Working?” *Fortune*, September 21, 1992, pp. 77–78.

**strategic thinking**

The determination of an enterprise's basic long-term goals and objectives, the adoption of courses of action, and the allocation of resources necessary for carrying out these goals.

**strategy**

A broad plan of action for pursuing and achieving the firm's objectives and satisfying its mission.

As a proactive and systematic approach to quality and competitiveness, any organization needs a strategy. A strategy is based on **strategic thinking**, which is defined as “the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals.”<sup>1</sup> Another characterization of strategic thinking is that it is “the pattern or plan that integrates an organization's goals, policies, and action sequences into a cohesive whole.”<sup>2</sup> At least, these two definitions agree that strategic thinking is a process that results in an outcome called a **strategy** that is the basis for subsequent organizational decisions and actions. In practice, the development of strategy and a strategic plan involves taking information from the organization's environment and deciding on an organizational mission and on goals, operational strategies, and a portfolio plan.

Philip Crosby states, “In trying to develop a strategy for an organization, you need to provide a guide that can be used as a basis for future action.”<sup>3</sup> When an employee asks, “Why are we doing this?” the answer lies in the firm's strategy. Traditionally, strategies have been established and managed by top-level managers of an organization. In contrast, for the modern organization, strategy development is not reserved merely for top management—“strategy” and “management” are important to all employees.

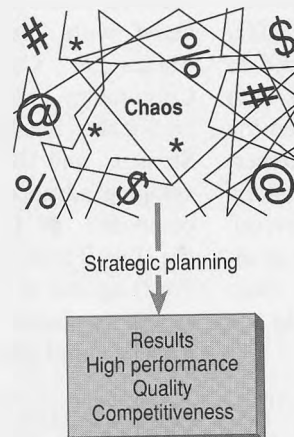
Strategic planning is essential to the long-term adaptability and success of a firm. Without an enduring sense of direction (an overall rationale for the business), firms drift and often decay. A firm's strategic plan conveys its basic sense of values to top management, to the public, to employees, and to the world.

In today's complex workplace, strategic planning has to account for unexpected events, randomness, and chaos. As David Freedman wrote, “The nineteenth-century emphasis on predictability and control has given way to late twentieth-century appreciation for the power of randomness and chance. For all practical purposes, the behavior of even relatively simple physical systems is fundamentally unpredictable.”<sup>4</sup> It is important to point out that chaos in the organizational environment need not result in uncontrolled or unfocused action. On the contrary, new organizational strategies and structures enable organizations to compete through constant learning and creativity. As Harvard Business School professor Rosabeth Moss Kanter stated, “New organizational models offer the best of both worlds—enough structure for continuity, but not so much that creative responses to chaos are stifled.”<sup>5</sup> Strategic planning helps organizations create order out of chaos and complexity to accomplish results, high performance, high quality, and competitiveness as Figure 7-1 illustrates.

This chapter focuses on developing and managing strategy in a highly competitive global economy. We begin by examining the characteristics of strategy. As with decision

FIGURE 7-1

Strategic Planning Turns Disorderly Chaos into Orderly Results, High Performance, High Quality, and Competitiveness





## STRATEGIC QUALITY MANAGEMENT

The unscientific approach to philosophy concentrates on anecdotal discussion and usually relates to “who” and “why.” Who created the universe and why?

The scientific approach to philosophy concentrates on “what” and “how.” Plow the ground with this tool to plant seed.

The conventional approach to quality management is an unhappy combination of these two concepts. Rather than determining what’s best for a particular company and a particular situation, people concentrate on learning what other companies did. Then they take what they’ve learned and change it around to suit themselves. The result is less than satisfactory because if something works, they never really know why.

Those responsible for making quality happen tend to assume that those who write or speak on the subject are all talking about the same things. Thus I hear people say that they combine the best of philosopher A with the best of philosopher B, adding a teaspoon from philosopher C. So a little Newton, some Franklin, and a slice of Voltaire make up a performance cocktail suitable for understanding how the price of gold is set.

A strategic quality management approach requires that subject’s concepts be understood exactly the same by all involved. It wouldn’t be practical, for instance, to have different accounting concepts in each department of an organization. No one would know what the other was talking about. No one would dream of a strategic accounting plan based on such unscientific thought. The who and why must be understood by top management before the what and how can be launched. Unless the strategy is approached in this way, the company will find itself searching fruitlessly for the mythical silver bullet that solves all problems.

Quality isn’t something the temple priests can create for you. Swearing great oaths and offering blood

sacrifices accomplishes little. Quality can’t be delegated as we’ve noted before. That’s why I’ve always referred to the “quality reformation” rather than “quality revolution.”

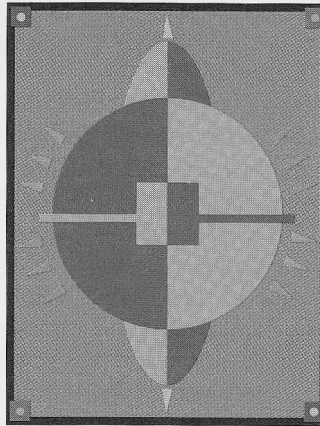
Once I had a manufacturing line in my department that made coils for telephone switches. For years it had had a defect level of 4 percent. That number was accepted as the sort of worldwide standard in the company. I could never get much done about reducing it. Then I had the opportunity to appoint a new manager for that operation. I selected a young electrical engineer who had no experience in that area.

“We need to get the coils down to zero defects,” I told her. “That’s the world standard.”

“OK,” she said and went to work identifying specific causes of the defect rate. She built her work force into a team that improved material handling, machine maintenance, worker training, and a dozen other things. They found, for instance, that many coils were damaged when they dropped off the end of the winding machine and fell onto the transfer ramp. They learned that it was possible to stack the finished goods in a way that nicked wires; they found that new workers weren’t being properly oriented.

Within a few months the defect rate was under 1 percent and they were still pounding away at it. I sent the details and results of their work throughout the international operations of the corporation where they also had coil departments. Soon defect rates began to drop elsewhere and they stayed down. many at zero. Now anything less than defect-free is considered unacceptable.

That’s what a worldwide quality strategy is all about. Define proper goals, help people reach them, and recognize their achievements.



making and planning, the strategic planning process can be described as a series of steps or elements. You will learn about these elements and how each is applied in a quality-based organization. The chapter concludes with an overview of strategy in the quality-based organization.

## ■ ELEMENTS OF STRATEGIC PLANNING

### strategic planning

The process of determining desired objectives or benchmarks and of developing ways to reach them. “What do we want the future to be? What must we do now to better ensure that the desired future is achieved?”

**Strategic planning** is the process of examining the organization’s environment, establishing a mission, setting desired goals and objectives, developing an operating plan, and developing a portfolio plan. During the strategic planning process, firms will typically ask themselves, “What do we want the future to be?” or “What must we do now to better ensure that the desired future is achieved?” (Review Chapter 6 for more on planning and the planning process.)

As you will learn, firms are often characterized by their basic approaches to their competitors and customers. Some companies are leading product innovators (prospectors); others prefer to follow the leader, looking for opportunities or gaps (analyzers); and others are concerned more with protecting their markets and businesses than with developing new ones (defenders).

In the high-performance organization, strategic planning never ends. Either the organization is formulating a new strategy or it is implementing an existing one, assessing progress and revising processes as needed. For example, a company president has the primary task of articulating the firm’s strategy on a daily basis to employees, customers, the public, and others. Millard S. Drexler, president of The Gap, is famous for answering his own phone and taking dozens of calls a week from customers. Joseph Vittoria, CEO of Avis, blocks out two- or three-hour stretches or whole days for unscheduled encounters with employees and company visitors.

Managers have the daily responsibility of directing and controlling the implementation of strategies by others. In a study of how CEOs spend their time, organizational consultant Stephanie Winston found that most successful top executives leave plenty of time for “schmoozing” (conversing with employees, community contacts, and others). Winston found the most successful executives spend up to 80 percent of their time engaged in conversations, maintaining a wide network of contacts inside and outside their organizations. “When people interrupt,” Winston advises, “realize that they come carrying gifts—information, ties of loyalty and mutual well-being.”<sup>6</sup>

This advice goes against current wisdom from other top management consultants. McKinsey & Co., for example, recommends that CEOs spend up to 900 hours per year in strategic thinking. To reach that level, McKinsey recommends assigning secretaries and assistants as “time protectors” to shield the CEO from interruptions.<sup>7</sup> Winston counters this approach, arguing that effective executives are thinking strategically and that interruption and spontaneous conversations are often mini strategy sessions. In a given week CEOs may have dozens of conversations that deal with strategic issues. For example, Louis Gerstner (head of IBM) crafted a reputation as head of American Express travel-related services as the type of leader who asks a lot of questions, turning meetings into forums for communication and strategic thinking. He used the same approach as head of RJR Nabisco.

Strategies, like decisions and plans, must be reviewed after they are implemented to ensure that the intended results are achieved. Adjustments must be made if long-term goals are not being met, but a quality-based strategy will require continuous improvement over the course of a plan as well as significant “quantum-leap” improvements as a result of a new strategy. One common term in the quality literature designating the latter type of change is *process reengineering*.<sup>8</sup> This term refers to a complete change in business processes from the use of information technology, not simply a speeding up of traditional processes.

Matthew Goodfellow, drawing heavily on W. Edwards Deming, recommends six basic steps to involve workers in meaningful strategic planning and implementation (Table 7-1).

Now let’s look at key elements of strategic planning—the environment, mission, goals and objectives, operating strategies, and the organizational portfolio plan (see Figure 7-2). For each of these elements, we’ll contrast the traditional approach to strategic planning with a quality-based approach. Look for the common themes of the quality-

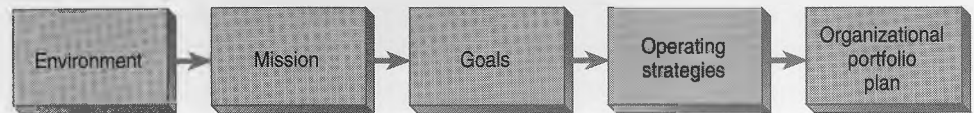
TABLE 7-1

## Six Steps to Meaningful Worker Involvement in Strategic Implementation

1. Eliminate slogans and quantitative targets for the work force. Substitute meaningful goals.
2. Forget numerical quotas, merit ratings, and annual performance reviews.
3. Don't run the plant on visible figures alone.
4. The required cultural revolution cannot be achieved by executive order. There must be explanation, illustration, training, and instruction.
5. Institute leadership without fear.
6. Only a management philosophy that puts customers first will lead to outstanding performance.

Source: Adapted from Matthew Goodfellow, "How to Get Workers Involved in Productivity and Quality," *Manufacturing Systems*, April 1991, pp. 54-57.

FIGURE 7-2  
The Elements of Strategic Planning



based approach in each of the key elements. Some that emerge repeatedly are a focus on customer service, continuous improvement, and employee empowerment.

### Element 1: The Environment of Strategic Planning

A strategy, plan, or mission for the future begins with an assessment of the current situation in which the company finds itself. A systematic, thorough situation analysis requires attention to four things: internal strengths and weaknesses and external opportunities and threats.

A company's strengths consist of its financial, human, and other resources. (See Chapter 6.) The firm's financial assets include cash, securities, receivables, and other tangible resources usually presented on its balance sheet and other accounts. Human resources are less easy to evaluate yet it is clear that this is becoming a primary component of modern organizations. Increasingly, human capital is replacing physical capital as the key to competitive advantage on the world stage. Human capital includes the ideas, ingenuity, patents, and other intangible yet essential bases for competitiveness that only human beings can provide to an organization.

Externally the company's business environment presents both threats and opportunities. An **opportunity** is anything that has the potential to increase the firm's strengths. For example, a pending reduction of trade barriers may allow a firm to increase its business in another country. A **threat** is anything that has the potential to hurt or even destroy a firm. For instance, a change in tax laws may portend ruin for a firm that specializes in using tax breaks that are to be eliminated by the change.

Key components of an organization's environment include the socio-cultural milieu, technological developments, economic conditions, and political climate (see Figure 7-3), which we will explore shortly. You can find discussions of various components of the organizational environment in Chapters 2, 3, 4, and 6.

**Socio-Cultural Milieu** Change is constant in modern societies. Strategic planners therefore must be able to identify the changing cultural and social conditions that will influence the organization. Unfortunately many organizations still have not considered the impact such changes will have or else they underestimate their impact. Cultural and social changes' importance to strategic planning can be seen in the impact American's concern for their health has had on numerous industries. The widely-read book *Mega-*

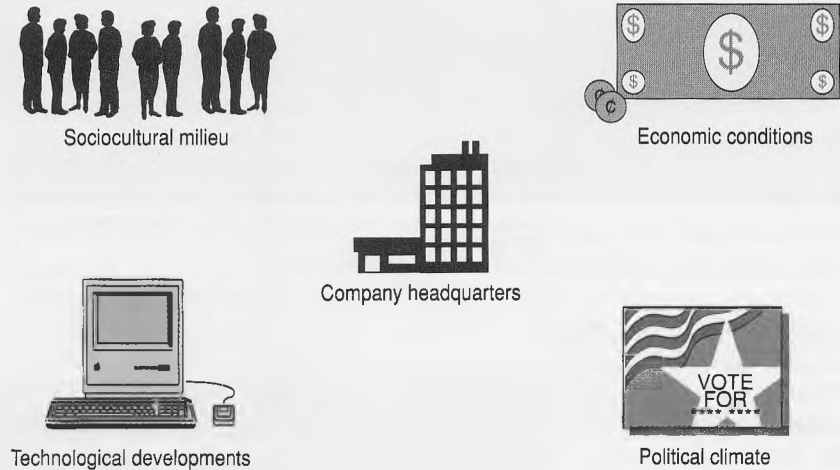
#### opportunity

Anything that has the potential to increase the firm's strengths.

#### threat

Anything that has the potential to hurt or even destroy a firm.

FIGURE 7-3  
Key Components of an  
Organization's Environment



*trends 2000* identified 10 megatrends that will be influential in the 1990s. Of these 10, 4 are clearly socio-cultural: renaissance in the arts, global lifestyles and cultural nationalism, religious revival, and the rise of women in leadership positions.<sup>9</sup>

**Technological Developments** Changes in technology can influence an organization's destiny. Technology can become a constraint when opportunities exist, but the necessary technology is not available. At the same time, technological innovations can create new industries or vastly alter existing ones. Consider the personal computer's impact on management education, electronic funds transfers' and automatic teller machines' impact on banking, and synthetic fibers' impact on the apparel and carpeting industries. Electronic banking has reduced operating costs for bankers and made banking services more widely and conveniently available to customers. Medical patients at some clinics are being given "smart cards," credit-card-sized optical information-storage cards that contain their entire medical history.<sup>10</sup> Harried executives can no longer escape the demands of business while traveling on airplanes. Modern aircraft are equipped with seat-back telephone and modem hookups, converting previously blissful escape time into productive work time. Wireless technology enables access to office-based networks via notebook computer. Science and technology will continue to be compelling forces for change.

**Economic Conditions** As this book makes clear, the economy of the 1990s will be increasingly global and increasingly competitive. New players enter the worldwide economic game every day. New alliances form, new trading blocs come into existence, and new rules of fair competition are constantly being drafted and debated. The emerging global economy will create a more complex economic playing field than ever before. Stock markets run all night around the world. Major investment banks will monitor and issue buy and sell orders overnight on the international stock markets. Competitive advantage is gained by those firms with satellite and computer links to the world.

**Political Climate** The political climate that propelled the United States into a world superpower no longer exists. Nations of the world no longer need to align themselves with one of two opposing economic giants. The collapse of the Soviet Union did bring an end to the Cold War that had kept the world on the edge of its nuclear seat since World War II. But the end to this political standoff has thrown the world into disarray as former Soviet satellites struggle for identity, ethnic animosities buried under the weight of the Russian bear rise up again in troubling frequency, and world trade battles rage over differing interpretations of fair play and justice. These and similar complex battles over

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Lifestyle changes are part of the sociocultural conditions that influence strategic planning.

scarce resources, differing value systems, and long-festering hatred will shape the political climate well into the next century. Business must be prepared for volatile, even revolutionary changes in geographic boundaries, contract and licensure regulations, and limitations on direct investment. As democracy rises around the world, expect much debate and even rancor as many long-oppressed people finally get an opportunity to flex their political muscle.

## Element 2: Establishing a Mission

### Mission statement

A statement of the firm's long-term vision, of what the firm is trying to become, that differentiates this firm from other firms. The mission provides direction and a sense of purpose to all employees.

An organization's *mission* is its *raison d'être* (French for "reason for being"), the fundamental purpose it is designed to serve. The organizational **mission statement** answers the question "What is this organization's purpose?" for employees, customers, and other constituents. While a strategy addresses ongoing goals and procedures, the firm's mission statement describes an even more fundamental rationale for its existence. All organizations, profit and not-for-profit alike, draw resources from their environment. These resources—financial, human, raw materials, customers—sustain the organization, whether it is a public corporation, a hospital, a government agency, or a religious organization. In exchange for these resources, the firm provides products—goods and services—that meet the competitive expectations of the global marketplace. Every firm exists to accomplish something and, to maintain focus over time, every firm needs a mission. The mission statement is a public pronouncement of the firm's long-term vision, of what it is trying to become, and what differentiates it from other firms. The mission statement provides direction and a sense of purpose to all employees.

**Factors to Consider** To establish a mission, a firm must take into consideration its history, distinctive competence(s), and environment.

*History* For established firms, the mission should be consistent with what is known about the firm's history. This history includes accomplishments and failures, objectives and policies, decisions, employees, and more. An organization must assess its history to determine its current resource base, its image, and its various capacities. For example, it would be inconsistent with its history for Sears to compete in the expensive appliance and designer clothing market. Such decisions would not fit the historical profile of the firm or institution and would be expensive to undertake.

Start-ups and new ventures need a mission too, but have no history upon which to base a long-term vision. Instead, such firms can look to the history of the industry they are part of, or to the history of the human needs and expectations they hope to satisfy through organized activity.

*Distinctive Competence* While a firm is likely to be capable of doing many things, strategic success stems from the firm identifying and capitalizing on what it does best and also what customers desire. A **distinctive competence** is a capacity that's unique to the firm and that is valued in the market. For instance, Honda's distinctive competence lies in engines (first with motorcycles, then with cars) and also lawn mowers and portable generators. Wal-Mart's distinctive competence is its capacity to deliver brand name goods to customers at minimum price.

*distinctive competence*

A capacity that's unique to the firm and that's valued in the market.

*mission statement*

A statement of the firm's long-term vision of what the firm is trying to become, that differentiates this firm from other firms. The mission provides direction and a sense of purpose to all employees.

*Environment* The business environment contains opportunities, constraints, and threats to the firm. Before a mission is articulated, these conditions must be analyzed and evaluated, as discussed in Element 1. The mission should be responsive to the organization's environment.

**Characteristics of a Mission Statement** For quality-based organizations, the mission statement that results from the analysis of history, distinctive competence, and the environment must be (1) customer-focused, (2) achievable, (3) motivational, and (4) specific.

*Customer-Focused* Mission statements in quality-based organizations emphasize a customer focus. Many firms have faltered or failed because they continued to define themselves in terms of what they produced rather than in terms of who they served. For example, in the late 1970s gas station attendants filled customers' tanks while they waited in their cars. Additional services included washing the windows and checking the oil and radiator levels. Many such "service stations" failed to recognize that 80 percent of customers were willing to pay less to pump their own gas and forgo these extra services. Similarly owners of AM-band commercial radio stations failed to see that customers desired the better sound quality of the more limited, FM-band broadcasts. In each case, severe drops in demand occurred, at least until the business refocused its mission to concentrate on its customers' needs and expectations.

Quality-based organizations formulate strategy based on the premise that customer satisfaction and, better yet, customer delight and loyalty were necessary for enduring success. The reasons are many and fundamental. Finding new customers is far more expensive than keeping current customers. Dissatisfied customers not only fail to return to buy again, they are also likely (1) to decline to express the reasons for their dissatisfaction (which could be a source of learning and growth for the firm) and (2) to share their dissatisfaction with other potential customers. As Deming notes, "no one can guess the future loss of business from a dissatisfied customer."<sup>11</sup> Customers, not employees, are a firm's best salespeople.

*Achievable* While a mission statement should be challenging, it must also be achievable. Unrealistic ambitions can exceed a firm's capabilities. For example, in the 1960s, many stock analysts, corporate executives, and consultants favored the conglomerate

form of business. They believed that similar management skills were applicable across a variety of businesses. In time many found that managerial skills in one business did not ensure managerial effectiveness in other businesses. A National Bureau of Economic Research working paper reported, “The greater the number of industries in which the parent firm operated, the lower the productivity, and thus the profitability of plants.”<sup>12</sup> Many of these firms failed because their mission—to expand through diversification—exceeded their managerial capability.

*Motivational* The mission must serve as a source of motivation at all levels. Effective mission statements have meaning to every employee, allowing each of them to translate the mission’s words into their own motivation, and serving as a guide for decisions and actions.

Motivation affects the enduring effort of employees. Yet, as Crosby notes, “A company whose top management are committed to quality, with roots, does not suffer from uncertainty and bewilderment.”<sup>13</sup> Crosby describes the “three phases involved in getting an organization or a person to be productive in the very best meaning of the word: *conviction*, *commitment*, and *conversion*.”<sup>14</sup> Conviction means the employee is dedicated to the idea. Commitment describes the behavioral expression of the psychological conviction. Conversion means that the employee has rejected outdated, noncompetitive notions of success.

*Specific* Quality-based strategies are specific. A mission statement must be clear enough to allow employees and customers to know in what business the firm competes as well as in what business it does not compete. Being specific in the mission allows employees to focus their energy and to be more productive, making the entire firm more profitable. Broad statements of value or goodness (e.g., “the highest quality at the lowest price”) do not make a good mission statement. By attempting to be all things to all people, a firm’s energy is scattered, making the firm less able to develop distinctive competence and making it nearly impossible to please anyone.

Table 7–2 on the following page provides three well-known companies’ mission statements. Can you spot their attention to the four characteristics?

### Element 3: Establishing Strategic Goals

A firm’s mission must be further translated or reduced into meaningful goals (see Chapter 6), which specify in more concrete detail the firm’s long-term aspirations. Organizational goals are the end points or targets stemming from the organization’s mission. Goals define what the organization seeks to accomplish through its ongoing, long-run operations.

Effective goals are capable of being converted into precise actions and shorter-term objectives. Clear goals tell employees where they should direct their efforts, without creating doubt about the firm’s intentions. All employees can interpret and understand an effectively stated goal.

Goals facilitate management control (see Chapter 16), serving as standards against which the firm’s performance will be measured. Clear goals and objectives help employees track progress by providing precise targets and immediate feedback. An employee focused on customer satisfaction as a strategic goal has something to measure as an indicator of success.

### Element 4: Operating Strategies

After a mission and goals are specified, they must be put into action through an **operating strategy**. An operating strategy is a broad plan of action for pursuing and achieving the firm’s goals and satisfying its mission. We’ll describe two basic models of operating strategies: the competitive strategy model and the adaptation model.

#### Operating strategy

A broad plan of action for pursuing and achieving a firm’s goals and satisfying its mission.

TABLE 7-2

## Three Corporate Mission Statements

**Levi Strauss**

We seek profitable and responsible commercial success creating and selling jeans and casual clothing. We seek this while offering quality products and service—and by being the leader in what we do. What we do is important. How we do it is also important. Here's how: By being honest. By being responsible citizens in communities where we operate and in society in general. By having a workplace that's safe and productive, where people work together in teams, where they talk to each other openly, where they're responsible for their actions, and where they can improve their skills.

**Federal Express**

Federal Express is committed to our PEOPLE-SERVICE-PROFIT philosophy. We will produce outstanding financial returns by providing totally reliable, competitively superior global air-ground transportation of high-priority goods and documents that require time-certain delivery. Equally important, positive control of each pack will be maintained utilizing real-time electronic tracing systems. A complete record of each shipment and delivery will be presented with our request for payment. We will be helpful, courteous, and professional to each other and the public. We will strive to have a satisfied customer at the end of each transaction.

**Ben & Jerry's**

Ben & Jerry's is dedicated to the creation and demonstration of a new corporate concept of linked prosperity. Our mission consists of three interrelated parts:

**Product Mission**—to make, distribute and sell the finest quality all-natural ice cream and related products in a wide variety of innovative flavors made from Vermont dairy products.

**Social Mission**—to operate the company in a way that actively recognizes the central role that business plays in the structure of society by initiating innovative ways to improve the quality of life of a broad community: local, national, and international.

**Economic Mission**—to operate the company on a sound financial basis of profitable growth, increasing value for our shareholders, and creating career opportunities and financial rewards for our employees.

Source: Adapted from R. Duane Ireland and Michael A. Hitt, "Mission Statements: Importance, Challenge, and Recommendations for Development," *Business Horizons*, May–June 1992, pp. 34–42.

**Competitive Strategy Model** According to the competitive strategy model, organizations can develop distinctive competence in three ways: differentiation, cost leadership, and niche.

**Differentiation** In an effort to distinguish its products from other firms', a firm using the **differentiation strategy** offers a higher-priced product equipped with more product-enhancing features than its competitors' products. Differentiation strategy firms seek a premium price for their products and attempt to maintain high levels of customer loyalty. The firm markets and sells the product to a relatively small group of customers who are willing to pay a higher price for the premium features. This differentiation strategy (sometimes called a *premium strategy*) leads to a relatively high-cost, low-volume production, with a high gross profit margin per item. Often advertising or marketing adds a perception of luxury that creates demand for the product due to the psychological value of buying and using it. Mercedes Benz cars, Ben & Jerry's ice cream, and Godiva chocolates are marketed under a differentiation strategy.

**Cost Leadership** In contrast to the differentiation strategy, the **cost-leadership strategy** means low costs, low prices, high volume, and low profit margins on each item. With this strategy, a cost leader attempts to attract a large number of customers with low prices, generating a large overall profit by the sheer volume of units sold. Examples of cost leaders are the U.S. Postal Service, McDonald's, and generic brand cigarettes produced by tobacco giants such as R. J. Reynolds. Motorola instituted an aggressive cost-leadership strategy aiming to crack rival Intel's dominance in microprocessors. It priced its new generation of microprocessor, called the PowerPC, at less than half the price of Intel's newest chip, the Pentium.<sup>15</sup>

**differentiation strategy**

In this approach, a firm offers a high-priced product equipped with the greatest number of product-enhancing features, and sells the product to a relatively small group of customers who are willing to pay top dollar for premium features. Sometimes called *premium strategy*.

**cost-leadership strategy**

A strategy of low price, high volume, and low profit margins on each item. With this strategy, a cost leader attempts to attract a large number of customers with low prices, generating a large overall profit by sheer volume of units sold.



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#### Just-in-time delivery

Suppliers deliver materials and parts at the moment a factory needs them, thus eliminating costly inventories. This holds down costs, but requires that materials and parts be of consistently high quality.

#### Niche strategy

A strategy that applies the premium strategy to a restricted market (usually a geographic region).

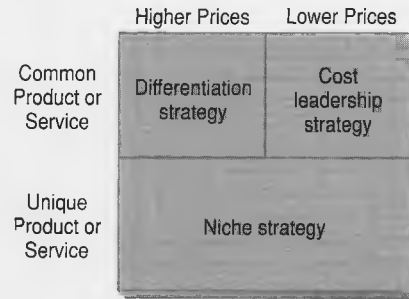
Cost-leadership strategies may erode to become a commodities business in which unit price alone is the firm's competitive advantage. But a firm that simply delivers a chemical additive in bulk on a monthly basis to a foundry, for example, may lose share to a firm that provides just-in-time delivery, technical assistance, and customer training in the efficient application of the additive. (With **just-in-time delivery**, suppliers deliver materials and parts at the moment a factory needs them, thus eliminating inventories. This holds down costs, but requires that materials and parts be of consistently high quality.) These special services enhance the consumer's perceived value of the total product, making it more competitive. Quality-based cost-leadership firms stay competitive in terms of delivery, product quality, and service elements.

**Niche** The **niche strategy** involves offering a unique product or service in a restricted market (usually a geographic region). For example, Milwaukee-based Midwest Express Airlines employs a niche strategy. It offers luxury service, food, and seating, while using Milwaukee as its sole hub. The air carrier does not compete in all national markets: it does not serve Arizona, Utah, New Mexico, or the northwestern United States. The airline appeals primarily to a select group of business travelers, including those frustrated by crowded Chicago airports and willing to pay for premium service. Also, given its low cost structure, Midwest Express does not need to charge a truly premium price. This operating strategy allows the airline to be profitable because of its niche.

In a bold move into a niche market Chrysler Corporation has developed a new subcompact, the Neon, that it hopes will help it wrest the small-car buyer from the Japanese and Germans. The competitively priced Neon is Detroit's best hope for a profitable subcompact in years, and, according to industry watchers, could determine the future of the U.S. auto industry. A team of 600 engineers, 289 suppliers, and many blue-collar workers delivered the new model in 42 months and within the \$1.3 billion budget. When it hits the showrooms on January 1, 1994, the car is expected to be priced at about \$8,600.<sup>16</sup>

FIGURE 7-4

## Competitive Strategy Model



Smart & Final, a chain of 122 large supermarkets in California, Nevada, and Arizona, sells large-size and bulk supplies, primarily to businesses that are too small to have their own warehouses. Once a run-down operation, the new operating head improved cleanliness and order without raising prices. In six years, sales increased from \$230 million to \$750 million, while profits grew at a 25 percent compound rate. Full-time employees divide 10 percent of pretax profits monthly. By focusing on cost-conscious, large-volume buyers, Smart & Final built a niche.<sup>17</sup> In Japan appliance dealer Step posts a red sign that says, "No explanations, no product displays, no exchanges, no refunds, and no free service." But customers appreciate prices 30 to 40 percent lower than full-service competitors'. In five years at seven outlets sales doubled to over \$180 million. With annual sales approaching \$30,000 per square foot of floor space, Step is 25 times as effective as the industry average. By going directly to manufacturers, Step's niche strategy satisfies premium electronics customers who are more concerned with value for the dollar than with service.<sup>18</sup>

Every organization must choose one of these market strategies, summarized in Figure 7-4. Although strategic planning does not guarantee success, it can increase the likelihood of achieving success. The adaptation strategy model highlights another strategic choice managers must make.

**entrepreneurship**

The process of serving the firm's customers primarily through the marketing function. Sales, customer service, market research, and advertising are part of the activity of creating, identifying, and listening to customers.

**engineering**

The activity that addresses the production and distribution issues for the firm (i.e., how to make products and deliver them to the customers).

**administering**

The system and process of organizing and managing ongoing company activities, including determining strategy, planning, leading, and controlling the system.

**prospector**

The prospector seeks dynamic, complex, often risky environments and concentrates on the entrepreneurial activity. Prospectors emphasize innovation, change, and growth.

**Adaptation Strategy Model** An alternative strategy for establishing distinctive competence, the adaptation model requires a firm to align three fundamental activities into one of three distinct strategic positions. The three basic activities are *entrepreneurship*, *engineering*, and *administering*. The three strategic positions are *prospector*, *analyzer*, and *defender*.<sup>19</sup>

The **entrepreneurship** activity defines the firm's products and customers primarily through the marketing function. Sales, customer service, market research, and advertising are part of the activity of creating, identifying, and communicating with customers (including listening to what they need). The **engineering** activity addresses production and distribution issues for the firm (i.e., how to make products and deliver them to the customer). The **administering** activity refers to the system and process of organizing and managing ongoing company activities, including determining strategy, planning, leading, and controlling the system.

**Prospector** The **prospector** seeks dynamic, complex, often risky environments and concentrates on the entrepreneurial activity. Prospectors emphasize innovation, change, and growth. The engineering and administering activities are secondary. Compensation, status, and power in the company are greatest for employees in the sales, marketing, and customer development area.

**Analyzer** Between the prospector and the defender lies the analyzer. **Analyzers** follow the lead of the prospector by balancing the three basic activities. In some cases, parts of

TABLE 7-3

## Adaptation Strategies

	Entrepreneurship	Administering	Engineering
Prospector	X	x	x
Analyzer	x	X	x
Defender	x	x	X

X = Primary emphasis.

x = Secondary emphasis.

#### Analyzer

Between the prospector and the defender lies the analyzer. Analyzers follow the prospector's lead by balancing the three basic activities of entrepreneurship, engineering, and administering. By focusing on analysis over risk, the analyzer hopes to capitalize on the prospector's successes while avoiding the mistakes.

#### Defender

Operating in or attempting to create a stable, more simple environment, the defender protects its domain primarily through the engineering activity.

the company may pursue a prospector position; in others, a defender's stance. By focusing on analysis over more risky approaches, the analyzer hopes to capitalize the prospector's successes while avoiding the mistakes.

*Defender* The defender contrasts directly with the prospector. Operating in or attempting to create a stable, more simple environment, the **defender** protects its domain primarily through the engineering activity. While production is the focal point for value-added activity, defenders often require rigid bureaucracy, high levels of efficiency, and tight controls.

Table 7-3 displays the different adaptation strategies and their relative emphasis on the substrategies of entrepreneurship, administering, and engineering.

## Element 5: The Organizational Portfolio Plan

The final phase of the strategic planning process is the formulation of the organizational portfolio plan. In reality, most organizations at a particular point in time are a portfolio of businesses. For example, General Motors makes cars, but also runs Electronic Data Systems (EDS), one of the world's largest information systems consulting services. Colleges and universities are typically organized around semiautonomous schools or colleges, each with several programs or departments.

Managing such groups of businesses is made a little easier if resources and cash are plentiful and each group is experiencing growth and profits. Unfortunately providing larger and larger budgets each year to most businesses is no longer feasible. Many are not experiencing growth, and profits and/or resources (financial and nonfinancial) are becoming more and more scarce. In such a situation, choices must be made. Management must decide which businesses to build, maintain, or eliminate and which businesses to add. Sears, Roebuck found itself in financial difficulty due to mounting competition and a portfolio that may have gotten too diverse. In an effort to regain competitive standing in the retail industry, the company shed some of its financial services, and, in a surprise move, jettisoned the famous Sears catalog—a common sight in American households for nearly 100 years.

Some method is needed to help management make difficult choices about which businesses to keep and which to eliminate. One of the best known and most widely used methods is the business portfolio matrix developed by the Boston Consulting Group (BCG).<sup>20</sup>

*The Business Portfolio Matrix* The first step in this approach is to identify each division, product line, and so forth that can be considered a business. When identified, these are **strategic business units (SBUs)**. An SBU is a product or service division within a company that establishes goals and objectives in harmony with the firm's overall mission. Each SBU has four characteristics:

1. It has a distinct mission.
2. It has its own competitors.
3. It is a single business or collection of businesses.
4. It can be planned for independently of the other businesses of the total organization.

#### Strategic business unit (SBU)

A product or service division of a company that establishes goals and objectives in harmony with the organization's overall mission.

Thus, depending on the organization, an SBU could be a single product, product line, division, college department, or state agency. For example, John F. Akers, before he was ousted as CEO of IBM, had set the company on a bold new direction, spinning off large chunks of the computer giant known as Big Blue into autonomous smaller SBUs he called Baby Blues. But his successor, Louis Gerstner, questioned the wisdom of this strategic move.<sup>21</sup>

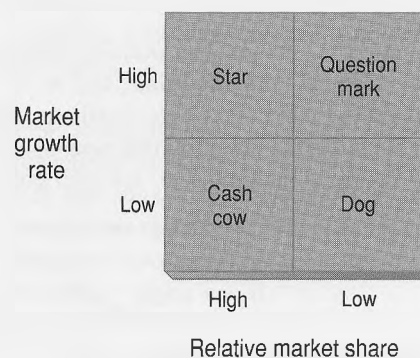
Once managers have identified and classified all the SBUs, they need some method of determining how resources should be allocated among them. This is the important contribution of the Boston Consulting Group's approach.

Using the BCG approach, an organization would classify all of its SBUs in the business portfolio matrix (Figure 7-5). The matrix's basic purpose is to assist management in deciding how much resource support should be budgeted to each SBU.

The business portfolio matrix illustrates two business indicators of strategic importance. The vertical indicator, market growth rate, refers to the annual rate of growth of the market in which the product, division, or department is located. The horizontal indicator, relative market share, illustrates an SBU's market share relative to that of the most successful competition. This indicator ranges from high to low relative share of the market. Based on these two axes, BCG has identified four distinct SBU classifications:

1. *Stars.* An SBU that has a high share of a high-growth market is considered a star. Stars need a great deal of financial resources because of their rapid growth. When growth slows, they become cash cows and important generators of cash for the organization. Not many people think of General Electric when discussing financial services, but GE's Capital Services, Inc., has been doing very well in the rapidly growing financial services industry. In the years 1988-1993, the unit's assets have more than doubled to \$155 billion. Its share of GE's earnings has surged from one-fifth to one-third.<sup>22</sup> GE Capital Services, Inc., is a star.
2. *Cash cows.* An SBU that has a high share of a low-growth market is labeled a cash cow. They produce a great amount of cash for the organization but, since the market isn't growing, they don't require a great amount of financial resources for growth and expansion. As a result, the cash they generate can be used by the organization to satisfy current debt and to support SBUs in need of cash. IBM's venerable mainframe business has long been a cash cow, although it is increasingly challenged by desktop workstations.
3. *Question marks.* When an SBU has a low share of a high-growth market, the organization must decide whether to spend more financial resources to build it into a star, or to phase it down or eliminate it altogether. Many times such SBUs require high amounts of resources just to maintain their share, let alone increase it. One good example of a question mark is Motorola's cellular telephone of the early 1980s. Motorola's entry in the cellular telephone competition could not match the market share of its Japanese rivals. Motorola's phone had very low growth in an explosive market. In 1985, a team of

FIGURE 7-5  
Business Portfolio Matrix



Motorola engineers built a new cellular phone that had 70 percent fewer components, was two-thirds smaller and lighter, and could be assembled largely by robots. When the new phone—called the MiniTac—reached the market, rapid sales propelled it past the Japanese products—even in Japan.<sup>23</sup> By investing in its question mark, Motorola created a star.

4. *Dogs.* When an SBU has a low share of a low-growth market, it may generate enough cash to maintain itself or it may drain money from other SBUs. The only certainty is that dogs are not great sources of cash. Sears made a tough decision in the spring of 1993 to stop publishing its famous catalog. Tradition has been keeping the catalog alive, even though Sears' customers had been using it less. The catalog had become a dog. Management finally recognized that reality, overcame inertia built up by tradition, and axed the catalog.

Depending on whether SBUs are products, product lines, or entire divisions, an organization can have a number and combination of the preceding classifications. Once the relevant identifications have been made, the organization is faced with strategic choices.

**Strategic Choices** Every organization can be analyzed using the BCG business portfolio matrix. This technique enables managers to put each SBU through some tough questions. Four alternative strategies can be taken with each SBU (Figure 7-6).

1. *Build.* If an organization has an SBU that it believes has the potential to be a star (probably it's a question mark at present), it would want to build that SBU. The organization may even decide to give up short-term profits to provide the necessary financial resources to achieve this objective.
2. *Hold.* If an SBU is a successful cash cow, a key objective would certainly be to hold or preserve the market share so that the organization can take advantage of the positive cash flow.
3. *Harvest.* This objective is appropriate for all SBUs except those classified as stars. The basic objective is to increase the short-term cash return without too much concern for the long-run impact. It is especially worthwhile when more cash is needed for a cash cow whose long-run prospects are not good because of a low market growth rate.
4. *Divest.* Getting rid of SBUs with low shares of low-growth markets is often a good move.

SBUs can change position in the business portfolio matrix. As time passes, question marks may become stars, stars may become cash cows, and cash cows may become cash traps.<sup>24</sup> In fact, one SBU can move through each category as the market growth rate changes. How quickly these changes occur is influenced by the industry's technology and competitiveness. This underscores (1) the importance and usefulness of viewing an organization in terms of SBUs and (2) the necessity of constantly seeking new ventures as well as managing existing ones.

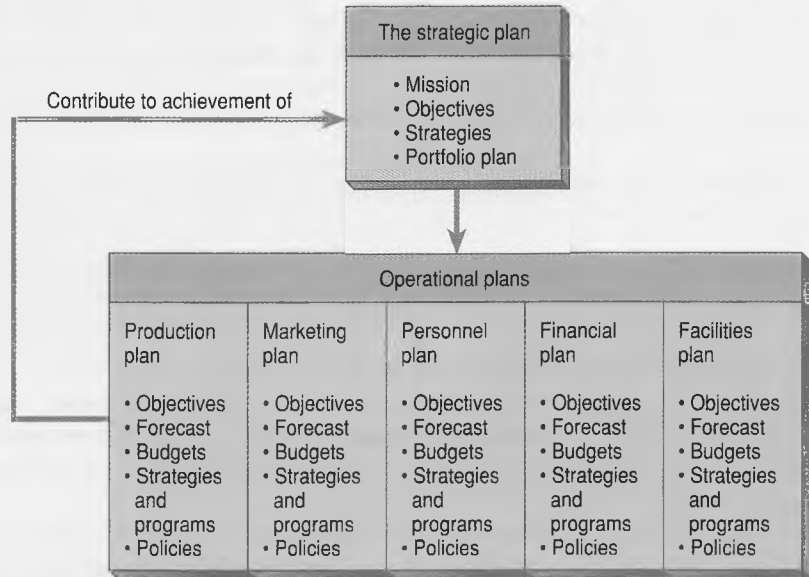
A major criticism of the business portfolio matrix centers on its focus on market share and market growth as the primary indicators of profitability. In addition, the BCG

FIGURE 7-6

Alternative Strategies with SBUs

Star Build	Question mark Harvest or divest
Cash cow Hold or harvest	Dog Harvest or divest

FIGURE 7-7  
Relationship between the  
Organization's Strategic Plan and  
Operational Plans



At the same time that the strategic plan provides direction for individual departments' plans, they are contributing to the success of the strategic plan.

Source: Adapted from James H. Donnelly, Jr., James L. Gibson, and John M. Ivancevich, *Fundamentals of Management*, 8th ed. (Homewood, Ill.: Richard D. Irwin, 1992), p. 188.

model assumes that SBU financing comes mainly from internal means. While these criticisms are valid, thanks to the BCG model's usefulness in assessing SBU's strategic position it is used extensively by managers across all industries.

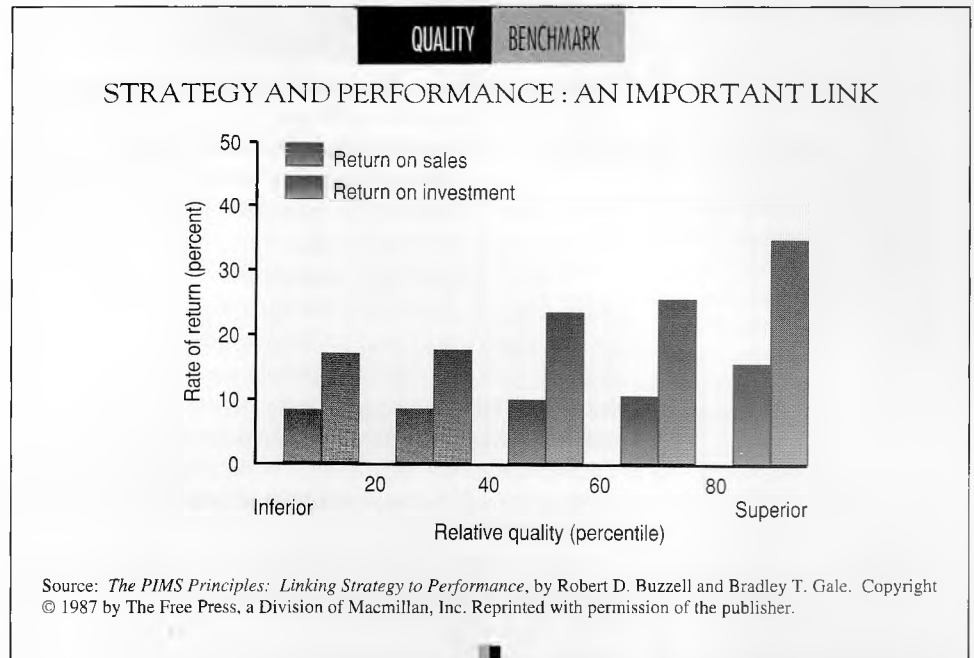
Most managers in an organization do not directly develop the organization's strategic plans.<sup>25</sup> Those who are interested in the benefits and results of planning frequently are not responsible for implementing the plan. It is a disparate activity, relying on inputs from some and interpretation by others. But managers may be involved in this process in two important ways: (1) They usually influence the strategic planning process by providing information and suggestions relating to their particular areas of responsibility. (2) They must be completely aware of what the process of strategic planning involves as well as the results, because everything their respective departments do and the objectives they establish for their areas of responsibility should all be derived from the strategic plan.

In well-managed organizations, therefore, a direct relationship exists between strategic planning and the planning done by managers at all levels.<sup>26</sup> The focus of the planning and the time perspectives will, of course, differ. Figure 7-7 illustrates the relationship between the strategic plan and operational plans. It indicates that all plans should be derived from the strategic plan while at the same time contributing to the achievement of the strategic plan.

## ■ STRATEGY, QUALITY, AND STAKEHOLDERS

In 1990 quality expert Dr. Armand Feigenbaum and his associates estimated that by applying total quality management strategies the United States economy could save \$300 billion annually, including over \$85 billion in the service sector alone. Congressman Don Ritter claimed that besides saving billions of dollars of expenses for American firms, such a movement would also save jobs and companies. Feigenbaum asserted that a small increase in prevention quality costs would greatly reduce external and internal failure costs and appraisal costs, producing large savings for the economy.<sup>27</sup>

Consultant Tom Peters cites a 1985 survey demonstrating that customers are willing to pay extra for quality. For example, typical customers reported that they would be will-



ing to pay one third more for a quality car (\$13,581 versus \$10,000). Similar differences were found for appliances and furniture. Peters believes that perceived relative quality determines profit. His belief is based on his research using the Profit Impact of Market Strategy (PIMS) database. PIMS is a large collection of financial and marketing data on hundreds of large American corporations. Once used to prove that market share determines profitability, the study concluded that PIMS better demonstrates “that changes in perceived quality have a far more potent effect on market share than do changes in price.” The perception of quality depends on both a personal judgment (“perceived”) and a comparison to an alternative choice (“relative”). The greater the product’s *perceived relative quality*, the greater the return from the business.<sup>28</sup>

Attention to quality, customers, and value have increased the traditional domain of strategies. Effective strategic thinking requires a more detailed analysis of quality and of new, focused, operational strategies to increase the likelihood of achieving and sustaining quality. In the next section, you will learn about the many stakeholders that companies must learn to integrate into their quality culture through strategic planning.

## Stakeholders

Quality-based organizations base their strategy on exceeding the expectations of customers (also called stakeholders). A **stakeholder** is someone with an interest in some product or service the organization provides. Different people, groups, and organizations have a vested interest (stake) in the decisions and well-being of any organization. Stakeholders vary in terms of the degree of their legal, economic, and personal interests in the firm. Management consultants Howard S. Gitlow and Shelley J. Gitlow have identified five major stakeholders of the firm: employees, customers, suppliers, stockholders, and the community.<sup>29</sup> Let’s explore each with attention to how an organization uses a quality-based strategy to exceed each stakeholder’s expectations.

**Employees** While the traditional view of strategy would suggest that managers and shareholders are a company’s most important asset, a quality-based view directs attention to the customers and nonmanagement employees. These stakeholders are highlighted in quality firms because they are critical in defining and adding value to the product or service.

### Stakeholders

The firm’s stockholders, suppliers, labor unions, lenders, and customers; all those with an interest in the firm.

Employees in the modern workplace are conceived differently from those at the turn of the century, as we have already noted. Increasingly, organizations are relying upon their own people as the source of new ideas, energy, and creativity. The modern knowledge worker requires a different management approach than the 19th-century sweatshop laborer. According to former *Harvard Business Review* editor Alan Webber, the manager's job in the new economy is "to create an environment that allows knowledge workers to learn." Further, the manager's job is to "eliminate fear, foster trust, and facilitate the working conversations that create new knowledge."<sup>30</sup>

British management philosopher Charles Handy also has written about the growing importance of employees and their knowledge to the modern organization: "As organizations everywhere realign themselves around their core activities and competencies, they are realizing that their people are truly the chief assets." These knowledge workers see themselves as having careers beyond the organization, and want to work in an environment where they are recognized for their special talents and individual contributions. The new professionals, Handy wrote, "prefer small, autonomous work groups based on reciprocal trust between leader and led, groups responsible, as far as possible, for their own destiny."<sup>31</sup>

The traditional view of labor as a cost has been replaced in the quality-based strategy by a view of employees as a resource, not as a cost of production. Not only are skilled, committed employees essential to a firm, finding successors for them as they retire is a serious problem. For example, in the early 1980s, a government study found "There are eight times as many openings each year for skilled machinists as there are graduates from apprenticeship programs." An aircraft engine manufacturer vice president "estimates that his company will lose approximately 75 percent of its machinists through attrition" within five years. The aging high-skilled machinist population, combined with a decline in job skills and numbers of new job market entrants, poses a doubly troubling problem for U.S. manufacturers.<sup>32</sup>

The only sustainable competitive advantage for a firm in the global marketplace is its human resources. Ivan Gorr, chief executive of Cooper Tire and Rubber, says, "If our success was attributable to some neat technology or process, we'd have been vulnerable to competitors, because all they'd have to do is buy, steal, or otherwise duplicate it."<sup>33</sup> While cash, equipment, facilities, and infrastructure can be quite quickly transferred, built, or acquired, human resources are not so easily or quickly developed. Strategic management of employees requires managers to dedicate time, money, and attention to their training and development. This not only increases workers' value, it also enhances their capacity for continuous improvement. In a global market, for a work force to remain stagnant without ongoing training is to invite failure. However, as the Ethics Spotlight shows, there is debate over who is responsible for providing the training workers need.

**Customers** Defining organizational strategy in terms of customer expectations is fundamental to the quality-based approach to strategic management. **Customers** are defined as the end users of the organization's products and/or services.

For some companies, a variety of customers or groups may use its products and services. For example, a hotel may rent single rooms to walk-up business customers, to tourists in small groups, or to a business manager of a professional organization who secures rooms for thousands of convention customers. Similarly a household-goods moving firm may sell its full range of services to corporate clients at a discount for large volume, or to single households that use only some of the firm's services (e.g., shipping but not packing of household goods). Careful identification of the firm's customers is essential.

How does a company find and develop loyal customers? There is no simple answer to this critical question. One auto firm estimates that a happy customer constitutes over \$100,000 in lifetime profit to the firm; one bank estimates that keeping a customer for five years earns the bank \$400 in profits.<sup>34</sup> As difficult as it might be to secure a customer's loyalty, it has been estimated that losing a once-loyal customer is significantly more

**customer:**  
End users of the firm's products and services.



## ETHICS SPOTLIGHT

## WORKER TRAINING: WHO IS RESPONSIBLE?

The promising jobs of the future will require knowledge, the ability to communicate, technological skills, and flexibility. The end of the Cold War is shrinking the U.S. defense industry. High-wage, low-skill factory jobs—once a main ticket into America's middle class—continue to migrate overseas, where they become low-wage, low-skill jobs.

Increasingly American companies have begun to accept that the U.S. primary and secondary schools simply do not provide the kind of basic skills that workers need to be successful in the modern high-skill, high-performance workplace. Nevertheless American employers still do not consider worker training to be a corporate responsibility. Individual firms are often reluctant to supply necessary training because they may not capture the benefits before workers move on. Government, for its part, has traditionally viewed training as essentially a private-sector responsibility because companies and private individuals are primary beneficiaries. With Germany, Japan, and other countries outdistancing the United States in education and training, and with the likes of Thailand, China, and Mexico underbidding Americans on wages, one question looms large for the United States: How will we develop a work force that can compete on the global scale?

Educators and trainers argue that the best way to encourage growth of high-wage jobs is to upgrade the work force's skills. The theory is that better-trained workers become more productive workers, enabling a company to become more competitive and expand. The company then hires more workers and prompts its suppliers to take on more employees as well. Studies by the American Society for Training and Development (ASTD) show that every \$1 spent on training generates \$3 in new economic activity. ASTD figures show that nearly 50 million U.S. workers need training, but won't get it if current trends continue.

How do other nations handle their training needs? Germany's approach stresses apprenticeships for more than 400 occupations, supported by organized labor and jointly financed with public and private funds. About 60 percent of

the work force completes apprenticeship training, which is conducted partly in training centers, partly in companies. In Japan training is the responsibility of the private sector, much of it taking place inside the worker's company where it is often delivered by managers and supervisors. Despite the differences between the German and Japanese training systems, their net effects are much the same. Workers become deeply and broadly skilled and participate effectively in the relentless search for better production methods. In both countries, managers view training as an investment; by contrast most U.S. managers still see it as a cost.

The ethical issue is whether private companies or the government (state and federal) is responsible for training and developing the work force. The lagging quality of the U.S. labor force slows economic growth and lowers standards of living for all Americans. But who is responsible to those Americans indirectly affected by a low-skill work force?

According to the U.S. Constitution, state governments are responsible for providing education to all citizens. But, as is becoming painfully evident, our state-run educational systems are not adapting quickly enough to changing economic conditions. More will need to be done to keep American companies supplied with high-skill workers. A 1990 Congressional Office of Technology report urged joint federal/private support of training, supplemented by state programs. Ultimately that may be the answer, but details of an acceptable program will be very hard to work out.

The challenge is to upgrade the American work force's skills while maintaining the flexibility and ingenuity that are among the best features of American culture. Who is responsible for the training are economic, ethical, political, and strategic issues. And with the international community moving out in front of the United States in the training issue, the question isn't if it will be resolved in America, but when.

Source: Adapted from W. Wendell Fletcher and John A. Alic, "Keeping the Work Force Competitive," *Issues in Science and Technology*, Fall 1991, pp. 44-49; and Ronald Henkoff, "Where Will the Jobs Come From?" *Fortune*, October 19, 1992, pp. 58-64.

damaging. Happy customers return and refer other customers. Unhappy customers not only fail to return, they are likely to cause other people to be unwilling to become customers. One estimate is that one dissatisfied customer can produce 250 noncustomers (people who are indifferent, perhaps even hostile to a firm's product or service).<sup>35</sup> In a free-market economy, where customer choice and freedom are paramount, satisfied customers are the fundamental focus of any strategy.

Customers are a firm's key asset—its focus. Customer reaction to a firm's products and services is its fundamental measure of quality. But defining the customer is not always easy. For example, who is the customer for a university? In recruiting new students, the customers are potential students and, in some cases, their parents. While students are enrolled, they are the customers. Businesses are also customers because they hire the students who graduate from the university. State and federal governments may become

customers, hiring the university to perform contract research. For its executive education programs, senior executives of large corporations are the customers. To avoid this confusion, higher education consultants Ellen Earle Chaffee and Lawrence Sherr suggest substituting the term *beneficiary* for *customer*.<sup>36</sup> This broader term includes anyone who benefits from the services of the organization, not just those who pay for services.

It is important for any organization to identify exactly who its primary customers are and what their expectations are. To a university, the primary customer is very much a function of where the organization decides to focus. If it wishes to serve the corporate community primarily, it will survey corporate leaders to determine what types of skills they want to see in each and every student that graduates. On the other hand, if the university decides that its enrolled students are the primary customers, then it will determine what they expect of the institution and strive to meet those expectations. Whatever the choice is, organizational, product, and service quality must be defined in terms of the customer.

*The purpose of any business is to create a customer.* Without customers, a business is not in business; at best, it is a concept. Developing and maintaining a devoted customer base is required for long-term survival. As important as this is, such a measure is elusive or, as Deming would say, “unknown and unknowable.” Lacking a good measure of its customer base, firms often resort to an alternative, more objective measure—sales and profits. However, profits and sales are an indirect and often misleading indication of this customer base.

Some writers argue that any business’s goal is to make money. Quality management theorists argue that such a primary goal would be destructive to the firm, managers, and workers in the long run. All organizations must be concerned with profit; they must know the status of their financial resources. But this does not have to be the primary focus. As Drucker wrote: “The guiding principle of business economics is not the maximization of profits; *it is the avoidance of loss*. It is an absolute necessity for the business enterprise to produce at the very least the profit required to stay in business and maintain intact the wealth-producing capacity of its resources.”<sup>37</sup>

In brief, the firm must (1) identify the customers, (2) determine customers’ needs, (3) assess its ability to meet their needs, (4) meet those needs of the selected customers, and then (5) measure its success in meeting those needs.

### *Customer Delight*

*Customer delight is the delivery of products and services that exceed expectations. Customer delight represents excellence in every respect. It could include faster delivery, longer life, lower cost, clearly perceived value, consistent performance, or higher resale value. In short, it is anything you can do for your customer, whether an internal or external customer, to make him say: “I am absolutely delighted.” This can translate into a distinct advantage in the increasingly competitive world.*<sup>38</sup>

Determining customer wants and needs and assessing customer pleasure or displeasure with a firm’s products and with its competitors’ products are key to the quality-based approach. Management consultants Tom Peters and Robert Waterman described many practices to ensure that this knowledge exists throughout the company, yet it all begins with a strategic appreciation of the customer. They recommend that a firm “stick to the knitting.” That is, the firm should rely on competing in its area of distinctive competence, the area where it is strongest and therefore most competitive. Tightly linked to this is the idea that firms must stay close to the customer.<sup>39</sup> This concept of “staying close to the customer” is used throughout the quality literature to refer to the need to know and understand customer expectations, respond appropriately, and develop timely feedback channels.

**Suppliers** Suppliers provide essential raw materials for the firm, including paper, parts, agricultural products, potential hires, information, and any resource used in the production of the firm's final product. The traditional view of suppliers is that a single supplier of any one raw material can threaten a firm's flexibility, especially its capacity to force price concessions by playing off two or more suppliers against one another.<sup>40</sup> This is compounded by a traditional view of purchasing as a low-cost function, where the business is awarded to the supplier offering the lowest cost per unit. The quality-based strategy focuses on developing a long-term relationship with a key single supplier, with a focus on a partnership, product quality, and the total cost of the material being supplied. Special attention is devoted to eliminating defective parts and to involving the supplier in the design process for the firm's product(s). This type of relationship is the basis of such process innovations as just-in-time delivery.

Such single-source alliances are expected to proliferate in the coming years as organizations experiment with a variety of new structures. The new metaphors used to describe these structures are "the virtual corporation" or "the modular corporation."<sup>41</sup> Virtual corporations are those capable of producing short-run, customized products tailored to individual customer tastes. Modular corporations resemble Japanese *keiretsu*, a special relationship between a corporation and a small set of suppliers that guarantees continued preferential use given the reliable maintenance of high quality standards.

Globalization of the economy will bring a host of changes to the way businesses operate, including new opportunities for collaboration. As the Global Exchange on the next page shows, organizations in the 21st century will benefit from focusing on core business and "outsourcing" non-core activities to other businesses. In the global economy high-performance organizations will observe no boundaries in their search for high-quality, reliable partners. New business strategies will seek to take advantage of global networks of firms working together to generate competitive advantage.

**Stockholders** **Stockholders** are those who own a firm's stock. The traditional view of business in the United States has placed highest priority on satisfying stockholder expectations which, because of their exclusively financial interest, usually meant paying close attention to the quarterly report. This focus results in a heavy emphasis on short-term profit improvements, often realized at the expense of long-term investment.

In Japan, by way of contrast, stockholders and senior management are the first to suffer in bad business times. The traditional U.S. approach to a downturn in the business cycle has been to lay off workers first while the firm waits for customer demand to return. A 1980 NBC News White Paper, "If Japan Can, Why Can't We?" showed how Mazda of Japan, during an energy-cost-induced sales crisis, assigned engineers to selling jobs, to learning more about the customer, without layoffs. During President Bush's January 1992 visit to Japan, accompanying American CEOs were treated with skepticism by the Japanese. Much of this skepticism stemmed from the CEOs' average pay—\$2 million per year—when business and profits were *decreasing*. The average Japanese CEO earned less than one quarter that amount when business and profits were *increasing*. "What big American companies need most is leadership," argues John Kotter, a professor at the Harvard Business School. "I don't think you can encourage leadership with money."<sup>42</sup> The average pay of a top U.S. firm president, was about 85 times the pay of the average worker in 1991. The Japanese CEO earns less than 25 times the pay rate of hourly workers.

**Community** The *community* consists of private citizens plus government and other public or regulatory agencies. Traditionally the community is dependent on the firm and is grateful for the salaries and taxes it pays and for its use of community suppliers and contractors. Many communities and states offer companies special inducements to bring their production to the community.

**Stockholders**  
Those who own a firm's stock.

## GLOBAL EXCHANGE

## GLOBAL OUTSOURCING

Globalization is leading to new corporate strategies and structures. Some economists have estimated that at least 70 to 85 percent of the U.S. economy feels the impact of foreign competition. In growing strength and numbers, foreign competitors reduce profit margins on low-end goods to the barest minimum, and they innovate across high-end products and services at ever-increasing rates.

Moreover, foreign competitors are rapidly becoming as technologically sophisticated as their U.S. counterparts. Technological innovations once provided competitive advantage for the innovating firm, but now they travel rapidly across international borders and across industries as well. Firms thus find it increasingly difficult to build barriers of either technology or location around their businesses.

As a response to these trends, many U.S. firms are adopting the strategic approach pioneered by foreign competitors. For example, the Mazda (Japanese) MX-5 Miata, a popular return to the affordable sports car, was financed by Mazda, but it was designed in California and is built in Worthing, England. The advertising firm of Saatchi and Saatchi developed a TV commercial for Miller Lite Beer in its British office, shot the commercial on location in Canada, and edited it in the United States. In the United States, Boeing constructs its aircraft with tail cones from Canada, special tail sections from Italy and China, and engines from Great Britain.

The outsourcing approach consists of identifying and focusing on core businesses and then outsourcing the goods and services that are not a part of this core. This approach rid's firms of minimally productive assets, rendering them less costly to operate and more agile. By limiting operations and performing them expertly, firms require less planning and coordination, and they can accelerate product and service innovations to keep pace with accelerating marketplace changes.

For the smaller, more adaptive companies that use the outsourcing strategy, the global economy contains not only an increasing number of competitors but also more candidates for outsourcing and partnering relationships. Indeed, alliances of various kinds have given rise to the "stateless" corporation in which people, assets, and transactions move freely across international borders. As the world economy continues to concentrate into three regional centers (Europe, Pacific Rim, North America), companies are struggling for a presence in each of these huge markets—something most cannot do single-handedly.

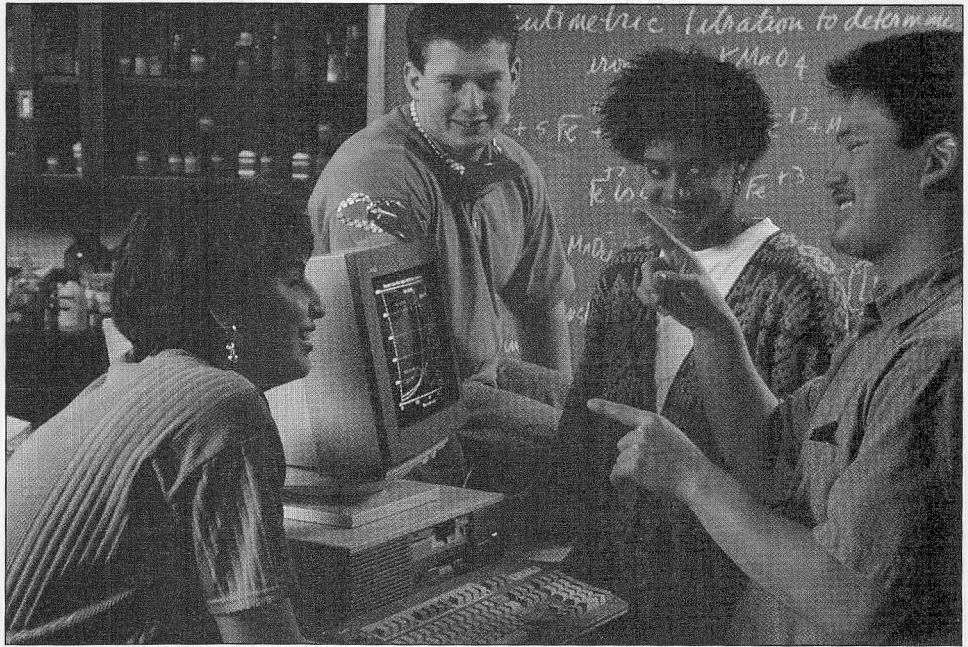
Thus, whether the objective is to extend distribution reach, increase manufacturing efficiency and adaptability, add design capability, or whatever, the global economy is full of opportunities for networking. Of course, the opportunities available to one firm are probably equally accessible to others, raising concern that the outsourcing firm may not find a manufacturer, supplier, distributor, or designer when one is needed. Further, there are concerns about quality in geographically far-flung networks, plus additional concerns that outsourcing will increase the likelihood that innovative advances will be copied as technological competence spreads throughout the world.

Global competition in the 21st century will force firms worldwide to become, at least to some extent, network designers, operators, and caretakers. As competition intensifies, companies will find themselves constantly subjecting virtually every internal asset to market tests in order to justify ownership. The most successful firms not only will learn how to use those assets, but they also will learn how to market and deploy those assets to other firms in global outsourcing networks.

Source: Adapted from Charles C. Snow, Raymond E. Miles, and Henry J. Coleman, Jr., "Managing 21st Century Network Organizations," *Organizational Dynamics*, Winter 1992, pp. 5-20, and Robert B. Reich, "Who Is Them?" *Harvard Business Review*, March-April 1991, pp. 77-88.

Environmental concerns are an increasingly important issue to companies in a multitude of industries. In the past, dirty air and water that resulted from heavy industrial production were often accepted as a cost of doing business. The community accepted pollution along with wages and purchases from the polluting firm. Clean air and water, safe storage and disposal of toxic wastes, and protection of workers' health are current examples of strategic environmental concerns. With a quality-based view, the strategic emphasis is on preventing environmental hazards or concerns rather than their cleanup or cover-up.

Not only must a firm act in a legal, ethical fashion with each stakeholder, the community also expects a strong sense of social responsibility from the firm. Further, most communities view the firm as needing to make a positive contribution to the community beyond the firm's payroll, purchases, and taxes. The strategic quality-based view of the community as a stakeholder must also be long-term.



© Kay Chernush. Photo Courtesy AT&T.

Students from Galludet University, a four-year university for the deaf and hard-of-hearing, use a new computer, donated by AT&T as part of the company's community service.

Strategic thinking is the basis for forming an organization's strategy. Strategic formulation requires a firm to focus on its internal and external environments, and to search for opportunities and threats. Strategic implementation is the action step necessary to realize an organization's goals. A clear strategy is defined in terms of situation analysis, mission statement, goals, and operating strategies. Strategies are important at all levels of the organization, not just for top management.

Quality-based strategies reflect a shift from an internal to an external focus. Global economic changes have increased the role of information and knowledge-based work. Effective strategic responses to global competition include zero defects, benchmarking, time-based strategies, and continuous improvement.

Quality-based strategies are not always successful. A study of top American managers found that quality efforts most often failed due to misguided attempts to quickly achieve profitable results or other results not fundamentally built upon quality.<sup>43</sup> Quality efforts succeed best when the firm builds a coherent strategy aimed at improving quality. A survey of 584 companies in North America, Japan, and Europe found that firms with significant problems must build their efforts from the bottom up, beginning with training and teams (see Chapter 12); better-performing firms can focus on simplifying work procedures, training workers in problem solving, and building long-term relationships with suppliers; top-performing firms can further improve their quality through benchmarking and empowering trained workers to make important decisions.<sup>44</sup>

What are the results of a quality strategy? Customer expert Tom Peters argues that (1) any customer will pay more for the highest relative quality, (2) firms that provide high quality will perform effectively in the long term, (3) workers in quality-based firms will be motivated and "energized" by the chance to produce quality, and (4) product quality is constantly increasing, driven by competition from new, better products.<sup>45</sup>

Quality-based strategies reflect a change from traditional economic, organizational, and managerial strategies. Table 7-4 summarizes the major differences between traditional and quality-based approaches to strategy.

TABLE 7-4

## Traditional versus Quality-Based Characteristics of Strategy

Traditional	Quality-Based
Profit as primary goal.	Quality as primary goal.
Seek quarterly earnings growth.	Seek customer satisfaction.
Stockholders take precedence.	Customers take precedence.
Senior managers are key employees.	All employees are important.
In bad times, employees are cut.	In bad times, stock dividend is cut.
Equity-based capital.	Debt-based capital.
Absentee ownership.	Employee ownership.
Cosmopolitan, mobile managers.	Grow; promote managers from within.
Diversification of business portfolio.	Focused business portfolio.
Stock options for top executives.	Gainsharing, ESOPs, Improshare.
Managers manage; workers work.	All employees manage.
Secrecy concerning costs.	Candor concerning costs.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Define strategic thinking and strategy.*

Strategic thinking is the determination of the basic long-term goals and objectives of an enterprise, and the adoption of courses of action and the allocation of resources necessary for carrying out these goals. A firm's strategy conveys its basic sense of values to top management, to the public, to employees, to the world.

### *Explain the five elements of strategic planning.*

First, a situation analysis requires attention to the four elements of a firm's environment: internal strengths and weaknesses plus external opportunities and threats. Second, the mission states the organization's fundamental purpose. It answers the question, "Why are we in business?" Third, organizational objectives are the end points of the firm's mission and what it seeks through ongoing, long-run operations. With objectives, the mission is defined by a finer set of specific and achievable statements. Fourth, an operating strategy is a broad plan of action for pursuing and achieving the firm's objectives and satisfying its mission. Fifth, a firm must establish an organizational portfolio plan to manage its different units. Decisions must be made about whether to keep or jettison units based in market share and growth.

### *Identify the four characteristics of a mission statement.*

Mission statements need a *customer focus*. A mission statement must also be *achievable*. The mission must serve as a source of *motivation*. Quality-based strategies are also *specific*.

### *Describe the cost-leadership, niche, and differentiation operating strategies.*

The cost-leadership strategy means low prices, low costs, high volume, and low profit margins on each item. With this strategy, a cost leader attempts to attract a large number of customers with low prices, generating a large overall profit by the sheer volume of the units sold.

The niche strategy applies the premium strategy to a restricted market (usually a geographic area). From a quality-based view, it could be argued that the only relevant strategy is a niche strategy, where the firm sharply focuses on a specific segment of the customer base.

A differentiation strategy firm offers a higher-priced product equipped with the greatest number of product-enhancing features. Differentiation strategy firms seek a premium price for their products and attempt to maintain high levels of customer loyalty to the company. The firm then sells the product to a relatively small group of customers who are willing to pay top dollar for these premium features.

### *Discuss the four classifications of an organizational portfolio matrix.*

A cash cow is a strategic business unit (SBU) with a high market share of a low-growth market. A star is an SBU with a high market share of a high-growth market. A dog is an SBU with a low market share of a low-growth market. A question mark is an SBU with a low market share of a high-growth market.

### *Explain how quality-based strategy differs from a traditional approach.*

A quality-based strategy focuses on exceeding customer expectations, empowering employees with information and planning responsibility, and continuous improvement. The traditional management approach was to shut nonmanagement employees out of the planning process altogether. In addition, traditional management planned to offer the customer products that were produced in high volume with little variety. Quality-based firms are flexible and able to engage in short production runs to customize products for individual customers.

## ■ KEY TERMS

administering, p. 212

analyzer, p. 212

cost-leadership strategy, p. 210

customers, p. 218

defender, p. 213

differentiation strategy, p. 210

competitive competence, p. 208	operating strategy, p. 209	strategic business unit (SBU), p. 213
engineering, p. 212	opportunity, p. 205	strategic planning, p. 204
entrepreneurship, p. 212	prospector, p. 212	strategic thinking, p. 202
just-in-time delivery, p. 211	stakeholders, p. 217	strategy, p. 202
mission statement, p. 207	stockholders, p. 221	threat, p. 205
niche strategy, p. 211		

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. Explain the differences between a cash cow and a question mark; between a star and a dog.
2. What are the five elements of strategic planning?
3. What are the characteristics of a mission statement?

### Understanding

4. How can a firm prevent strategic objectives from becoming numerical quotas?
5. Who is responsible for strategy in a firm?
6. Explain the customer's role in strategic planning from a quality perspective.
7. Traditional firms have emphasized stockholders and their

demands for increased profits, earnings per share, and stock price. How does a quality-based approach respond to stockholders?

### Application

8. Write a mission statement for your business school. What are the key elements of the statement? Who are your customers?
9. Review the differentiation, cost-leadership, and niche strategies. Identify five national or global firms that use each strategy.
10. List the features that might appeal to a customer choosing among liquid refreshments (e.g., soft drinks, bottled water, milk).

## CASE 7-1

### Nabholz Construction

Bob Nabholz grew up on a farm in Conway, Arkansas. After serving in World War II, he spent three years in college and worked as a carpenter before he built his first house. In 1949 he founded Nabholz Construction Company, a general contractor for commercial, industrial, and institutional building programs. In 1955 Nabholz Construction incorporated with assets of \$24,000 and did \$2 million of business. By 1990 sales hit \$129 million.

While construction work amounts to about 9 percent of U.S. gross national product, few construction firms are visible to those who study the U.S. industrial base. Construction is a fragmented business known for high risk and intense competition. Industry publications say the average life cycle for a construction contractor is less than six years. Building programs are unique in design and require the management and coordination of materials, labor, and equipment for a variety of locations and weather conditions.

Nabholz clients include General Dynamics, Kimberly-Clark, Whirlpool, Humana, and Wal-Mart. A paragon of consistency in an erratic, often cyclical business, Nabholz is located in the same place it started over 40 years ago, under the same name. Nabholz has never shown an annual loss and has not experienced sales declines for two consecutive years. The company is owned by just over 30 managers, superintendents, and board members. A buy-back clause keeps ownership in the company.

Eighty-five percent of Nabholz Construction's business is from repeat customers. This reflects the firm's enduring commitment to customers, employees, and quality. Bob Nabholz believes that the company's success can be attributed to its values. These values include putting teamwork over personal interests, and achieving quality by doing things right the first time.

The Nabholz strategic plan is to promote slow, steady growth based on repeat business from satisfied customers. According to Bob Nabholz, building contractors sow the seeds of their demise during good market conditions. "We control our ego during the good years, and reinvest the profits in the company, so we can survive the bad years. A key is bidding construction contracts with your head and not your heart." This building discipline keeps Nabholz from overloading on unprofitable or high-risk projects.

Nabholz's unique organizational framework uses separate divisions or strategic business units to focus on specific market niches. For example, its Nabholz Client Services division specializes in relatively small projects, and provides 24-hour warranty and emergency service. The Con-Ark Builders division focuses on building programs designed around pre-engineered steel buildings systems. Millwork Specialties produces and installs finished carpentry and millwork. In specializing, Nabholz's eight divisions help minimize overhead and unleash the entrepreneurial power of their people. They provide Nabholz clients with

a total package of construction services on a wide range of building sizes and types.

Speed is an important issue in the construction business. In 1986 Nabholz contracted with Wal-Mart to build a prototype of its Hypermart store in Texas. Nabholz completed the quarter-million-square-foot building and 22-acre parking lot in seven months. Nabholz currently holds the completion record for a Wal-Mart Supercenter (175,000 square feet), providing occupancy in only 145 calendar days. Using simultaneous design engineering and construction, value analysis, and fast-track scheduling, Nabholz speeds projects along. Tokusen (a Japanese client in Arkansas) awarded Nabholz with a commendation following completion of its manufacturing facilities ahead of schedule.

Safety on the job site is another strategic success factor. Nabholz employed a full-time safety director in 1972, prior to OSHA regulations for the construction industry. Nabholz has a very low workers' compensation rate, reflecting its commitment to safety. While the industry "employer modification rate" average is 1.0, Nabholz has a 0.20 rate. Nabholz achieved estimated insurance savings of \$400,000 in 1991, compared to the industry average.

The secret, says Bob Nabholz, is people. "The contractor with the best people, working as a team, always wins." That's why the firm recruits young people "from good families with traditional values: hard work, integrity, and sacrifice." Nabholz began hiring college graduates of construction degree programs 20 years ago, when most people in the industry thought the business couldn't absorb them. In 1986, targeting 26 promising employees, Nabholz launched its "top-gun" program, designed to

provide training for advancement. "Nabholz University" provides continuing education programs for all levels of the organization, from carpentry apprenticeship training to strategic planning workshops.

Nabholz employees are united under a corporate strategy of being the best general contractor and construction management firm in the United States. This vision is a constant theme for CEO Dan Nabholz. "Being the best doesn't mean having the most sales, or having a high profile, with corporate jets and offices throughout the country. All it means is being the best at serving our clients' special needs." The philosophy is simple: There are no small jobs, only important clients. They build services through long-term relationships with customers; reinvest profits in the firm and its employees; provide education and training at all levels; ensure integrity in all they do, including accounting, costing, and billing practices; and cut waste and demonstrate innovative management and strategic planning.

## Questions

1. What strategy (cost-leadership, differentiation, or niche) do you think Nabholz Construction uses for competitive advantage? Explain.
2. Based on what you've read about Nabholz Construction, what do you think its mission statement might say?
3. Because the average construction contractor lasts only six years, do you think Nabholz Construction can neglect strategic planning and focus only on the short term? Explain your response.

## ■ CASE 7-2

### British Airways: Part I

Over much of the 20th century, British Airways (BA) was a public airline owned and operated by the British government. And, over much of the century, the airline earned a global reputation for bland food, bland service, and complacency. By 1981 nationally owned and operated British Airways had lost the British taxpayers over \$140 million. Privatization of the company in the 1980s changed all that.

BA's shift from public to private ownership was timely, with a rapidly expanding global market. After doubling in the 1980s, European air travel will likely double again in the 1990s. Yet once-dominant carriers suffered greatly in the 1980s. Pan Am, Eastern, and Trans-World Airlines (TWA) died or fell into bankruptcy while the market boomed. Why? Deregulation led to lower prices, more travel, and more power to the customer, who asked for service. Without privatization BA was likely to cost the British taxpayer a lot of money or it too might have been added to the list of disappearing airlines. Instead, the war for profits shifted from the United States to the North Atlantic and Asian

markets, with BA head-to-head with American and United in the Atlantic, where in 1992 BA's 278 flights equaled the combined total of the two expanding American carriers. Nipping at BA's heels was upstart Virgin Airways with less than one third the Atlantic flights of BA.

In 1982 Sir Colin Marshall assumed control of BA and adopted a novel approach: asking customers what they wanted. Moving quickly from being a government-owned bureaucracy, losing almost \$1 billion a year, BA (known to some as "Bloody Awful") became service-oriented and market-driven. For example, at any one time, 60 "hunters" roam the massive BA terminal in London Heathrow airport. They assist the traveler at a moment's notice, before a small problem creates a dissatisfied customer. Marshall often "works" a plane, introducing himself and asking customers what they like and dislike. BA calculates that a happy customer tells six other people her experience, while an unhappy one tells 11 friends. The cost of keeping customers by keeping them happy is small compared with what it takes to replace them. BA also found that having friendly employees was

Source: Leonard D. Goodstein and W. Warner Burke, "Creating Successful Organization Change," *Organizational Dynamics*, Spring 1991, pages 5-17; Matthew Lynn, "Battle of the Atlantic," *Management Today*, November 1991, pp. 48-53; Sharon Winn, "Financial Directions," *Healthcare Executive*, May-June 1991, p. 36; "Airlines Battle over the Atlantic," *Marketing*, November 14, 1991, pp. 22-24; Barbara Lewis, "Customer Care in Service Organizations," *Management Decision*, 1991, 29, no. 1, pp. 31-34; "Towards Open Skies," *The Economist*, September 5, 1992, pp. 14-15; "Coal Privatisation: Lumping It," *The Economist*, September 19, 1992, pp. 70-71; and "American and British Airlines: Strong Head Winds," *The Economist*, October 10, 1992, p. 91.



twice as important to customers as food service, check-in speed, and the other operating measures used by most airlines.

In the early 1990s BA became the dominant airline in a rapidly expanding market. Volume, competition, and strategic alliances with air carriers around the globe put heavy pressure on the traditionally recognized, high-quality nationalized carriers like Scandinavia's SAS and Switzerland's Swissair. High quality also traditionally meant high price for fussy business and first-class passengers who demanded and paid for personal service, efficient schedules, and fine food. Smaller, subsidized carriers like SAS found a comfortable niche as long as markets were regulated and stable, and the government covered all losses. In earlier centuries a country's power was defined by the size of its naval fleet. In modern economic times, the important fleet is in the air, doing battle in business, not in the water. "Flagship" air carriers are now a source of national pride and security.

Privatization, globalization, and competitiveness demanded drastic change. BA redefined its business as service, not transportation. BA put a new top management team in place. The firm designed training programs and support groups to promote staff with the desired values, along with behavior-based performance appraisal, performance-based compensation, and profit sharing. Top management made a commitment to teams, team building, and involvement. New uniforms, equipment, and even a coat of arms ("We fly to serve") added to a positive, quality-minded climate.

BA tapped employee input. using one-day retreats, BA's 30,000 employees proposed ideas that were later put into action. Since 1983 BA has been running "customer care" campaigns,

designed to improve the quality of service and to increase staff morale. With seminars built around customer issues ("putting people first") and staff concerns ("A day in the life"), workers learn about the customer, the company's business, and ways to provide high standards for customer service.

Mike Batt (BA's North American route director) says, "Quality service has been part of our culture for a long time now. It is something that is built into the way we operate, rather than something we are just trying to bolt onto the North Atlantic routes." As Bolt notes, American carriers are used to competing on price, while European carriers have competed on quality in a deregulated market. BA had strategically managed to bridge the price-quality market. In 1991 BA earned over \$500 million and formed a strategic link with America's USAir. Carrying 79 million scheduled passengers, BA established itself as the world's largest commercial carrier.

## Questions

1. BA uses 60 "hunters" to ensure that customers' problems are resolved quickly. Do you think this places too much emphasis on solving problems rather than on preventing them?
2. What do you think are some reasonable goals that a major air carrier like BA might establish for itself?
3. Describe the socio-cultural, political, economic, and technological environment in which BA must conduct its strategic planning for the future.

## ■ APPLICATION EXERCISE

### Computer Software, Inc.

You have been asked to consult in determining the strategic design and organizational structure for a start-up firm selling personal computer software, in a national market, for home use. Personal Software, Inc.'s (PSI) software offerings include educational, entertainment, and home management packages. The firm intends to buy the software products from a variety of sources or license its development and production to manufacturers. The

founder of PSI does not foresee basic product design nor manufacture in its activities. PSI has obtained or licensed a very good initial array of products and excellent financing. You have been asked to design a structure for 100 full-time people, including all support and clerical staff. No part-time staff should be included. Be sure to identify the number of people included in each group, office, department, region, and so on. Provide a clear organizational chart with title and reporting lines. Write a mission statement for this firm along with three specific strategic objectives.

CHAPTER

8

INFORMATION FOR  
DECISION MAKING

*After studying this chapter, you should be able to:*

Distinguish between data and useful information.

■

Discuss the importance of information sharing.

■

List the devices that make up a computer-based information processing system.

■

Define the term *management information system*.

■

Identify the functions of a management information system.

■

Describe the difference between a management information system and a decision support system.

■

Explain the meaning and significance of artificial intelligence and expert systems.

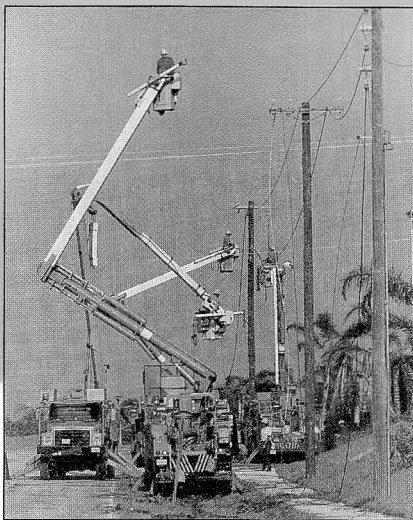
■

Discuss major trends in computers and information systems.

■

## BRIGHT IDEAS AT FLORIDA POWER & LIGHT

During the 1960s Miami-based Florida Power & Light (FPL) grew at an annual rate of over 13 percent, becoming the fourth largest utility in the United States. Rates were decreased 11 times during this period, and customers had little to complain about. But this changed rapidly in the 1970s, when external factors such as the oil crisis of 1973 and double-digit inflation sent electricity costs soaring. Service fell while customers were asked to pay more. In addition, the National Energy Act of 1978 created more competition in the electric utility market and the nuclear accident at Three Mile Island resulted in more regulation and negative public opinion of the nuclear power industry. FPL knew it had to change the way it operated to remain competitive. ■ It was then that FPL began the never-ending journey toward quality and customer satisfaction. After executives took several trips to visit Japanese companies known for implementing total quality management programs, they concluded that providing quality service at the lowest possible price was the answer. FPL was convinced that quality was simply customer satisfaction. And the way to satisfy customers was to understand what they want and deliver exactly that. ■ The major challenge facing FPL was to determine customer wants or requirements and how well it met those



Tom Salyer/Silver Image

Florida Power & Light workers, repairing damage after Hurricane Andrew.

wants. This information was obtained from a number of sources, depending on the market. For residential customers, telephone and personal interviews identified 22 major quality requirements. Thousands of customers were surveyed and asked how well the company was meeting these needs. Other surveys measured the importance of the various needs. For commercial customers, on-site interviews with users identified 39 quality requirements. ■ After collecting this information, FPL had to integrate it with corporate policies to have an impact on quality and customer satisfaction. FPL did this by ranking customer requirements to identify the most crit-

ical needs. These needs were then communicated throughout the organization so that everyone knew to direct resources and business activities toward these requirements. ■ By ranking customers' needs and allocating sufficient resources and activities to areas of the firm that were most important to satisfying these needs, FPL reduced the number of customer complaints filed with the Florida Public Service Commission by more than 50 percent. Customer satisfaction also increased, as measured by the firm's surveys. Also, the average length of service interruptions has been lowered by more than 10 minutes since 1986; service interruptions averaged 100 minutes in 1982 and 48 minutes 10 years later. ■ In 1986 FPL was awarded the Deming Prize for quality by the Union of Japanese Scientists and Engineers. The prize, named in honor of quality expert W. Edwards Deming, is awarded for successful application of quality programs. FPL is the only non-Japanese company to receive the Deming Prize since it was established in 1984. The firm recently received the Silver Anvil Award from the Public Relations Society of America for quality public relations performance and techniques. As FPL continues on the road to quality and customer satisfaction, information will continue to be a key factor in guaranteeing long-term success.

Source: Adapted from John J. Evelyn and Neil J. DeCarlo, "Customer Focus Helps Utility See the Light," *The Journal of Business Strategy*, January-February 1992, pp. 8-12; Judy A. Gordon, "Silver Anvil Awards Recognize Excellence," *Public Relations Journal*, June 1992, pp. 9-24; and Lorraine Dusky, "Bright Ideas: Anatomy of a Corporate Revolution," *Working Woman*, July 1990, pp. 58-63.

## ■ THE INFORMATION AGE

Businesses today have access to more information than ever before. The abundance of newspapers, journals, magazines, TV and radio programs, business and government reports, and seminars has led many commentators to label this the *Information Age*; information will be the main catalyst for growth in today's global economy.<sup>1</sup> The merger of computer and communication power is turning into a second industrial revolution. And this time, unification is the key organizing principle, not separation. As a result of networks of computers, businesses are growing so close to customers and suppliers that boundaries between them seem to dissolve. Global in nature, this unification can make a company across the world seem like it's next door.<sup>2</sup> But the sheer volume of information available presents a real challenge to business managers, raising important questions about the impact of information technology on the management of organizations. Understanding this impact becomes even more critical as organizations struggle to improve quality and competitiveness in the face of relentless challenges from foreign firms.<sup>3</sup> Obviously every manager can't use all available information. The challenge is to collect, store, process, report, and use the most relevant information to make more effective decisions.

One challenge facing organizations is to communicate useful information to managers in a timely fashion. The Information Age's specific effects on communication can be grouped into three major categories: the speed of communications; the distance over which timely information can travel; and the increase in the volume of communications.<sup>4</sup> Organizations must be able to make decisions quickly to keep pace with competition. Yet if an organization isn't prepared to handle a large volume of information, or if the information doesn't reach key decision makers, the volume of information and its speed of travel are of no value whatsoever.

### Data versus Information

Success in the Information Age will depend upon superior systems for converting data into useful information.<sup>5</sup> **Data** are unorganized facts, statistics, and predictions concerning people, objects, events, and ideas. Data alone can't be used to make meaningful decisions. Most organizations have more data than they can possibly use: customer records, sales reports, industry data, results of surveys, and so on. Once data are organized, they can provide useful information. For instance, a grocery store manager may have no use for a daily output of data from scanners at the checkout lanes. But the same manager may find information detailing sales patterns to be useful.

**Information** is data that have been organized and processed in a certain way to meet managers' needs. Information is used to increase knowledge and assist managers in making intelligent decisions. To be useful, information should be compiled with the user in mind. A human resource manager has different needs than a production manager. Since the ultimate purpose of information is to increase performance, it must be delivered to the right individual in a timely manner. As we'll discuss later, computers and information systems make it possible for managers to receive useful information.

### Attributes of Useful Information

Not all information is appropriate for decision making. For information to be truly useful, it must be accessible, timely, relevant, accurate, verifiable, complete, and clear.<sup>6</sup> Table 8-1 summarizes these attributes. As the table shows, the requirements are fairly rigorous and may be difficult to meet. For instance, when information is needed quickly, accuracy may be sacrificed for speed; information obtained quickly may not be error-free. When the city managers in Chicago learned about small leaks in the underground

#### Data

Organized facts, statistics, and predictions concerning people, objects, events, and ideas.

#### Information

Data that has been organized and processed in a certain way to meet the needs of managers.

TABLE 8-1  
Attributes of Useful  
Information

Attribute	Description
Accessible	Information can be obtained easily and quickly.
Timely	Information is available when needed.
Relevant	Managers need the information to make a particular decision.
Accurate	Information is error-free.
Verifiable	Information is confirmed.
Complete	All details needed are available.
Clear	Information is stated in such a way that no facts are misunderstood.

tunnel system, speed was more important than accuracy. While officials examined the situation further, the Chicago River cracked through the underground pipes, flooded much of the city, and caused millions of dollars in damage.<sup>7</sup>

In determining the value of information, these attributes are of equal importance. While time and money may lead to the kind of trade-offs just discussed, some compromises may be unacceptable. For example, information can't possibly be timely if it's not relevant. Likewise, accessible, timely, accurate, relevant and verifiable information may be useless if it's incomplete. One missing detail may render the information meaningless, although managers may not discover this until a problem or loss has occurred.

## Information Sharing

A major problem facing organizations is the manner in which information is shared. Because of the abundance of data, much valuable information never reaches the person who can benefit from it the most. In one survey, 66 percent of employees said their main source of information was the grapevine.<sup>8</sup> In such cases, decisions affecting billions of dollars may be based on rumor. The grapevine is discovered in greater detail in Chapter 15.

In today's economy, information—more than factories and products—is the key to growth and competitiveness. Some managers withhold information from workers out of fear. They're afraid employees will use the information against managers or somehow share it with competitors. Unfortunately workers can't respond to the need for continued improvement without the information. Organizations that train people in the value of information and how to use it gain a competitive advantage over those failing to share information.

The key to sharing information is to put it in the hands of the people who can use it, in a form these people can understand. The best way to accomplish this is to have the information users involved in designing the system that collects and distributes information. Ed Carlson, former president of United Airlines, said, "Nothing is worse for morale than a lack of information down in the ranks. I call it NETMA—Nobody Ever Tells Me Anything—and I have tried to minimize this problem."<sup>9</sup> Carlson believes in sharing even the most sensitive information with the field staff.

Team-based approaches to working that facilitate information sharing have become popular in recent years. Firms implementing total quality management (TQM) use work teams that include individuals from different parts of the organization, such as design, engineering, production, and marketing. Everyone on the team has a chance to exchange information with other team members. Teamwork discourages individualism and encourages the sharing of information. For example, people in production may be reluctant to share information with people in marketing if they think that the marketing department will be credited with the production department's accomplishments. As team members, everyone shares in an organization's success.

## INFORMATION FOR DECISION MAKING

There are many systems of accumulating and distributing information, and there is a lot of information. For the purpose of this reflection I counted how many newspapers and magazines I receive each month. There were 108 papers and 42 magazines. Add to that the mail I receive and the TV shows I watch and it's apparent that a lot of data come across the bow of my life.

In the business world there is a great deal of formal information development and transmission. Understanding all of this is a burden for managers and subordinates alike. However they can sometimes delude themselves into believing that this is all there is, and that it is the most important.

I recently visited a plant that made chlorine gas. As an example of a quality project they had me sit with a team investigating cases where gas had escaped and injured employees. There were 42 such happenings in the past year—6 of them quite serious. The team showed me their computer analysis of the movement of the tanks containing the gas and the various pressures involved. They lost me after about 10 minutes, but since they all seemed to understand it, I hung in there. The study would be finished in a few more months, I was told, and then they would know why these exposures had happened.

After the meeting, I was taken on a tour by a shop worker and shown the area where the leaks had occurred.

"Those leaks happened while gas was being transferred from these big tanks to the little ones we send the customers," he said.

"Can you show me how the transfer is made?" I asked.

He nodded and grabbed a nozzle attached to a hose fitted into the large tank. He took a washer off the nozzle and replaced it with a new one from the open box sitting on a bench.

"Why did you replace the washer?" I asked.

"Have to do that every time," he replied. "The chlorine eats these washers right up. If you use one too many times it will leak."

"Is that how the gas escapes happen?" I queried.

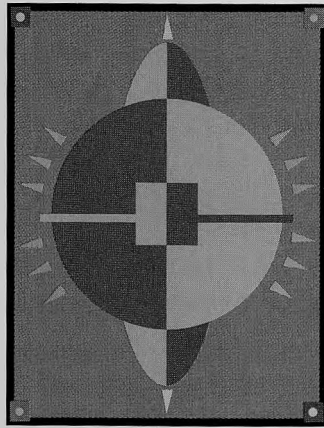
He nodded briskly. "Gets them every time they don't want to bother to change the washer."

"Have you told the task team about this?" I asked.

He shook his head. "I gave it a try a couple of times, but they're so involved in their computer they aren't really interested in what goes on out here."

I thanked him and then relayed his story to the general manager who found it all to be true. The problem was solved, the worker was rewarded, and the information crunchers were embarrassed. Procedures and training were changed and that was the last of the gas escapes.

Collecting data is more important than processing it, particularly when the real stuff might not be written down.



## Information Processing

Poor management decisions can be attributed to many factors, including poor or ineffective information. But how can managers process all the information available to make quality decisions? Computers help managers meet this challenge. A **computer** is an electronic device used to input, store, and process data and to output data as useful information. Universities, for instance, can enter into a computer thousands of students' grades from hundreds of courses, store the information, process grades in a matter of seconds, and print out individual student grade reports ready to mail. Students can receive their grades a few days after classes conclude. Administrators can be provided with a variety of grade reports, broken down by college, major, year in school, and so on. Before computers, the process could take weeks. Computers have dramatically changed the way firms conduct business; they have destroyed hundreds of thousands of jobs, reshuffled

### computer

An electronic device used to input, store, and process data and to output data as useful information.

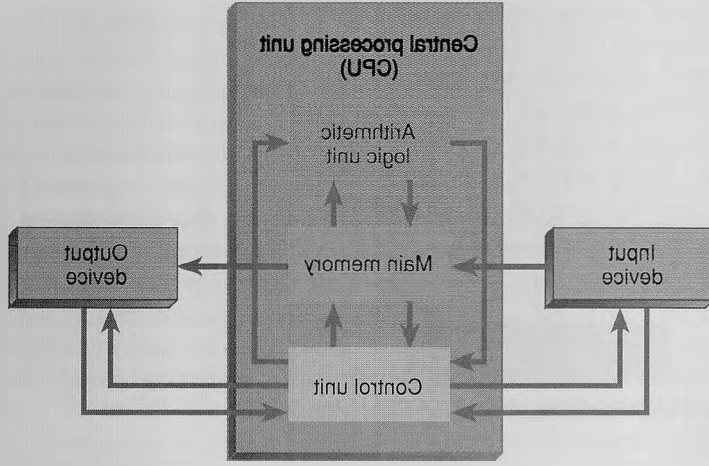


FIGURE 8-1  
Components of a  
Computer-Based Information  
Processing System

billions of dollars of shareholder value, and set off a technological revolution that will impact the 20,000 companies in computer-related fields—and their customers—well into the 21st century.<sup>10</sup>

Computers make data processing much more efficient. **Data processing** involves mechanically transferring raw data into some specific form of information. Organizations process both text (such as reports) and numerical data (such as sales figures). The purpose of data processing is to convert data into information that can be used to make decisions. We use the term **information processing** to describe the entire sequence of steps involved in converting data to information, including the use of processed information for decision making. The difference between data processing and information processing is subtle but important; processed data is of no value unless the information is used to improve decision making.

Today almost all information is processed using computers. Figure 8-1 diagrams the basic components of a computer-based information processing system. All of these components can be found in a tiny “subnotebook” computer weighing less than four pounds.<sup>11</sup> Through an **input device**, a user enters data into a computer-based information system and makes requests of the computer. The most common input device is a keyboard for typing data or requests. Other input devices are disks, magnetic tapes, punch cards, optical scanners (such as those that read universal product codes in supermarkets), the movable mouse, and voice recognition devices.

The central processing unit (CPU) controls the entire computer-based system. The CPU includes the electronic hardware that performs the computer operations and consists of three components. **Main memory** stores data, instructions, and other information the system needs to operate. If something isn't in a computer's main memory, the CPU can't process it. The **arithmetic-logic unit** performs the computations. Data that need to be added, subtracted, multiplied, or divided are moved from the main memory to the arithmetic-logic unit. After the calculations have been performed, the resulting data are moved back into main memory. The control unit guides the system's operations. It includes software that directs the sequence of operations, interpreters coded instructions, and sends needed data and instructions to the other units.

The output device is the hardware that displays the information system's requests or processed data. The most commonly used output devices are the display screen and the printer, which produces a paper printout (called hard copy). Other output devices include disks, magnetic tapes, graphic plotters, and even the spoken word.

Questions have been raised concerning how far organizations should go in sharing information—both inside and outside of the organization. Improper use of the computer's tremendous capability to compile information can violate people's right to privacy. Some

mechanically transferring raw data into some specific form of information.

The entire sequence of steps involved in converting data to information, including the use of processed information for decision making.

businesses have been accused of keeping large data files on individuals and then releasing information unethically. For example, firms sometimes sell their customer databases to others who may use them to solicit business. Selling customer lists has led to an increase in junk mail and telephone solicitations. Firms can protect the individuals' rights while at the same time maintaining the organization's information needs by establishing legitimate need for information, by informing individuals of the existence of information stored about them, by obtaining written consent to use an individual's information, and by destroying the information upon completion of permissible uses.<sup>12</sup> The Ethics Spotlight looks at this issue.

## ETHICS SPOTLIGHT

### ARE COMPUTERS INVADING OUR PRIVACY?

Computers help businesses run more efficiently, but many people believe computer use also threatens our right to privacy. Firms needing information about consumers often pay for computer-generated lists of names with addresses and information such as buying habits, income ranges, and education levels. Many companies that maintain large databases on customers will share them with other firms for a hefty fee. Financial institutions sell information from loan applications; credit card companies sell data on credit history and buying habits; and the U.S. Postal Service sells names of people who have filled out change-of-address cards so retailers can send them ads for new furniture and appliances. Parents are often deluged with diaper and formula coupons after having a baby—companies get names from hospitals, Lamaze classes, and newspaper birth announcements. Many consumers feel they shouldn't have to deal with the many pitches flooding their mailboxes and telephone.

The computer also helps businesses track down information on customers. For instance, a quick call to a credit bureau can get a firm instant information on a consumer without her knowledge. Anyone with a personal computer and the know-how can easily get information such as Social Security numbers and credit and driving histories on millions of people. Often information about you and your family—such as where you live and how much you earn—is readily available. Nonprofit organizations have hired prospect researchers, skilled in the use of databases, to search public sources to compile lists of potential donors who are wealthy and have a history of giving.

Firms also use computers to compile information on their own employees. Many major U.S. firms use computers to monitor employees on and off the job. They argue that such tracking is necessary to protect themselves against theft, loss of company secrets to other firms, and unacceptable behavior such as drug abuse. But being subjected to computer monitoring makes honest employees feel humiliated. The Employers' Information Service has created a database on employees who've reported on-the-job injuries. Employers can purchase information on prospective employees such as a history of prior job injuries and worker's compensation claims.

The public's growing concern about privacy poses a serious threat to firms. The Roper Organization reported that 60 percent of all Americans see lack of privacy as a serious problem. An American Express survey found that 80 percent of Americans don't think companies should share personal information on customers. The growing concern about privacy has led legislators to consider hundreds of bills that could restrict the use of consumer information. Some experts predict that stiff regulations—perhaps even a new federal agency—will be created to protect privacy.

Four bills before the U.S. Congress would strengthen the Fair Credit Reporting Act by restricting access to credit companies' databases. Nearly every state in the country is also considering some type of privacy-related bill. A California bill passed in the state assembly (but still under consideration in the senate) would require companies to notify consumers each time their names are sold or rented. A New York law makes it illegal for businesses to require customers to put their address or phone number on a credit card receipt.

Bills regulating the use of consumer information would have the greatest impact on database marketers such as credit bureaus. But they would also affect thousands of other firms that rely on consumer information for their daily operations. Some firms believe that public fears are overshadowing all the good that businesses can do if they have information about customers. They're trying to show the public how information can benefit the consumers who provide it. They think that being honest with consumers by telling them how information is used to serve them better will reduce the public's concern about invasion of privacy.

Source: Adapted from Cyndee Miller, "Privacy vs. Direct Marketing," *Marketing News*, March 1, 1993, pp. 1, 14-15; Deborah Schroeder, "A Private Future," *American Demographics*, August 1992, p. 19; Liz Caras Petros, "Computer Trail Leads Junk Mail to Your Door," *Herald-Leader*, (Lexington, Ky.), November 22, 1992, pp. A1, A8; William M. Bulkeley, "Nonprofits Dig into Databases for Big Donors," *The Wall Street Journal*, September 8, 1991, pp. B1, B6; Martha Farnsworth Riche, "The Rising Tide of Privacy Laws," *American Demographics*, March 1990, p. 24; and Jeffrey Rothfeder, Michele Galen, and Lisa Driscoll, "Is Your Boss Spying on You?" *Business Week*, January 15, 1990, pp. 74-75.



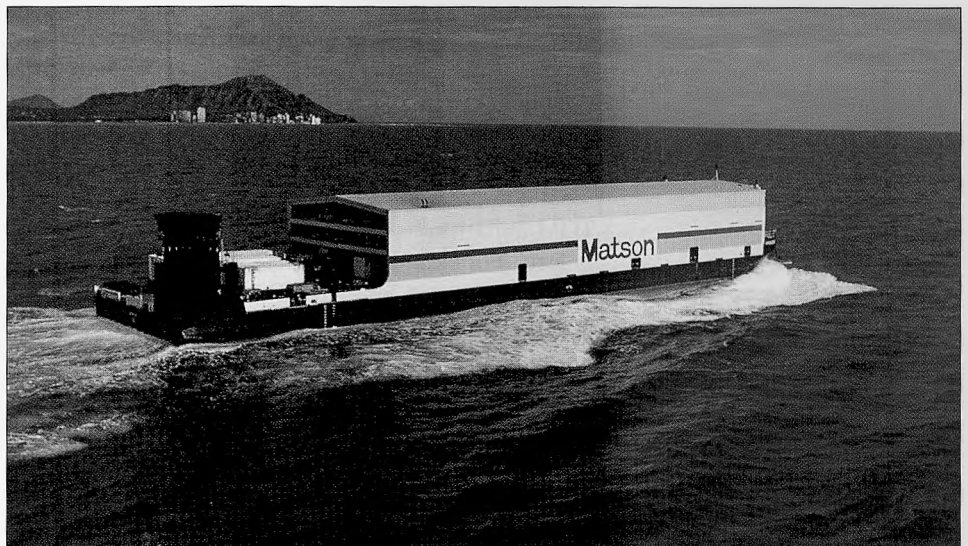
## MANAGEMENT INFORMATION SYSTEMS

Management information systems (MIS) are a combination of computers and regular, organized procedures to provide managers with information needed in making decisions.

Organizations have been using computers to transform raw data into information for many years; the United States has become an information society. As the need for information has accelerated, so has competition among businesses to use information to gain a competitive advantage. The quality of a manager's decision is directly related to the information available; the better the information, the better the decision. A **management information system (MIS)** combines computers and regular, organized procedures to provide managers with information needed in making decisions. Matson Navigation's shipping schedules are supported by an MIS built for customers who demand that their goods be delivered promptly and who insist on knowing where those goods are at any time. Matson, the principal carrier of containerized cargo and cars to Hawaii, uses the system to manage the shipment of some 400,000 containers annually with few delays.<sup>13</sup> Many organizations design management information systems to provide managers with the necessary information to make intelligent decisions.

An MIS is critical for decision making in all aspects of management: organization and job design, human resource decisions, strategic planning, customer service, and so on. Hogg Robinson Travel, one of Britain's largest travel agencies, developed an MIS that permits the detailed analysis and planning of corporate clients' travel needs. Hogg Robinson captures 99 percent of its management information electronically at the point of sale and transmits it for storage on a computer. This information is analyzed and the trends identified allow travel policy to be recommended and agreed on for each large customer. Corporate customers can now manage travel as a global exercise, negotiate better discounts, and plan business trips far more efficiently.<sup>14</sup>

Any organization striving to achieve quality must make quality-based decisions. Two major aspects of TQM illustrate MIS's importance. Figure 8-2 shows that the TQM approach consists of both processes and people. The processes include the analytical procedures used to make decisions, such as inventory control, quality control, and product development. Information is needed that results in quality decisions. The people component of the model has been referred to as "internal customers," the employees of the organization. The objective is to provide internal customers with the information they need to perform their job. Employees can't be empowered without adequate information to make decisions and take action. In short, management information systems play a



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Matson Navigation Co. uses an MIS to support its shipping schedules. Barges deliver cargo promptly and with few delays, and customers know where their goods are at any time.

FIGURE 8-2  
Information for Quality Decisions

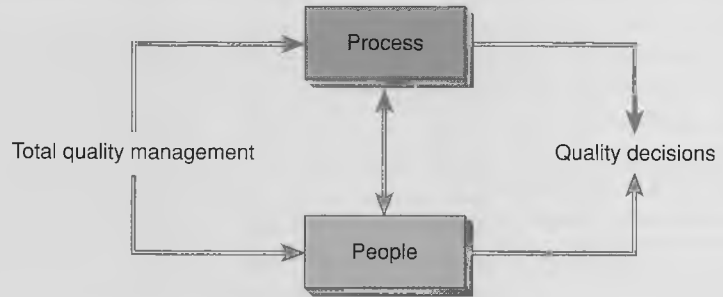
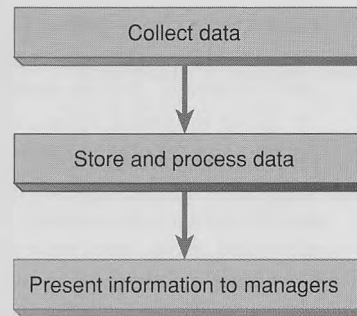


FIGURE 8-3  
Functions of an MIS



critical role in TQM programs by providing information needed to develop the best processes for decision making and by enabling internal customers to make decisions.

### MIS Functions

A management information system is used to collect data, store and process those data, and then present useful and timely information to managers (Figure 8-3). This section discusses these functions.

**Collect Data** We've emphasized the massive amount of information available to organizations—personnel records, information about customers and competitors, sales and accounting data, and so on. The first function of an MIS is to determine the information needed to make decisions and to organize it into a database. A **database** is an integrated collection of data stored in one place for efficient access and information processing. A common database for all departments or units is a key to successfully implementing a TQM initiative.<sup>15</sup>

Data can be obtained from sources within and outside the organization. Generally most data collected for an MIS come from internal sources such as company records or reports and information compiled by managers themselves. External sources include trade publications, customers, consultants, updated industry and market studies, and periodical and newspaper articles.<sup>16</sup> Tobacco companies have spent millions of dollars collecting names, addresses, and brand preferences of roughly 70 percent of America's 40 million smokers.<sup>17</sup> Managers must specify the information they need to make decisions and identify the specific sources of that information.

According to Jean-Louis Brevard, managing director of J.P. Morgan and Co., "In a world where people are moving to total quality management, one of the critical areas is data." A growing concern has been raised about the quality of information found in databases. Consider the following:

#### database

An integrated collection of data stored in one place for efficient access and information processing.



Since the beginning of time, people have been obsessed with reaching ever increasing rates of speed. So what else is new with Microsoft FoxPro 2.5?

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Microsoft FoxPro 2.5 for Windows is the fastest PC-based database management system available.

- A survey by MIT researchers of information managers at 50 large companies reported that half of the managers believed their corporate information was less than 95 percent accurate, limiting its usefulness; nearly all of them said that databases kept by individual departments were not good enough to use for important decisions.
- One airline made phantom bookings in its database of passenger reservations while installing a new software system. The software was fixed but the false reservations were not, so planes were taking off partly empty for several months.
- A large manufacturer developed a database to consolidate all sales records by customer number. But salespeople created a new customer number for each sale, including sales to existing customers. A single customer, McDonnell Douglas Corp., was listed in the database under more than 7,000 customer numbers.<sup>18</sup>

Software has now been developed that uses statistical control to analyze big databases, detect inaccuracies, and ensure quality.

**Store and Process Data** Once created, a database must be stored and processed in a form useful to managers. Data are generally stored on magnetic tape or hard disks when mainframe computers are used and on hard disks or floppy (soft) disks when minicomputers or microcomputers are used. Data can be loaded into the computer in seconds for easy access by the user.

Data for an MIS must be current, which requires periodic updating of the database. A computer operator or programmer can update the database manually by loading the appropriate tape or disk into the computer, which locates the data to be changed and makes the necessary changes. Systems also are available to automatically update data. In this case, the database is permanently connected to the MIS and the computer automatically makes changes as new data become available.

Once data are stored in the MIS, managers can use the data for decision making. Some data can be used in the form in which they're stored. But more often data must be

processed to meet managers' specific information needs. Firms process both text (such as reports) and numerical data (such as sales figures).

A **database management system (DBMS)** is a computer software program that helps firms manage their data files. Such programs change information stored in data files, add new information, and delete information no longer needed. DBMS software can be used to sort and merge files, process data, and print reports. SupportTrak, developed by database software firm Arum, manages customer support—everything from warranty calls to spare parts. It can usually run with existing customer databases.<sup>19</sup> Other frequently used database programs include dBASE III PLUS, R:BASE, Oracle, Rapidfile, and PC-File.

**Present Information to Managers** Processed data must be put in a form useful to managers. Verbal information can be presented in text format in the forms of reports, outlines, lists, articles, or books. Numerical information can be presented in table or graph format. Computer programs offer numerous graphic options. The most commonly used computer graphics are bar charts, pie charts, and graphs (Figure 8-4). A bar chart uses vertical or horizontal bars to represent values, with longer bars representing greater values. A pie chart is a circle divided into portions, or "slices," each representing a different item. Each slice's size shows that item's proportion to the total. Bar charts and pie charts help us visualize the relative size or importance of various information. A graph is used to plot data and illustrate how information changes over time.

The specific information presented to managers varies depending on the task being performed. Low-level managers are concerned with decisions that control the company's day-to-day operations. Many of these decisions follow a predetermined set of procedures that lead to the desired outcome. These managers' needs can be met by typical data processing that generates routine records and statements. Mid-level managers are responsible for implementing plans made by top-level management. These tactical decisions require internal information and the processing and retrieval of data. An MIS can be useful in providing this type of information. For example, a manager may wish to evaluate how effectively a product is being produced. Volumes of data would be of little use in making this decision; the manager should specify the information needs. Finally, top-level managers are responsible for long-range strategic plans. For instance, top-level managers may make strategic decisions involving new product design, financial policies, and acquisition. An MIS would be useful if the top-level managers specify the information they need.

An MIS can provide managers with a wide range of information. Jim Errant, chairman of Errant Enterprises, developed an MIS to help him manage his six Chicago-area restaurants. The system produces a daily one-page analysis that provides all the information managers need to know about their operations from labor costs to bar sales. The MIS's employee schedules help managers schedule workers and avoid costly over- and underscheduling. The timekeeper ensures accurate time calculation that minimizes payroll errors, saves time for bookkeepers, and interfaces with the computerized payroll system for efficient processing of paychecks. The MIS has cut costs and eliminated guesswork by supplying all managers with the same facts and figures.<sup>20</sup>

## Computer Networks

A management information system can include multiple computers connected to each other. A **computer network** is a collection of computers connected in a manner that allows them to function individually and communicate with each other. Computer networks usually include a mainframe or minicomputer as the foundation of the system. Other mainframes, minicomputers, or microcomputers can communicate with the mainframe or minicomputer or with each other. Networks link computers within an office, across the country, or even worldwide—in which case the computers are linked by telephone lines or satellites. Groupware is a software program that supports a computer

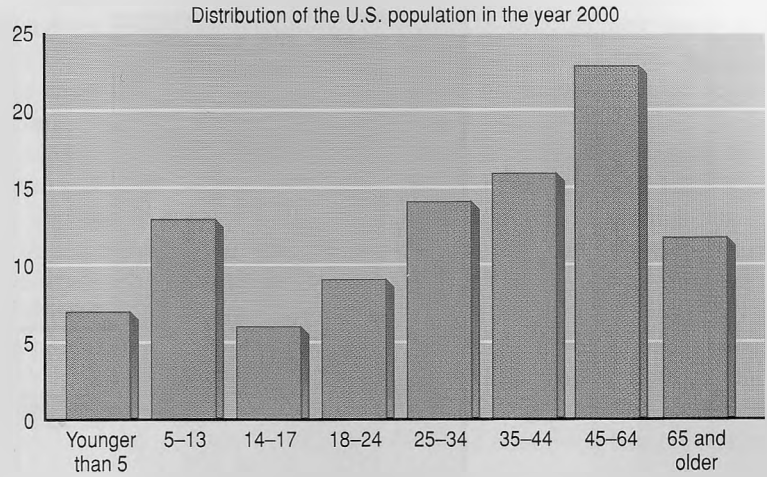
database management system  
(DBMS)

A computer software program that helps firms manage their data files.

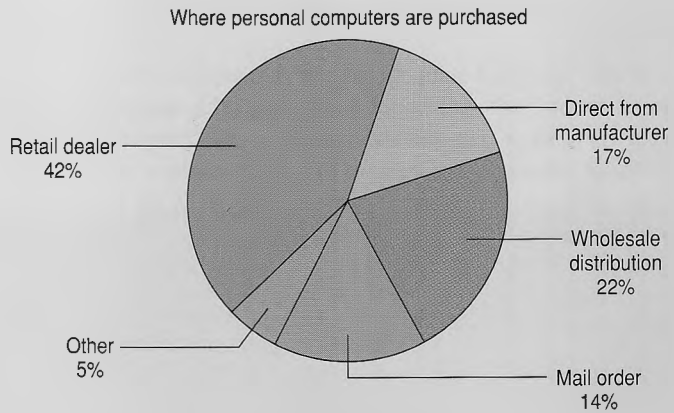
computer network

A collection of computers connected in a manner that allows them to function individually and communicate with each other.

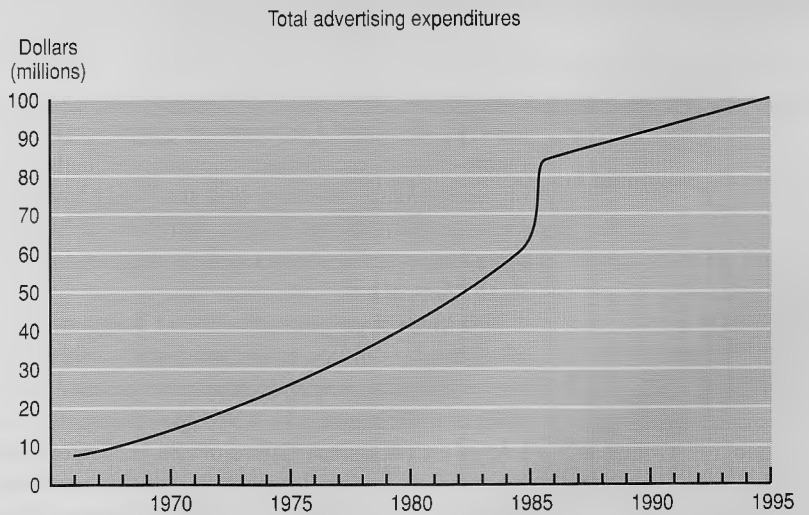
FIGURE 3-4  
Most Commonly Used  
Computer Graphics



(a)  
Bar chart

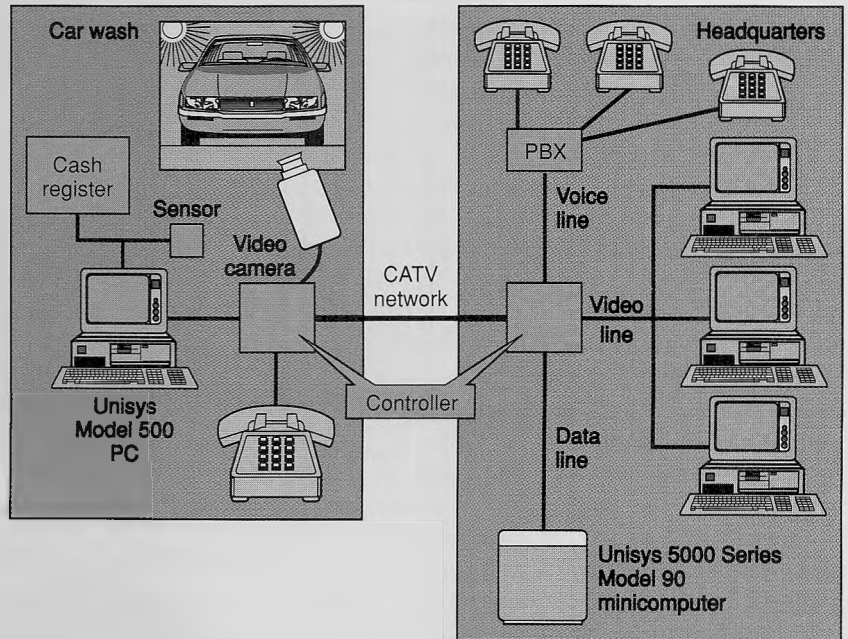


(b)  
Pie chart



(c)  
Graph

FIGURE 8-5  
Hanna Industries'  
Computer Network



Source: Copyright November 14, 1988 by Network World Inc., Framingham, MA 01701—Reprinted from *Network World*.

TABLE 8-2  
Prioritizing MIS Issues

1. Budgetary issues
2. Keeping up with rapidly changing technologies
3. Connectivity and networking
4. Obtaining, training, and keeping qualified staff
5. Meeting the organization's business goals
6. Satisfying end users' needs
7. Downsizing
8. Data security
9. Integration and open systems
10. Dealing with senior management

Source: David Carey, "Rating the Top MIS Issues in Canada," *Canadian Datasystems*, June 1992, pp. 23-26.

network designed for teams of people working together on shared information. Team members use groupware to exchange leads, share client information, and keep track of news events, research, and staff assignments.<sup>21</sup> Figure 8-5 illustrates how Hanna Industries International uses a computer network to manage 30 car washes and to communicate with five branch offices. By 1995 the company plans to link 5,000 car washes on the network.<sup>22</sup>

A **local area network (LAN)** is a system of telecommunications links that connect all computers in one company directly without telephone lines.<sup>23</sup> Because computers in the network can communicate with one another, members of a firm can send information back and forth instantly. The New York City School Construction Authority has set up a LAN that allows the Office of the Inspector General to prevent racketeering, fraudulent schemes, and other illegal or wasteful uses of taxpayer funds. The system allows users to conduct complex searches through databases during investigations. Eventually the network will accommodate over 5,000 users.<sup>24</sup>

## Evaluating the MIS

As use of MIS spreads, so do concerns with evaluating the system's quality. Table 8-2 lists 10 major concerns with the MIS based on a survey of Canadian managers. Perhaps

### local area network (LAN)

A system of telecommunications links that connects all computers in one company directly without telephone lines.

the greatest indicator of quality is user satisfaction. Many firms regularly survey users—internal customers—to determine how well the MIS satisfies their needs. But with the growth of PCs and laptops, system abuses have also grown. Firms are taking several actions to ensure that the right person is using the right system to obtain the right information.

Some MIS departments have taken on the responsibility of managing the acquisition of hardware and software by user groups. They can also help determine which systems are most appropriate for specific individuals. In some instances this has reduced the backlog in demand for various MIS programs and has increased the system's security and reliability. In the future MIS departments must serve an ever growing number of users with, in many cases, smaller budgets.

To improve service to users, many MIS departments have attempted to educate managers, who in turn are better able to use MIS for their specific needs. Communication between MIS personnel and managers is critical. Many managers know exactly what information is needed, but unless their needs can be effectively communicated to system designers, the MIS won't yield optimum benefits.

## ■ DECISION SUPPORT SYSTEMS

### Decision support system (DSS)

An interactive information system that enables managers to gain instant access to information in a less structured format than an MIS.

Management information systems may not be adequate for many mid- and top-level management decisions. While an MIS provides information, the information may not be specifically tailored to managers' needs. A **decision support system (DSS)** is an interactive information system that enables managers to gain instant access to information in a less structured format than an MIS. DSS software combines corporate information on past performance with what's currently taking place; it allows managers to work with large amounts of data not available otherwise.<sup>25</sup> Through a DSS, managers can obtain information about the firm, competitors, and the business environment. Computer programs use the information to generate new facts or beliefs as a basis for decision making. For instance:

- Gillette uses a DSS to check market positions and daily sales activity in three divisions.
- One fast-food chain uses a DSS to tell how many customers ordered french fries with hamburgers on the previous day.
- Firestone Tire & Rubber uses a DSS to pinpoint lagging areas and to control costs.
- A manufacturing company uses a DSS to evaluate the numbers and assumptions that managers have used in forecasts.
- Phillips Petroleum uses a DSS to manage operations and monitor economic and political news influencing the oil business.<sup>26</sup>

The main difference between an MIS and a DSS are summarized in Table 8-3. A DSS supports managerial skills at all levels of decision making by providing instant response to managers' information needs. Thus a DSS is a specialized MIS designed to improve the effectiveness of decisions.

### Executive information system (EIS)

A user-friendly DSS designed specifically for executives. It's easy to use and requires no knowledge of the computer.

An **executive information system (EIS)** is a user-friendly DSS designed specifically for executives. An EIS is easy to use and requires no knowledge of the computer. It consolidates the analysis provided by a DSS, interprets it in light of the organization's goals, and then presents it to executives in an easily understandable format.<sup>27</sup> By moving a mouse or merely touching the screen, the user directs the computer to provide information. Executive information systems use big-screen, high-quality monitors and produce full-color displays. An EIS allows top-level managers to ask questions and receive immediate answers in the form of graphs, charts, and reports. Fidelity Investment's EIS eliminates the need to produce the firm's 45-page financial report on paper. The user can bring up information on the monitor, save it in an assortment of formats, and manipulate it using a variety of programs.<sup>28</sup> Many executives believe that EIS is strategic to their

TABLE 8-3

Differences between an MIS and a DSS

Management Information Systems	Decision Support Systems
1. The main effect is on structured tasks where standard operating procedures, decision rules, and information flows can be reliably predefined.	1. The impact is on decisions in which there is sufficient structure for computer and analytic aids to be of value but where managers' judgment is essential.
2. The main payoff is an improving efficiency by reducing costs, turn-around time, and so on, and by replacing clerical personnel.	2. The payoff is in extending the range and capability of managers' decision processes to help them improve their effectiveness.
3. The relevance for managers' decision-making is mainly indirect; for example, by providing reports and access to data.	3. The relevance for managers is the creation of a supportive tool, under their own control, that doesn't attempt to automate the decision process, predefine objectives, or impose solutions.
	4. A DSS tends to be aimed at the less well structured, underspecified problems that upper managers typically face.
	5. It attempts to combine the use of models or analytic techniques with traditional data-access and retrieval functions.
	6. It focuses on features that make it easy to use by non-computer people in an interactive mode.
	7. It emphasizes flexibility and adaptability to accommodate changes in the environment and the decision-making approach of the user.

Source: Reprinted by permission from page 106 of *Computer Information Systems for Business* by V. Thomas Dock and James C. Wetherbe. Copyright © 1988 by West Publishing. All rights reserved.

organizations' success as it allows for more informal decision making and reduces the time needed to make those decisions.<sup>29</sup>

If EISs are to become strategic management tools, the need to match specific executive decisions with critical success factors is essential. *Critical success factors* provide the framework for linking the most critical operational activities with key executive activities.<sup>30</sup> Thus, critical success factors are those activities that are most critical for the achievement of an organization's objectives.

## Developing the DSS

Developing and implementing a successful DSS isn't easy. Organizations must spend time planning the DSS. The system's goal is user satisfaction and better-quality decisions. Users' needs are a major consideration in developing a DSS; failure to consider these needs is a leading cause of DSS failure. One study reported that previous user involvement influences satisfaction with DSS and perceived DSS benefits. Decision makers involved in designing and specifying their requirements were found to be more satisfied with their DSS and have stronger perceptions of DSS benefits.<sup>31</sup> Users' needs must be met in terms of both hardware and software. For instance, hardware may not deliver information fast enough or software may not provide information in a useful form for decision making. Both problems result in dissatisfaction with the DSS.

In the early development of a DSS, user goals should be clearly defined. The DSS must be matched to the user's background, experience, and goals. Developing a system that satisfies users is impossible unless their goals are clearly identified. If users want a fairly simple system, a complex, high-powered system may be overwhelming. Making the DSS easily accessible to the user isn't always easy, because systems designers are so well trained technologically that they may have a difficult time relating to less sophisticated needs.

Once a DSS is designed to meet users' needs and goals, a plan for implementation must be developed. Implementation is important because users may be unfamiliar with



the specific system or with DSSs in general. In many cases users resist using a DSS because it involves change and uncertainty. To help overcome such resistance, the system should be documented in a user-friendly way. Training sessions can help to introduce the system's capabilities and to illustrate its ease of use. Finally, follow-up is important. Systems that are dropped on a manager's desk with little documentation, no training, and no follow-up are likely to fail. Managers must be continually encouraged to use the system, and reinforced by seeing how the system helps them make better decisions.

The true test of a DSS is whether it yields information that managers can use. If invalid assumptions are made in designing the system, it will yield invalid information. For instance, if a DSS is developed that doesn't take competitive actions into consideration, managers may be making decisions that inaccurately assume there are no competitors. In developing a DSS, two of the most difficult tasks are deciding which elements to include in the system and understanding how these elements interact with each other.

## Expert Systems and Artificial Intelligence

Computers do several things better than humans. They're faster and more accurate. Computers can run all day and all night; computer failures are now an exception. But humans can think—they are more innovative than computers and can change or adapt to different situations. Computer scientists have worked for years to combine computers' speed and accuracy with the human ability to reason, adapt, and make decisions. The result is a developing technology called artificial intelligence.

**Artificial intelligence** allows computers to solve problems involving imagination, abstract reasoning, and common sense. Computer scientists are trying to empower computers to behave as though they could think by perceiving and absorbing data, reasoning, and communicating in ways similar to human behavior.<sup>32</sup> The term **expert systems** describes the computer hardware and software capable of making decisions. Expert systems are computer programs that imitate human thinking and offer advice or solutions to complex problems in much the same way that a human expert does. For instance, expert systems are used to plan shipping schedules, provide financial advice to investors, and help managers respond to competing firms' actions. Most financial institutions use expert systems in such areas as lending, financial planning, trading, fraud detection, auditing, and production selection.<sup>33</sup> Wendy's uses an expert system for solving food-ordering and cooking-equipment problems. The system has resulted in a smoother operation and increased productivity.<sup>34</sup> Congress recently approved \$659 million to fund the development of an intelligent vehicle-highway system. The system, when completed, will reorganize traffic patterns, decrease congestion, and accommodate more cars. When it's in use, vehicles will be aware of their surroundings and roads will be aware of traffic conditions.<sup>35</sup>

While decision support systems provide information to managers covering a wide range of factors, expert systems cover much smaller fields of knowledge. Expert systems comprised of facts are decision rules gathered from "experts" in a specific field. The user interacts with the system, each asking questions of the other. An expert system provides recommendations and explains the logic used to arrive at those recommendations. While expert systems are yet to make the logical decisions humans can make, these systems' quality is rapidly improving. The Global Exchange on the next page examines whether Japan is gaining a competitive edge through artificial intelligence.

### Artificial intelligence

A technology that allows computers to solve problems involving imagination, abstract reasoning, and common sense.

### Expert systems

The computer hardware and software capable of making decisions.

## ■ TRENDS IN INFORMATION SYSTEMS

The amount of information available to managers will continue to increase dramatically, making information systems even more crucial to firms. The business sector's use of computers to process information is expected to grow rapidly. Virtually no firm, regardless of size, will be able to function efficiently without a computer-based information

## GLOBAL EXCHANGE

## WILL ARTIFICIAL INTELLIGENCE GIVE JAPAN A COMPETITIVE EDGE?

In 1981 Japan's Ministry of International Trade & Industry (MITI) announced an ambitious \$415 million project that would put Japan on the cutting edge of artificial intelligence. Nations throughout the world feared that Japan's technological advances would leave them far behind. The director of the Massachusetts Institute of Technology's Laboratory for Computer Science warned that the U.S. computer industry could easily find itself in the same position as the U.S. auto industry.

Over 10 years later this warning now seems exaggerated. So far Japan hasn't produced computers that "think," nor do they have the edge in "parallel" systems that use hundreds of microcomputers to attack huge computer problems. These were MITI's major goals when it launched the project. But the project wasn't a total failure.

MITI's 10-year project resulted in a new computer infrastructure that brought together scientists in business, government, and education. It also increased cooperation among

companies and led to the design of advanced expert systems. This period also yielded a generation of engineers who were well-trained in the technology of artificial intelligence. Now Japan is ready for the future; MITI will spend \$770 million over the next 10 years on the follow-up Real-World Computing Project.

Once again, the West should pay close attention, as Japan gears up for the Real-World project. This time they'll concentrate on systems patterned after the human brain that can discern patterns in real-world situations where data is incomplete, as in economics and social behavior. It's in real world applications where artificial intelligence may succeed and result in a competitive advantage for the Japanese.

Source: Adapted from Neil Gross, "A Japanese 'Flop' That Became a Launching Pad," *Business Week*, June 8, 1992, p. 103; Michael Cross, "The Intelligence Test," *Far Eastern Economic Review*, June 25, 1992, p. 70; and Shohei Kurita, "Expanding Neural Marketplace Challenges Japanese Engineers," *Electronic Business*, September 18, 1989, pp. 79-80.

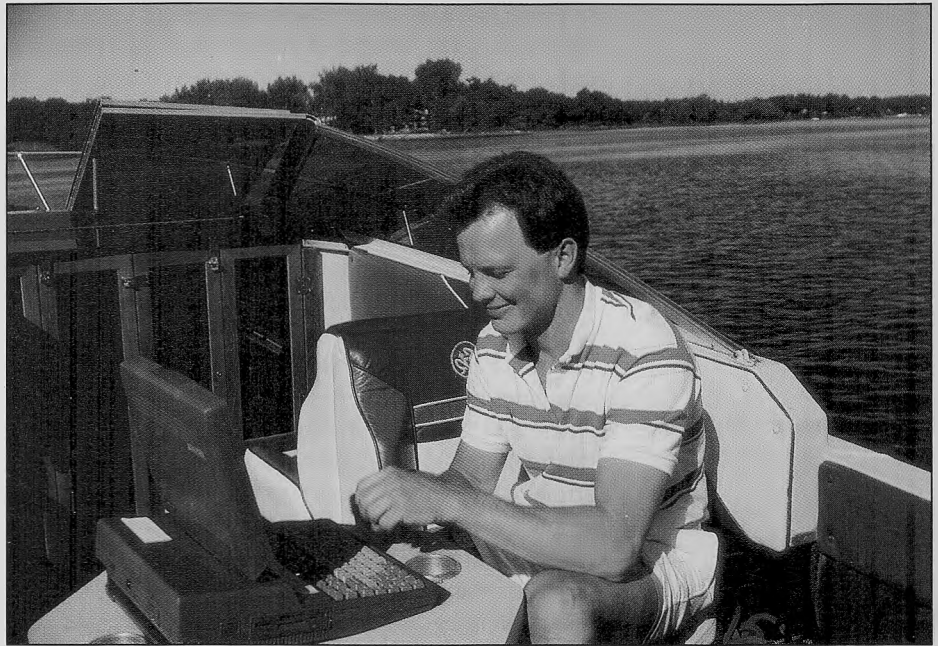
processing system. Some experts even point to a "paperless" society in which computers will be used for nearly all letters, memos, reports and other business correspondence.

The amount of computer power a dollar can buy has grown a thousand times every two decades, and this rate shows no sign of slowing.<sup>36</sup> The trend toward smaller, faster, and less costly computers will also continue, fueled by advances in three areas: smaller computer chips, new operating systems, and better, faster communications technology. At least two firms, Microsoft and GO Corp., are developing systems that handle data written on a screen with an electronic pen.<sup>37</sup> The flexibility offered by pen input devices is expected to allow computers to take many different forms, such as palmtop computers and electronic organizers.<sup>38</sup>

Smaller, portable computers such as laptops are changing the way people in business use information systems. Laptop computers now are as essential as a briefcase or suitcase for many business travelers. Salespeople, reporters, writers, managers, and others use the small computers to work on airplanes and commuter trains and in hotels as they communicate with coworkers in other places. Salespeople often have computers in their cars for quick access to information. Computers in Federal Express vans and trucks help couriers keep track of letters and packages being shipped. By 1995 laptops will account for half of all personal computers sold in the United States.

The use of smaller, less expensive computers to support corporate applications is affecting information systems. According to Andrew Toller of the new emerging technologies consulting group at DMR Group Inc., new information systems tend to be designed using personal computers and local networks.<sup>39</sup> The LAN has evolved into a system that combines the best qualities of the larger central computers with the flexibility of personal computers. LAN sales are expected to exceed \$4 billion annually by the mid-1990s.<sup>40</sup>

The Information Age may also make it possible for more people to work at home, in their cars, or in customers' offices.<sup>41</sup> Several large firms such as J.C. Penney, Travelers Insurance, and IBM allow some employees to work at home and communicate with the office through computer-based information systems. Called *telecommuting*, this new technology helps managers recruit and retain qualified employees and reduces the cost



Courtesy of Kurt Strand

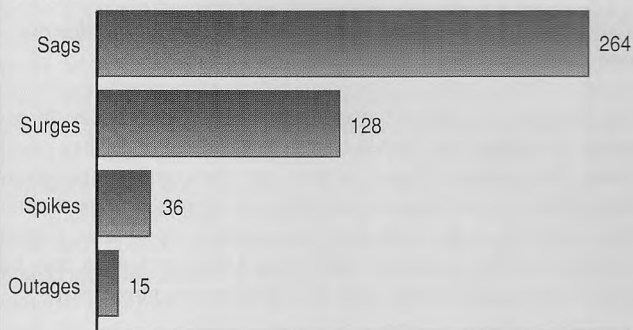
This busy manager combines work and pleasure on his boat via a laptop computer. Laptops are changing the way information systems are used.

QUALITY BENCHMARK

SYSTEMS TO PROTECT AGAINST POWER QUALITY PROBLEMS GROW RAPIDLY

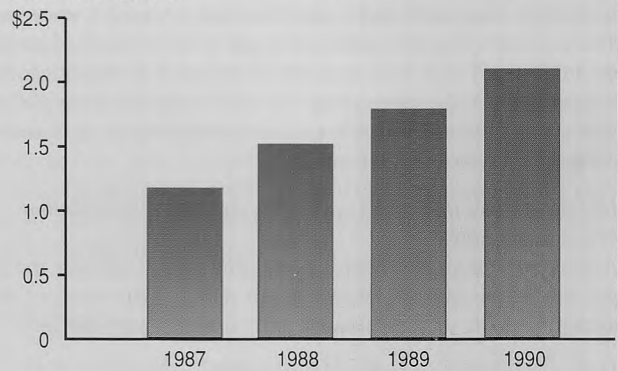
**'Dirty' Electrical Power...**

Number and type of power line disturbances annually at a typical U.S. computer location



**And the Market for Protection**

Annual sales of systems to protect against power-quality problems, in billions of dollars



of office space. In large cities such as Los Angeles, where businesses are held responsible for reducing the number of vehicles used for commuting, some firms arrange for employees to work at home via computers. As more employees are asking to work at home, telecommuting is expected to grow in future years.

The security of information systems continues to be a major concern of managers.<sup>42</sup> Computer crime has also gained much attention in recent years. People have accessed computer records to steal money and tamper with data in firms and government agencies. Power outages caused by voltage dips and lightning hits are a constant threat to computer locations and cost billions of dollars each year. New software systems are being developed to prevent costly downtime from power glitches. Another serious threat to computer users is the computer virus, a computer program that copies itself endlessly to other programs and destroys stored data in the process. One virus spread across the national computer network Internet and paralyzed about 6,000 computers in businesses, universities, and government labs. To defend against viruses, IBM has developed a program that identifies viruses, although it doesn't remove them.<sup>43</sup> Experts estimate that computer crime in the United States costs anywhere from \$500 million to \$5 billion a year. Others suspect it's much higher because only a small percentage of computer crimes are reported and fewer still are prosecuted.<sup>44</sup>

Information systems have become a major part of today's organizations. Without them, managers wouldn't have immediate access to useful information. When used properly, they can increase business efficiency, assist managers in decision making, and even think like experts. Information systems will play an ever increasing role in the business world and in society.

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## ■ SUMMARY OF LEARNING OBJECTIVES

### ***Distinguish between data and useful information.***

Data are unorganized facts, statistics, and predictions concerning people, objects, events, and ideas. Data alone can't be used to make meaningful decisions. Information is data processed in a certain way to meet managers' needs. To be useful, information must be compiled with a user in mind.

### ***Discuss the importance of information sharing.***

Because of the abundance of data, much valuable information eludes the person who can benefit from it the most. Information is the key to growth and competitiveness in today's economy. The key to sharing information is to put it in the hands of people who can use it in a form they can understand. Relaying needed information to the right people is more readily accomplished when information users are involved in designing the system that collects and distributes information.

### ***List the devices that make up a computer-based information processing system.***

A computer-based information processing system includes the input device, the central processing unit (CPU), main memory, the arithmetic-logic unit, the control unit, and the output device.

### ***Define the term management information system.***

A management information system (MIS) combines computers and regular, organized procedures to provide managers the information needed in making decisions.

### ***Identify the functions of a management information system.***

An MIS is used to determine information needed to make decisions and store it in a database, process the data to meet man-

agers' specific information needs, and present useful and timely information to managers.

### ***Describe the differences between a management information system and a decision support system.***

A decision support system (DSS) is an interactive information system that enables managers to gain instant access to information in a less structured format than an MIS. A DSS emphasizes flexibility and adaptability to accommodate changes in the environment and the user's decision-making approach.

### ***Explain the meaning and significance of artificial intelligence and expert systems.***

Artificial intelligence allows computers to solve problems involving imagination, abstract reasoning, and common sense. In essence, computers are empowered to behave as though they could think like humans. Expert systems are the computer programs that imitate human thinking and offer advice or solutions to complex problems in the same way that a human expert does. Expert systems' quality is rapidly improving. Computers soon may be able to make logical decisions only humans can now make.

### ***Discuss major trends in computers and information systems.***

The amount of information available to managers will continue to grow, as will the amount of computer power a dollar can buy. Smaller, more portable computers will change the way people conduct business and enable managers to explore even more computer applications.

## KEY TERMS

artificial intelligence, p. 243  
 computer, p. 232  
 computer network, p. 238  
 data, p. 230  
 data processing, p. 233  
 database, p. 236

database management system (DBMS),  
 p. 237  
 decision support system (DSS), p. 241  
 executive information system, p. 241  
 expert system, p. 243

information, p. 230  
 information processing, p. 233  
 local area network (LAN), p. 240  
 management information system (MIS),  
 p. 235

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. Give some attributes of useful information.
2. Describe the basic functions of a computer-based information processing system.
3. What is a database management system?
4. What is a computer network? What advantage does it give a firm?
5. Describe the functions of decision support systems and executive information systems.
6. Identify some trends in computers and information systems.

### Understanding

7. What's the Information Age's significance to the practice of management?

8. Discuss how a management information system operates, why it's important to managers, and how it can be evaluated.
9. How could artificial intelligence and expert systems be useful to managers? What, if any, are their potential drawbacks?

### Application

10. As a marketing manager at the home office of a large insurance company, you've just been assigned to provide insurance agents throughout the country with current market data that will make them more competitive. Right now you don't know where to begin. What type of computer system and information system would you consider, and how would you get started on this assignment?

## CASE 8-1

### Mastic Corporation Satisfies Its Customers

Satisfying customers requires quick response to their needs. One way for firms to stay close to customers is through a management information system. Mastic Corporation, a leading supplier of vinyl siding, has 16 percent of industry sales. Competition is keen in this \$500 million industry. To stay on top, Mastic developed a computer-based MIS to react more quickly to changing customer needs. Market research and planning manager Andrew P. Panelli says, "As the industry becomes competitive, you have to direct sales campaigns to where they're going to generate the most business and create the most impact. That becomes harder to do if you don't have a feel for what your customers want and need."

Mastic's managers developed an MIS to monitor market share and product sales performance by territory and to be able to determine the market potential for various territories. The MIS compiles information from several sources. It collects sales data from the county level up to the national level and then converts the information to the territorial level. It gathers information on market trends, such as housing starts, ages of homes, changes in home style, and acceptability of vinyl siding—all of which helps in estimating demand for vinyl siding.

The company surveys siding dealers to determine how much

vinyl they sell, how much of it is made by Mastic, how much goes for new construction, and how much goes for remodeling. This information enables Mastic to rank competitor strength by territory and to keep track of where its vinyl is sold: at lumber yards, factory warehouses, or other outlets.

The MIS helps Mastic improve its sales coverage and set up new, more efficient sales territories. It provides sales managers with annual performance reports as well as monthly reports comparing current sales to the previous year's sales. Information in the MIS also led Mastic to become more aware of ethnic populations in the United States where siding dealers don't speak English, and to print promotional materials in other languages. Mastic officials, pleased with their MIS, are expanding the system to other divisions producing vinyl materials for windows, new construction, and mobile homes.

### Questions

1. How can an MIS bring a firm closer to its customers?
2. Why did Mastic Corporation managers develop an MIS?
3. What type of data goes into Mastic's MIS? Where does the data come from?
4. How has Mastic benefited from the MIS?

## ■ CASE 8-2

### Expert System Design at Cadila Laboratories

Cadila Laboratories is a major pharmaceutical company in India. Top managers felt the company could gain a competitive advantage over rival firms by designing an expert system to help scientists preformulate drugs. Preformulation involves investigating a drug's physical, chemical, and biological properties in combination with other chemicals called excipients. Drugs can be formulated as tablets, capsules, injectables, liquid orals, or drops. Most drugs end up in tablet form. In addition to the main active ingredient, tablets contain many excipients, such as a binding material to hold the tablet together and a disintegrator to break the tablet up after it's swallowed. A preformulation study identifies compatible, potentially useful excipients and determines their relative proportions in the final formulation.

The release of the active drug from a drug product is greatly influenced by the method of formulation. Cadila Laboratories believed that a computer-based expert system for preformulating drugs would reduce total costs by reducing research and development (R&D) time. R&D time (and thus cost) is cut by using the expert system to incorporate knowledge about preformulations. Developing an expert system for drug preformulation included three stages: acquiring information about the main drug, excipients, and their interactions; organizing the knowledge base; and designing a mechanism for drawing inferences and conclusions.

Information about the main drug includes its physical, chemical, and biological properties as well as its solubility, melting point, dissolution rate, absorption rate, and so on. The therapeutic and production-process properties of excipients are included. For instance, disintegrants like corn starch ensure that a tablet crumbles after it's swallowed. Binders and adhesives such as gelatin are used to compress particles together to form a tablet.

The knowledge base contains the knowledge that experts

need to draw inferences and conclusions. Cadila's expert system contains the knowledge needed to select compatible excipients for a main drug. Thus the expert system's knowledge base consists of data on the interaction between main drugs and their excipients. The knowledge base about the excipients carries excipients' names, properties, and proportions relative to the main drug.

The expert system was designed to draw inferences in two steps. First, it infers the desirable properties of the excipients for compatibility with the main drug. This is accomplished by matching the main drug's properties with those of the excipients using the knowledge base on interactions. Second, the expert system selects the appropriate excipients and their recommended proportions in the drug by consulting the knowledge base on excipients.

The expert system is interactive and driven by various menus. For instance, the Consult menu lets the software consult the knowledge base on the interaction between the main drug and the excipients and identifies the properties of desirable excipients. The system then consults the knowledge base on excipients and identifies compatible excipients from the list of excipients possessing the required characteristics. The system then suggests a preformulation consistent with the knowledge already built in. Alternative preformulations can be provided if needed.

The lab has reported a 35 percent fall in total R&D time needed for preformulations since using the expert system. The knowledge base is still being developed. When completed, the system will be able to identify fully compatible excipients.

### Questions

1. Why did Cadila Laboratories need an expert system?
2. Describe the expert system developed at Cadila Laboratories, including each of the stages.
3. How has the system benefited the laboratory so far? How could it be even more beneficial in the future?

Source: Adapted from K. V. Ramani, M. R. Patel, and S. K. Patel, "An Expert System for Drug Preformulation in a Pharmaceutical Company," *Interfaces*, March-April 1992, pp. 101-8.

## ■ APPLICATION EXERCISE

Catherine Roberts, director of information systems for a large chain of discount stores, has received several complaints from store managers that the monthly reports don't provide useful information. In addition, store managers say that receiving reports on a monthly basis isn't timely. They'd like access to useful information when it's needed—on demand. Store managers want to be able to track sales of all products, follow the competitors' activities, and stay in touch with such environmental factors as economic and social trends. Many managers also have specific information needs. Catherine wants to be responsive to managers' needs so she's considering several options, including building a decision support system.

1. How can Catherine determine exactly what type of information would satisfy managers' needs?

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2. If Catherine decides to build a decision support system, what steps should she take to develop the system?

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4. What implications do Catherine's actions have to the quality of the discount chain?

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3. What other options might be considered to meet store managers' information needs?

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PART

III

## ORGANIZING



CHAPTER 9

Organizational Structure and Design

CHAPTER 10

Job Analysis, Design, and Redesign

CHAPTER 11

Human Resource Management





CHAPTER

9

ORGANIZATIONAL STRUCTURE  
AND DESIGN

*After studying this chapter, you should be able to:*

Define the terms *organizing* and *organizational structure*.

Determine when organizational structure is a problem.

Explain how managers determine organizational structure.

Compare scientific management and craftsmanship.

Discuss the significance of work teams and quality circles.

Discuss how authority can be delegated.

List the most common bases for departmentalization.

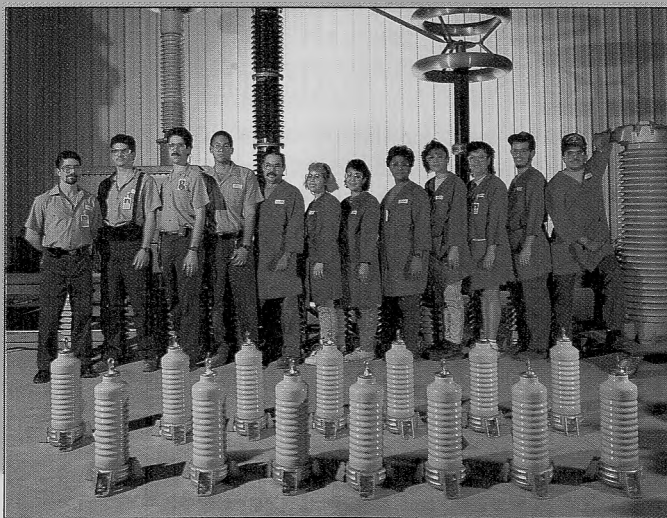
Explain the different dimensions of organizational structure.

Compare mechanistic, organic, and matrix organizations.

Discuss several emerging forms of organizational design.

## THE ORGANIZATION OF TOMORROW

The organization of tomorrow will be structured much differently than that of today. As the year 2000 draws closer, the organizations leading the way will be those that offer quality products or can adapt quickly to their customers' demands and changes in the environment. According to David Nadler, president of Delta Consulting Group, who represents such clients as AT&T, Xerox, and Corning, "CEOs feel that companies need to be structured in dramatically different ways." Although there is no agreement on exactly what this organization will look like, a picture of a flat, lean, high-performance workplace is emerging. By the year 2000, the average company will be smaller and employ fewer people; the traditional hierarchical organization will give way to other forms such as the network of specialists; the model of doing business will shift from making a product to providing customer service; and work itself will be redefined to include constant learning and more high-order thinking. ■ At a General Electric factory in Puerto Rico, 172 hourly workers, 15 salaried advisers, and 1 manager produce surge protectors that guard power stations and transmission lines against lightning strikes. Three layers, no supervisors, and no staff. A plant like this would typically employ about twice as many salaried people. But at the GE plant, each hourly worker is



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GE workers in Bayamon, Puerto Rico

on a team with about 10 people that meet weekly. Each team "owns" some portion of the work—assembly, shipping, receiving, and so on. But team members come from all areas of the plant so that each team has representatives from all facets of operations. An adviser attends the meetings but sits in the back of the room, speaking up only if the team needs help. ■ Perhaps the biggest change taking place in organizations today is in the use of teams. The concept was discovered over 40 years ago at the bottom of a coal mine in Yorkshire by a researcher from London's Tavistock Institute of Human Relations. Typically, as in the case of the GE plant, a team replaces the boss by controlling everything from schedules to hiring and, in some cases, even firing. Some teams are self-managed, meaning they are not directed by a manager. This trend

toward empowering workers grew in America during the 1980s. Today about one in five U.S. employers operates self-managed teams. Some predict that by the year 2000, half of all U.S. workers will be managing themselves as quality improvement programs spread across the country. The result: workers have the incentive and power to respond to customers' needs. ■ The Chrysler component plant in New Castle, Indiana, is a case in

point. In the mid-1980s the firm was about to shut down its oldest plant, which was experiencing all sorts of problems. According to machine shopworker John Pennington, who earns \$17.26 an hour, "If they wanted us to run [make] five parts, we would run two. I missed work when I wanted to. We would drink coffee and just wait for the problem to get corrected." In 1986 Chrysler initiated self-management teams in a last ditch effort to save the plant. Workers were renamed "technicians" and line supervisors became "team advisers"; time clocks were removed. Now 77 teams assign tasks, confront lazy workers, order repairs, and even alter working hours. Employees have taken ownership of the plant and absenteeism has dropped from 7 to below 3 percent. Most important, the number of defects per million parts made has fallen from 300 to 20, while production costs continue to drop.

Most managers believe that quality and competitiveness are two keys to success in our complex global environment. Organizations that can react to and control this constantly changing environment will survive. They must be designed so that workers are committed to quality and customers are satisfied.

This chapter presents the basic elements of organizing. It first discusses the concept of organizing and organizational structure (including some of its myths and problems). It then examines four decisions managers make in determining organizational structure: specialization of jobs, delegation of authority, departmentalization, and span of control. Next, the dimensions of organizational structure—formalization, centralization, and complexity—are presented. The final section covers organizational design, including mechanistic and organic models, the matrix design, and other systems.

## ■ ORGANIZING AND ORGANIZATIONAL STRUCTURE

In Chapter 1 we noted that the organizing function provides a structure of task and authority relationships that serves the purpose of improving quality. *Organizing* is the process of structuring both human and physical resources to accomplish organizational objectives. Thus organizing involves dividing tasks into jobs, delegating authority, determining the appropriate bases for departmentalizing jobs, and deciding the optimum number of jobs in each department.<sup>1</sup>

Developing a responsive organizational structure that is committed to quality is one of the most critical challenges facing managers today. Yet there is obviously a gap between what managers say and do, and this gap is particularly evident when linking quality performance with customer satisfaction.<sup>2</sup> Consider the following:

- Eighteen percent of U.S. firms report that senior management evaluates quality performance less than annually or not at all, compared to 2 percent for Japanese firms.
- Twenty-two percent of U.S. companies regularly translate customer expectations into the design of new products or services, compared to 58 percent for Japan.
- Twenty-two percent of U.S. firms report that technology is of primary importance in meeting customer expectations, compared to 49 percent for Japan.<sup>3</sup>

Many managers recognize that their organization is not responsive and flexible, that it doesn't move quickly when it must. But these same managers often attribute this problem to people—departments that cannot get along, uncommitted or unmotivated employees, or the inability to develop quality products in a timely fashion. These are clear symptoms of problems with organizational structure.

**Organizational structure** is the framework of jobs and departments that directs the behavior of individuals and groups toward achieving the organization's objectives. Organizational structure's contribution to the organization's performance is demonstrated each time a customer is satisfied. When customers are not satisfied, chances are great that the fault is with the organizational structure. Thus organizational structure provides an orderly arrangement among functions so that the organization's objectives can be accomplished effectively. While the organizing function refers to decisions managers make, organizational structure reflects these decisions' outcomes.

Organizational structure must be consistent with an organization's strategy. Strategic planning specifies *what* will be accomplished by *when*; organizational structure specifies *who* will accomplish what and *how* it will be accomplished. Many organizations, unfortunately, try to implement a new strategy with an obsolete organizational structure. The result becomes the failed "initiative of the month." For instance, an organization may recognize a need to be "more market driven" or "more quality conscious." The result is a new program for customer satisfaction or quality improvement. But an organization doesn't simply *become* quality conscious. Rather it must develop an organizational structure that results in the behaviors that the strategy calls for. In developing an effective

### Organizational Structure

The framework of jobs and departments that directs the behavior of individuals and groups toward achieving the organization's objectives.

organizational structure, managers must be aware of several myths and avoid the problems associated with organizational structure.

## Overcoming Myths about Organizational Structure

An effective organizational structure does not result from chance, luck, or historical accident. It is the responsibility of management to deliberately develop a structure that enhances the organization's overall strategy, taking into consideration factors such as competition and the environment. Managers, in attempting to implement a new program or directive, often encounter resistance to change. Over time, organizational structures become quite ingrained and resistant to change. This behavior is not consistent with an environment that is constantly changing and can place an organization in a weak position relative to competitors. For example, many U.S. firms have adopted total quality management programs to compete with Japanese firms. These programs required changing some organizations' basic structures and failed in cases in which an outdated structure was reinforcing behaviors contrary to TQM. To keep in step with the constantly changing environment, many organizations find themselves reorganizing on a regular basis.<sup>4</sup>

Managers must also recognize that there is no single best structure for an organization. What works at IBM may be different from what works at Apple or Compaq. The challenge managers face is to design the best structure for a specific organization, the structure that facilitates getting work done well. If structure actually impedes the completion of work and hence the achievement of the organization's objectives, managers have a problem. If a bank teller cannot respond to a customer's request because of the lack of authority, a problem exists in the bank's structure. Likewise if an assembly line worker does not have the knowledge or ability to perform a job effectively, the company has a problem in its structure. Often employees can't do quality work because the organization's structure gets in their way.

## Detecting Problems in Organizational Structure

When is organizational structure a problem? Ultimately whenever work is not getting done well, there is likely to be a problem with organizational structure. Many factors or circumstances account for such problems. Conflicts between departments or groups within an organization suggest a structure problem. These conflicts may result from personality differences but more often they are attributable to differences in the departments' goals. For example, the marketing department is most concerned with sales and introducing new products, while the production department is concerned with quality control. Difficulty in coordinating work between departments, slowness in adapting to change, and ambiguous job assignments also indicate problems with organizational structure. If employees are asking what goals are most important or what work to concentrate on, organizational structure may be the underlying problem.

Structure problems can be disastrous for the organization. First, the organization becomes a collection of departments or independent groups pursuing their own goals rather than a coherent organization with a common goal. Second, the organization's structure begins to dictate its strategy rather than strategy dictating structure. When this happens, an organization's structure determines what it does, which violates an important principle of management: strategy should dictate structure. Finally, if structure is allowed to determine strategy, only strategies compatible with the existing organizational structure are acceptable. This approach severely limits the strategies that an organization can pursue effectively; it especially limits efforts toward innovation and change.

General Motors illustrates how structural problems can damage an organization. In 1979 GM dominated the U.S. market for cars and light trucks with a 46 percent share; 12 years later its share fell below 35 percent. Although many factors contributed to GM's problems—drop in demand for large cars, obsolete factories, poor quality, to name a few—all were symptoms of a nonresponsive organizational structure, one that is failing.

Efforts to change GM's structure have been hampered by a stubborn middle-management bureaucracy and uncooperative United Auto Workers union. In addition to eliminating 74,000 jobs (including thousands of white-collar jobs) and 21 factories, experts believe that GM needs to restructure its entire organization to survive. Restructuring may include doing away with six separate operating divisions—Buick, Pontiac, Chevrolet, Oldsmobile, Cadillac, and Saturn—a highly inefficient setup.<sup>5</sup> GM, along with IBM and Sears, lost a total of \$32.4 billion in 1992, and dropped out of the 20 largest companies in stock market value. In all cases, the organization structure did not enable these firms to respond fast enough to changes in their markets.<sup>6</sup>

Perhaps the greatest influence on how workers perceive their work and how they behave is organizational structure. It is management's job to design an organizational structure that enables employees to do their best work and achieve the organization's objectives. The next section examines the fundamental considerations or decisions that determine organizational structure.

## ■ DETERMINING ORGANIZATIONAL STRUCTURE

Most of us have worked in some type of organization and we tend to think of structure in narrow terms: What is our own job task? Whom do we report to? How much responsibility do we have? Managers responsible for designing organizational structure must think in much broader terms that describe the entire structure itself, not just the jobs that comprise it. In determining which type of structure enables people to do their best work, managers make many decisions. The four major decisions pertain to specialization of jobs, delegation of authority, departmentalization, and span of control.

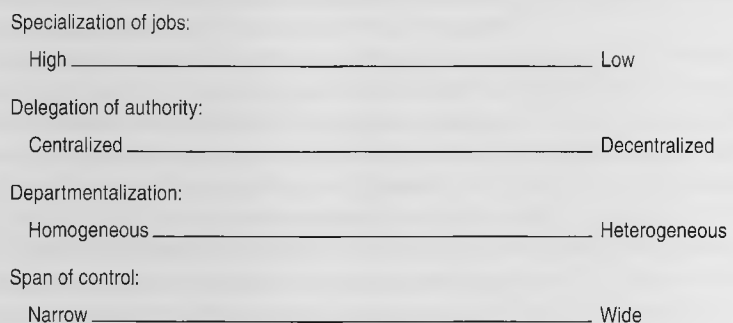
Figure 9-1 summarizes the choices managers can make regarding these decisions. In general, the structure of an organization falls on the same part of each continuum. In other words, an organization structured for workers to do highly specialized jobs will also tend to group jobs according to homogeneous or common functions, and assign to managers only a few workers with little authority. The following sections examine each of these decisions in greater detail.

### Specialization of Jobs

One of the manager's major decisions is determining how specialized jobs will be. Most organizations consist, to some degree, of specialized jobs, with workers performing different tasks. By dividing tasks into narrow specialties, managers gain the benefits derived from division of labor. These benefits include minimum training required for jobs consisting of only a few tasks and economic gains obtained when employees become highly efficient in those tasks, resulting in better-quality output.

**Scientific Management versus Craftsmanship** Frederick Taylor, a leading proponent of specialization, did much of his work in the late 1800s and early 1900s.<sup>7</sup> The

FIGURE 9-1  
Designing Organizational  
Structure





© MacDonald Photography/Third Coast Stock Source

Construction workers like this crane operator perform specialized tasks, gaining the benefits derived from division of labor.

environment then was characterized by a smokestack economy of assembly lines and blue-collar workers—many of whom were unskilled, illiterate immigrants. Taylor's system, the catalyst for the scientific management movement, required that tasks be broken down to the smallest element and that problem solving be elevated to managers. Taylor, through his time and motion studies, identified basic movements that minimize effort and maximize the output of lathe operators, iron workers, and bricklayers. This system has permeated our entire society. Specialization now applies to employees as diverse as airline pilots, nurses, and accountants. People learn a job routine and repeat the tasks over and over. If they experience problems, they must consult a supervisor or manager. Work or execution is clearly separate from thinking or planning.

It is not hard to understand why this system replaced the craftsmanship system, which for many years was considered the only alternative to scientific management. According to quality expert Joseph Juran, "Taylor's concept of separating planning from execution fitted our culture and, at the time, was very logical. You had a lot of immigrants . . . some of them were completely illiterate. And they were in no position, in his [Taylor's] opinion, to make decisions on how work should be done."<sup>8</sup> Craftsmanship is basically the opposite of scientific management. The craftsman is responsible for his own work; management only provides the means and facilities for the craftsman to perform the entire operation. Craftsmanship produces high-quality products but is expensive and results in low output. Table 9-1 shows each system's strengths and weaknesses. The development of the assembly line destroyed craftsmanship and gave way to scientific management and greater specialization. For many years, it has been assumed that scientific management's strengths outweigh the weaknesses of craftsmanship.

As we noted earlier, many of us think of organizational structure in terms of our own jobs. Specialization has in some instances inspired a "that's not my job" attitude, which has seriously hurt some organizations. The system that worked so well after World War II—when America flooded the world market with affordable domestic products—is

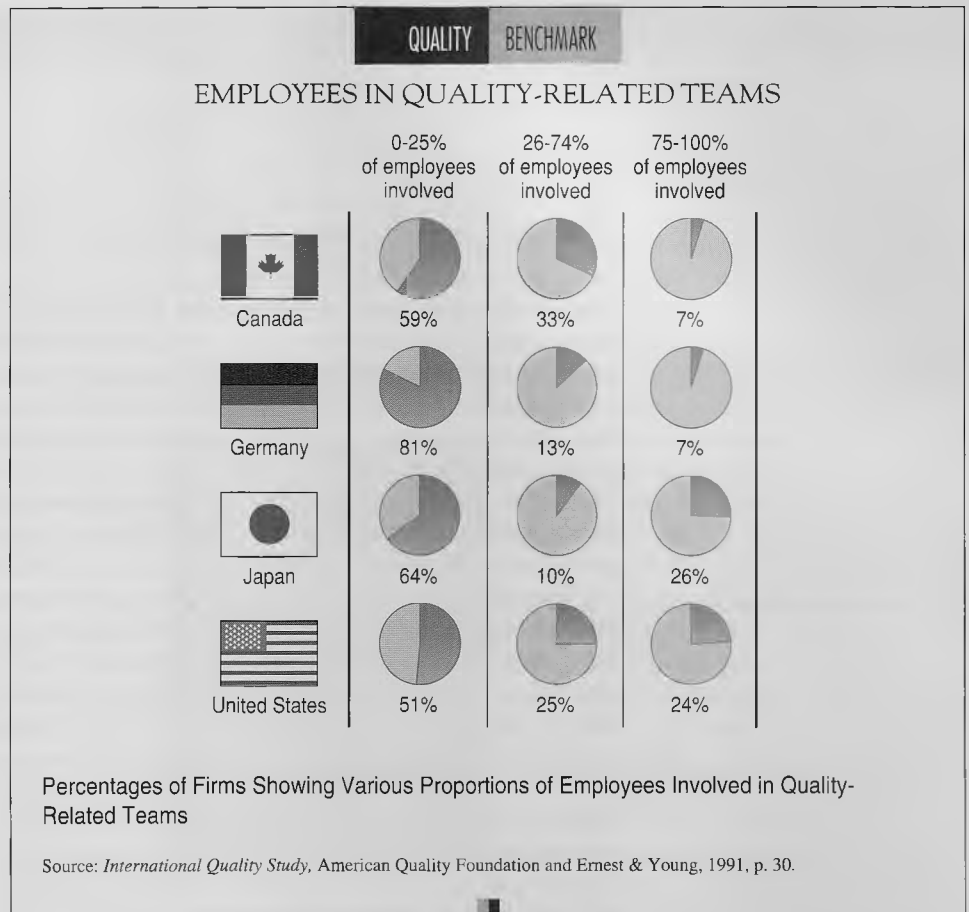
TABLE 9-1 Scientific Management versus Craftsmanship	Scientific Management	Craftsmanship
	<i>Strengths</i>	
	High productivity	High skill
	Lower cost	High-quality output
	Higher wages	Pride in work
	Unskilled workers	High job interest
	Predictable scheduling	Control by worker
	<i>Weaknesses</i>	
	Low morale and boredom	Low productivity
	Poor quality	Higher cost
	Lack of pride	Lower wages
	Low job interest	Poor control
	Control by managers	Scheduling problems

not as effective in today's complex global economy. Many organizations are searching for an alternative approach.

**Teams and Quality Circles** Japan was the first nation to realize that the scientific management approach to specialization would work only in an expanding market. Once markets began to shrink, Japanese firms made quality an issue and invaded markets that for years were thought to be untouchable. Basically the Japanese approach was to attack what they called Taylorism. It seems somewhat unfair to credit Taylor solely with the entire system of scientific management since others took part in its development. But the Japanese identified Taylor's concepts of time and motion with their failures: high absenteeism, low morale, and poor-quality output. While some parts of the world were experiencing the benefits of specialization, Japan was experiencing its disadvantages. Other nations are now experiencing these same disadvantages and will also have to make changes if they hope to prosper.

One major problem Japan found with specialization is that many workers simply did not enjoy their jobs. Jobs were boring and workers performing a single task over and over lost sight of the larger picture, the finished product. In his seminars, Deming argues for the right of all people to have "joy in their work."<sup>9</sup> He argues equally hard for companies to make money, but believes that unless people enjoy their work, there will be little commitment to quality—and it is quality that produces greater profit. Deming views designing an organizational structure much like designing a good orchestra, where players are there to support each other. According to him, a business is "a network of people, materials, methods, equipment, all working in support of each other for the common aim."<sup>10</sup> Thus managers must determine the appropriate degree of specialization without creating a demotivating and demoralizing environment in which workers don't do their best work. This may have been easier for Japanese firms to accomplish because specialization had not become entrenched in their society.

Many organizations are modifying and redesigning jobs so that they can be performed by teams.<sup>11</sup> A *work team*, as noted in Chapter 5, is a group of employees who work closely together to pursue common objectives.<sup>12</sup> Some organizations become *team-based*, using teams throughout the organization on a regular basis; others use teams more selectively. Some teams are directed by a manager while others are self-managed. The idea behind self-managed work teams is for workers to become their own managers, which increases reliance on their creative and intellectual capabilities besides their physical labor. At W.L. Gore & Associates—a manufacturer of a wide range of electronic, medical, fabric, and industrial products—"associates" (the term *employee* is not used) work on self-directed teams without managers or bosses.<sup>15</sup> Regardless of which form is used, teams can move swiftly, flexibly, and effectively to produce innovative products. Team members learn each others' jobs and bring their ideas together, capitalizing on workers' creativity. When truly empowered, a work team can change bored and demor-



alized *workers* into innovative and productive *partners*. AT&T developed a new organizational structure that includes teams that seek new opportunities; a team just below the CEO, that includes the heads of AT&T's four major business groups, runs the company day-to-day.<sup>14</sup>

Quality circles are based on the belief that the people who work with the process are best able to identify, analyze, and correct the problems in any given situation. They originated in Japan in 1962 and were expanded into a highly developed system by Japanese firms. A **quality circle** is a small group of people, usually fewer than 10, who do similar work and meet about once a week to discuss their work, identify problems, and present possible solutions.<sup>15</sup> Participation in the circle is voluntary and the workers establish a moderator or team leader to lead discussions. The group's findings and proposals are forwarded to management.

American firms began using quality circles in the mid-1970s and the concept grew in popularity during the next 15 years. Unfortunately some efforts to use quality circles failed because they were merely adaptations of the scientific management system. Managers' aim in some cases was to increase the productivity of workers, who refused to cooperate. But these failures resulted from how the approach was used rather than from flaws in the approach itself. Quality circles cannot simply be "installed" in an organization. The concept has been most successful when used as part of an organizationwide improvement effort. Quality circles are detailed in Chapter 17.

The extent to which jobs are specialized is a critical managerial decision. The important point here is that jobs vary considerably along the dimension of specialization. By changing the degree to which jobs are specialized, managers change the structure of the organization. Chapter 10 discusses job design in further detail.

#### quality circle

A small group of people, usually fewer than 10, who do similar work and meet about once a week to discuss their work, identify problems, and present possible solutions.



## Delegation of Authority

When designing an organizational structure, managers must also consider the extent to which authority will be distributed throughout the organization. As discussed in Chapter 5, *authority* is the organizationally sanctioned right to make a decision. Managers delegate (assign) certain tasks to others, simply because one person cannot get all the work done. When delegating authority, managers must weigh the pros and cons of decentralization and centralization and strike an appropriate balance for the organization.

### decentralization

The process of distributing authority throughout the organization.

### centralization

The process of retaining authority in the hands of high-level managers, who make all the decisions.

**Decentralization and Centralization** Authority can be distributed throughout the organization or held in the hands of a few. **Decentralization** is the process of distributing authority throughout the organization. It delegates an organization member (historically a manager) the right to make a decision without obtaining approval from a higher-level manager. The authority to identify problems or issues and recommend solutions is delegated as well. In the strictest sense, decentralization represents one end of a continuum (Figure 9–1) in which the authority to make decisions is shared with all members of the organization. On the other extreme, **centralization** is the process of retaining authority in the hands of high-level managers, who make all the decisions.

Decentralization has several advantages. Managers develop their own decision-making skills and are motivated to perform because advancement is related to performance. Managers can also exercise more autonomy, which increases job satisfaction and motivation, contributing to the organization's profitability. Hewlett-Packard attributes much of its success to decentralization, through which people and power were moved away from headquarters. While other major computer manufacturers like IBM and DEC were losing money, Hewlett-Packard made a healthy profit of \$881 million in 1992.<sup>16</sup> Decentralization also has a number of disadvantages. It requires costly management training, and organizations can end up employing highly paid managers. Delegation also leads to extensive (and often stifling) planning and reporting procedures. Some managers find it difficult to make decisions even though they have the authority because the methods used to measure accountability are time-consuming and instill fear in the managers.

Many firms are decentralizing—a trend expected to continue throughout the decade. Some decentralized firms are thriving, like Motorola, General Electric, American Telephone & Telegraph, and United Parcel Service.<sup>17</sup> Others are feeling decentralization's drawbacks. KFC envisioned tastier foods and happier customers when it decentralized several years ago. But the firm's regional divisions failed to coordinate their efforts, resulting in so much redundancy that restructuring was a failure.<sup>18</sup> Aluminum Co. of America (Alcoa) found that customers' rejections increased and customer satisfaction decreased after the firm decentralized.<sup>19</sup> Other companies including Levi Strauss have experienced similar problems with decentralization—overlap in functions and a lack of coordination. Levi Strauss placed its order-processing system under centralized control after retailers complained that they had to work with multiple divisions, each with its own procedures.<sup>20</sup>

Peters and Waterman's book, *In Search of Excellence*, identifies eight attributes that characterize America's best-run companies.<sup>21</sup> One attribute is that excellent firms are both centralized and decentralized. They delegate authority all the way to the shop floor yet are fanatic about centralizing certain decisions they believe to be critical to the firm's core value. For instance, 3M is recognized for encouraging engineers to *bootleg* (borrow time, energy, and funds from other assignments to explore new product ideas). Yet a select group of engineers at 3M retains relatively tight control over funding new product development projects. In essence, what Peters and Waterman are describing is the co-existence of firm, centralized direction with adequate individual autonomy—a difficult balance for managers to strike. Some companies are decentralizing operations closest to the customer to remain responsive in the marketplace. Less visible internal functions (such as personnel or order-processing, as in the case of Levi's) are centralized.

## REFLECTIONS BY PHILIP B. CROSBY

## ELEMENTS OF ORGANIZING

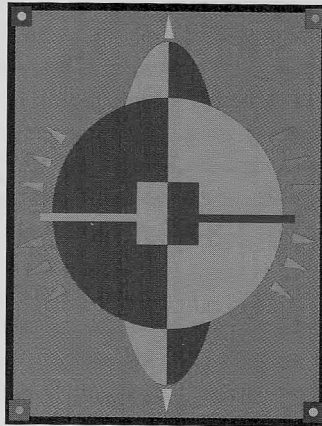
One thing we all learn as we practice the art/science of management is that it is very hard to process information through a system. Once we get past the level where we see each employee several times a day, it becomes necessary to rely on other people or systems to get the word out.

When I started Philip Crosby Associates (PCA), I decided that we would have a way of working that guaranteed each associate all the information and direction they needed at all times. Traditionally the way to attempt this is to have layers of supervision and pass things along, like a chain letter. However supervisors, at all levels, only look up. They worry about their boss(es) more than about their employees. All of the bosses I worked for in the early stages of my career spent their time staying out of trouble and keeping us away from what was happening. Any information they were supposed to transmit was edited severely. Their main source of intimidation and control was that they knew more than their subordinates about what was going on. However when we think that their bosses were doing the same thing, we realize that they were rather uninformed also.

I didn't want a system of supervision in PCA for the purpose of control. Rather we would set it up so people would have leaders who helped them. Management would take on the job of communicating with people. The quality improvement team would be responsible for recognition, and the supervisors would concentrate on supporting and helping associates. The key to it all would be openness; that is why we concentrated on the word *associate* rather than *employee*.

For the routine life of the company we set up a weekly newspaper (when there were only 30 associates) and monthly Family Council meetings. At that time everyone, including the switchboard operator, came to a session lasting about an hour where all was revealed. Anyone could ask anything or write it in so they didn't have to speak up. Management gave status reports; committees or teams revealed their status. A weekly informal newsletter took care of personal announcements.

We set up a Systems Integrity Board consisting of senior management. Every change that was going to be made was approved by this board which then let everyone know about it. When you are operating 25 or so classrooms and teaching in several languages, just changing the words on one chart can cause chaos if it isn't managed. Procedural changes were accomplished by the procedures committee which represented all departments. We held all company meetings on one day each month; the rest of the month was meeting-free. As a result of these efforts and more, the associates did not have to rely on their supervisors for general information, there were virtually no rumors (any that came up could be addressed at the Family Council), and everyone knew what was going on. Senior management was scheduled by the Quality Improvement Team to get around and see everyone regularly. The president had a dinner at each location every year to present awards and such, and we had an annual company black tie get-together. All of this was to let people know that it was all right for them to participate in running the company. And they did.

**empowerment**

Giving employees who are responsible for hands-on production or service activities the authority to make decisions or take action without prior approval.

**Empowerment** Some organizations have begun to empower workers to make decisions that typically have been made by superiors. **Empowerment** involves giving employees responsible for hands-on production or service activities the authority to make decisions or take action without prior approval.<sup>22</sup> For instance, a machine operator can stop production if a problem is detected, or a ticket agent can give a customer a refund without calling the supervisor. In talking about decentralization, we refer to the delegation of authority to other *managers*. Empowerment means that production, process control, and quality assessment becomes part of *everyone's* job and all individuals are given the ability and authority to take positive actions that will lead to high quality and performance. At Federal Express, for example, "all workers are routinely expected to take

whatever initiative is required to fix problems and/or extend first rate service to a customer."<sup>23</sup>

Empowerment is at the heart of any total quality management program. It helps to accomplish many points advocated by leading quality experts. One of Crosby's 14 points is to define the type of training employees need to actively carry out their role in the quality improvement process.<sup>24</sup> Deming's points include removing barriers that rob workers of their right to pride of workmanship and making everyone responsible for the quality transformation.<sup>25</sup> The goal of employee empowerment is to stop trying to motivate workers with extrinsic incentives such as money and instead build a work environment that motivates them from within through intrinsic incentives such as pride in workmanship.<sup>26</sup> McGregor, with his familiar Theory X and Y, argued a similar case over 30 years ago.<sup>27</sup> Empowerment is essential if employees are to make a total commitment to continuous quality improvement.

Workers' lack of literacy is a major drawback to quality programs and to the competitiveness of an organization. About 30 million Americans are functionally illiterate.<sup>28</sup> If companies want to be competitive and empower employees, they may need to educate them. At General Motors, for instance, workers are being asked to assemble the product, inspect it for quality, and fix any problems. With layers of supervisors being eliminated, assembly line workers are being asked to do many things they have never done before; basic education skills are a necessity. GM and many other organizations have developed education programs to teach workers to read, write, and perform other basic skills.

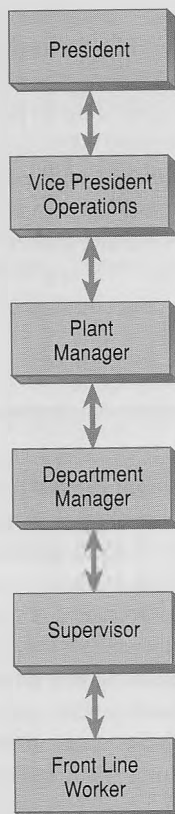
#### Chain of command

The formal command that defines the lines of authority from the top to the bottom of the organization.

**Chain of Command** The delegation of authority creates a **chain of command**, the formal channel that defines the lines of authority from the top to the bottom of the organization (Figure 9-2). As you can see, the chain of command is a series of superior-subordinate relationships from the highest position in the organization to the lowest.

FIGURE 9-2

Chain of Command



The chain of command is the communication link among all positions in the organization. It specifies a clear reporting relationship for each person in the organization and should be followed in both downward and upward communication. Generally, no individual should report to more than one supervisor. However modern organizations are empowering employees to communicate with a person outside the chain under special circumstances.

**Line and Staff Positions** The chain of command includes both line and staff positions. A **line position** is in the direct chain of command and contributes directly to achieving the organization's goals. In Figure 9-3 the president, the vice presidents of operations, marketing, and finance, the directors, and the sales managers are in line positions. **Staff positions** facilitate or provide advice to line positions. In Figure 9-3, the executive assistant, the vice presidents of human resources and environmental control, and the assistant to the director of sales are considered staff positions because they provide support to others.

**Line position**

In the direct chain of command and contributes directly to the achievement of the organization's goals.

**Staff position**

A position that facilitates or provides advice to line positions.

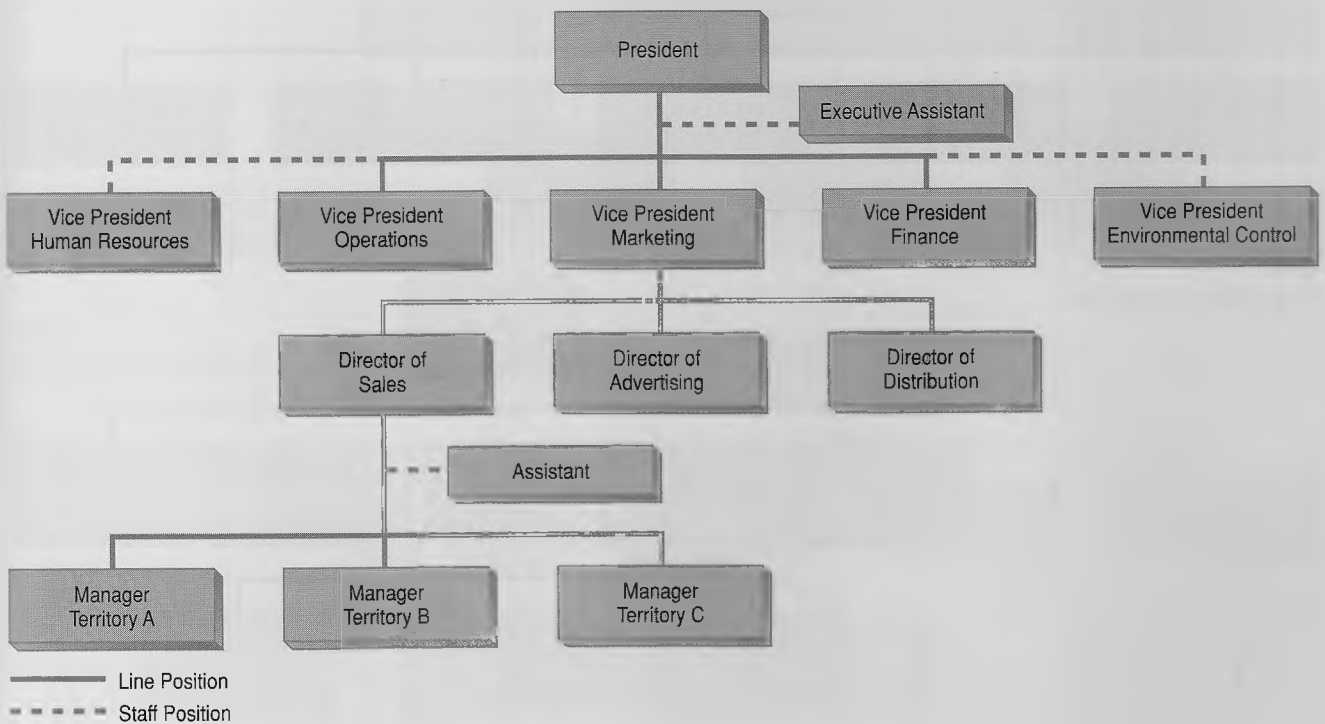
**Departmentalization**

The process of grouping jobs according to some logical arrangement.

### Departmentalization

**Departmentalization** is the process of grouping jobs according to some logical arrangement. As organizations grow in size and as job specialization increases, it becomes more complex to determine how jobs should be grouped. In a very small organization like a mom-and-pop grocery store, the owner can supervise everyone. In a large grocery chain, managerial positions are created according to some plan so that the organization can run smoothly. As we said earlier, some jobs are so specialized that they are unhealthy, which, as we will see, is changing the way organizations group jobs. The most common bases for departmentalization are function, product, customer, and geographic.

FIGURE 9-3  
Differentiating between Line and Staff Positions



**functional departmentalization**  
Grouping jobs together according to the organization's functions.

**Functional Departmentalization** Grouping jobs together according to the functions of the organization is called **functional departmentalization**. Generally, businesses include functions such as production, finance, marketing, research and development, and human resources (Figure 9-4). This method's major benefit is that it establishes departments based on experts in a particular function, taking advantage of specialization. But specialization does not encourage communication across departments. Functional departmentalization works best when the environment the organization faces is stable and tight control over processes and operations is desired.

**product departmentalization**  
Grouping jobs associated with a particular product or product line.

**Product Departmentalization** **Product departmentalization** groups jobs associated with a particular product or product line. It enables people working with a particular product to use their skills and expertise. Figure 9-5 illustrates how an organization groups jobs on this basis. Large organizations such as General Motors and Procter & Gamble have used this approach. The product manager may also draw on the resources of other organization members. Product departmentalization gives an organization the flexibility to develop specific strategies for different products and to grow or make acquisitions with relative structural ease. It has also been used by managers of multinational corporations with diversified product lines. But this type of grouping is expensive because it requires a manager for each product and runs the risk of duplicating effort among divisions.

**customer departmentalization**  
Grouping jobs in a manner that serves customers' needs.

**Customer Departmentalization** Organizations using **customer departmentalization** (Figure 9-6) group jobs in a manner that will serve customers' needs. Organizations that have extremely large customers or that serve diverse groups are most likely to use this approach. For example, a firm that sells defense systems to the government may

FIGURE 9-4  
Functional Departmentalization

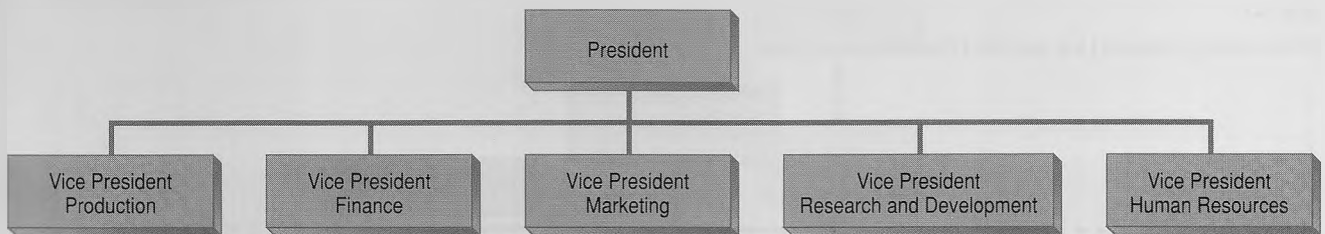
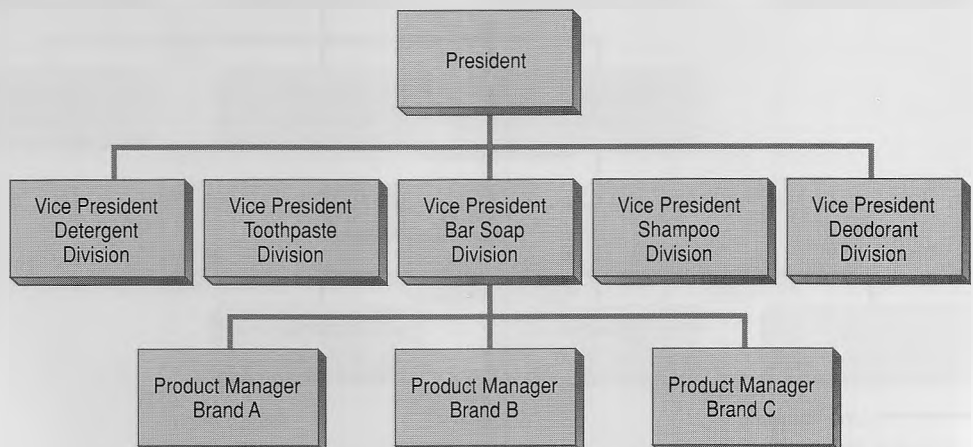


FIGURE 9-5  
Product Departmentalization



group jobs based on customers. Banks typically departmentalize on the basis of consumer and commercial accounts. Customer departmentalization can be a costly method of grouping jobs if a large staff is required to integrate different departments' activities.

**geographic departmentalization**  
Grouping jobs based on defined territories.

**Geographic Departmentalization** Grouping jobs based on defined territories is called **geographic departmentalization** (Figure 9-7). Such a structure is useful when an organization is widely dispersed and its customers' needs and characteristics vary greatly; organizations can respond to unique customer needs in the various regions more quickly. Geographic departmentalization is the most common form used by MNCs. Its major drawback is that it usually necessitates a large headquarters staff to manage the dispersed locations.

**mixed departmentalization**  
Grouping jobs using more than one basis.

**Alternative Forms of Departmentalization** As an organization evolves over time, it may use more than one method to group jobs. **Mixed departmentalization** involves grouping jobs using more than one basis. Figure 9-8 illustrates how a bank might mix product, customer, and geographic departmentalization. In reality, most groups organize departments using multiple bases.

Because departmentalization reinforces specialization, some organizations are trying to involve everyone in the decision process by breaking down the barriers that often divide departments. Steelcase, Inc., actually did away with formal departments. People work in multidisciplinary teams that encourage interaction. The physical facilities are also void of departments; they contain areas for teams to work and space for working on

FIGURE 9-6  
Customer Departmentalization

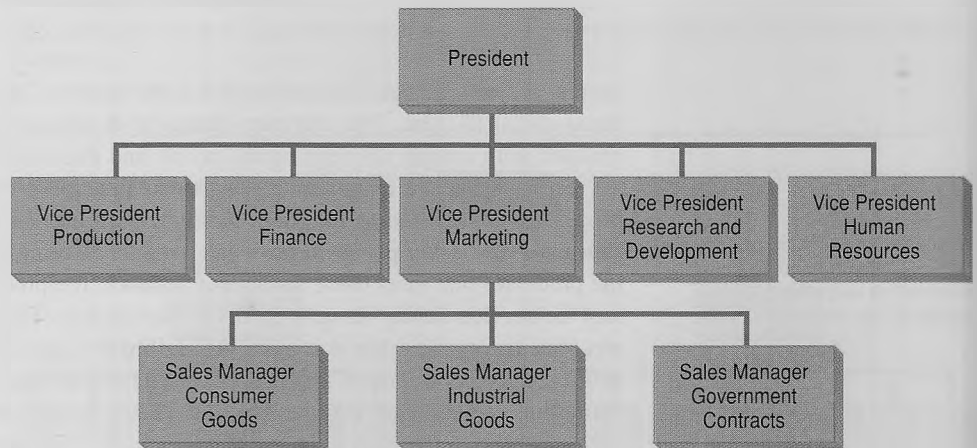


FIGURE 9-7  
Geographic Departmentalization

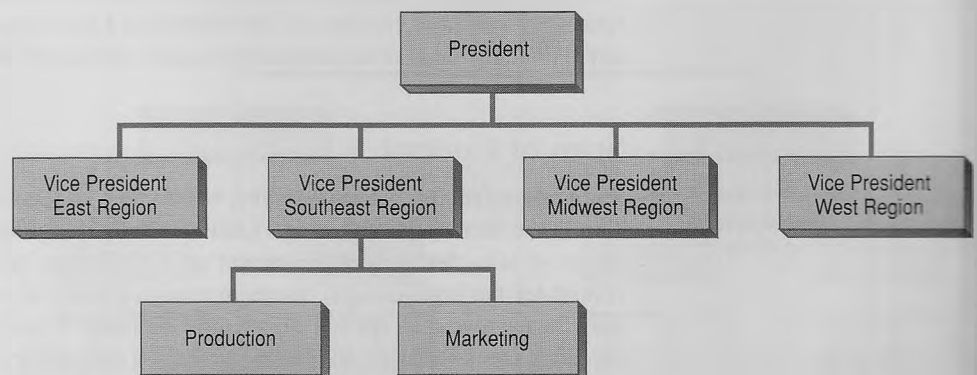
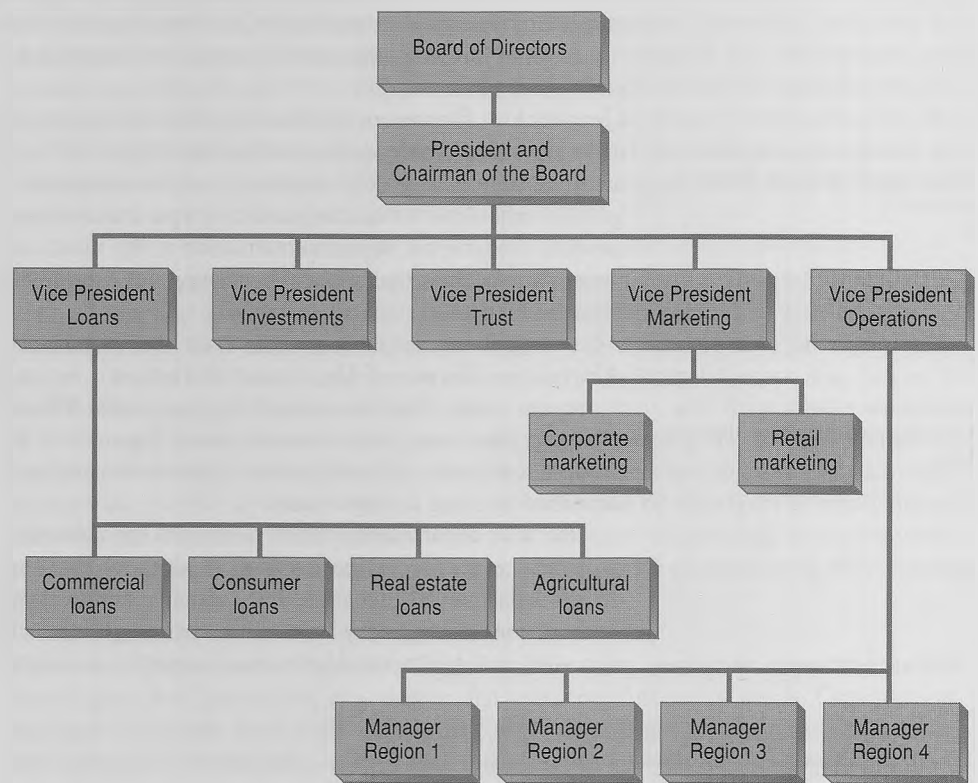


FIGURE 9-8  
Mixed Departmentalization



special projects. Executives are located in the center of the building, where everyone has equal access to them. This complex change took several years to implement but has been credited with cutting delivery cycles in half and dramatically reducing inventory.<sup>29</sup>

Some firms are abandoning departmentalization altogether and organizing around processes, as opposed to function, product, customer, or geography. **Process organization** involves basing performance objectives on meeting customer needs and identifying the processes that meet those needs. For instance, the processes that meet customer needs may be service quality or new product development. These processes, not departments, are used to organize the company. At Hallmark Cards, jobs are organized around the new product development process, according to specific holidays. There are teams for Christmas, Valentine's Day, and so on. Each holiday team includes artists, writers, lithographers, merchandisers, and accountants. Team members come from all over a 2-million-square-foot building so they can work together. Now one team works on a Mother's Day card; previously the card had to go from one large department to the next. The time it takes to develop new cards is cut in half. Between projects or teams, workers return to "center of excellence" for training or brief work assignments. Hallmark hopes any remaining signs of department structures eventually will disappear.<sup>30</sup>

## Span of Control

**Span of control** refers to the number of people who report to one manager or supervisor. This is the final decision managers must make in designing organizational structure. The objective is to determine the optimal span of control, wide or narrow. A wide span of control (or flat organization) results in a large number of workers reporting to one supervisor; a narrow span (or tall organization) results in a small number. Figure 9-9 compares the two structures. In the first case, two supervisors each direct eight workers; the maximum span of control is eight. There are two levels of management: a president and

### process organization

Organization that bases performance objectives on meeting customer needs and identifying the processes that meet those needs.

### span of control

The number of people who report to one manager or supervisor.

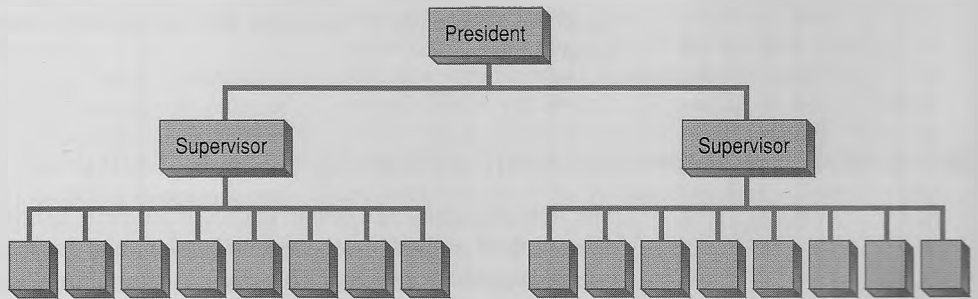


James Schnepf

Jobs at Hallmark Cards are organized around new-product development teams like this one, according to specific holidays.

FIGURE 9-9  
Wide versus Narrow Span of Control

A. Wide Span of Control



B. Narrow Span of Control

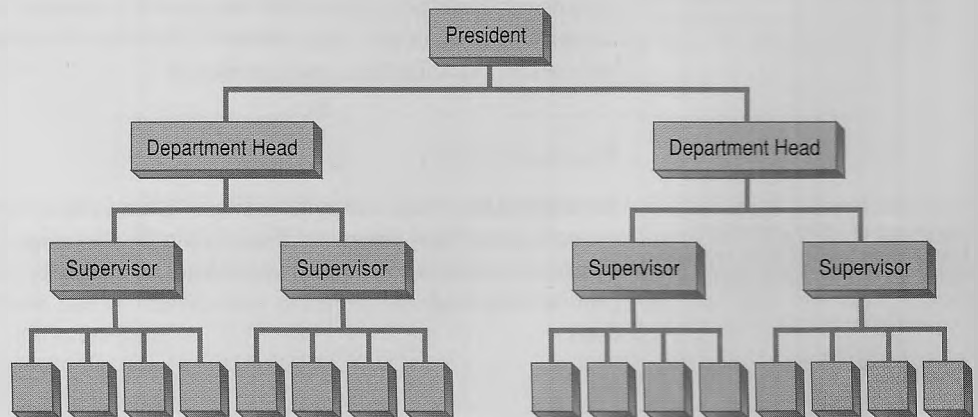




TABLE 9-2  
Factors to Consider in  
Determining the Span  
of Control

1. *The competence of both the manager and the subordinates.* The more competent they are, the wider the span of control can be.
2. *The degree of interaction required among the units to be supervised.* The more the required interaction, the narrower the span of control must be.
3. *The extent to which the manager must carry out nonmanagerial tasks.* The more technical and job-related work the manager has to do, the less time is available to supervise others: thus the narrower the span of control must be.
4. *The relative similarity or dissimilarity of the jobs being supervised.* The more similar the jobs, the wider the span of control can be; the less similar the jobs, the narrower it must be.
5. *The extent of standardized procedures.* The more routine subordinates' jobs are and the more each job is performed by standardized methods, the wider the span of control can be.
6. *The degree of physical dispersion.* If all the people assigned to a manager are located in one area and are within eyesight, the manager can supervise relatively more people than if people are dispersed throughout the plant or countryside at different locations.

the two supervisors. In the second case, four supervisors report to two department heads and each supervisor directs four workers. The maximum span of control is four, and there are three levels of management: a president, two department heads, and four supervisors.

No formula exists for determining the ideal span of control. The ideal number of people that one person can supervise depends on a variety of factors (Table 9-2).<sup>31</sup> As you can see, these factors could result in different spans of control for different managers in different organizations. Furthermore, spans of control could be different for managers at the same level in the same organization, depending on their experience or the nature of the jobs they are supervising. Consistent with some of the trends in organizational structure we have already discussed (teams, quality circles, empowerment, process organization), many organizations are widening their spans of control. The objective is to develop a flatter, more responsive organizational structure in which decisions can be made without going through several levels of management. It is also resulting in the layoffs of thousands of managers who are no longer needed, the subject of the Ethics Spotlight.

## ■ DIMENSIONS OF ORGANIZATIONAL STRUCTURE

The four organizational design decisions we have just discussed—specialization of jobs, delegation of authority, departmentalization, and span of control—determine the structure of organizations. Organizational structure provides the foundation upon which the organization functions. It also dramatically influences performance. Therefore managers must be concerned with the entire structure and how it influences the organization. Three dimensions have been identified that enable managers to describe and understand the organizations' structure and measure differences between different organizations: formalization, centralization, and complexity.<sup>32</sup>

### Formalization

**Formalization** refers to the extent to which an organization's communications and procedures are written down and filed. A highly formalized organizational structure would be characterized by rules and procedures to prescribe members' behavior. Simple and routine tasks lend themselves to formalization while more complex and nonroutine tasks don't.

#### formalization

The extent to which communications and procedures in an organization are written down and filed.

## ETHICS SPOTLIGHT

## ARE LAYOFFS NECESSARY?

The unprecedented restructuring taking place in corporate America hasn't been painless. As many organizations relentlessly downsize, thousands of employees are being laid off. *Workplace Trends* reported that in 1991 large corporations permanently cut 556,000 jobs, and the trend is continuing at a rapid pace. Many predict that the next decade will see even greater job cuts. This trend's impact on individuals, families, and society is profound:

- Allen Stenhouse—with a 24-year insurance career, a \$50,000 income, a \$279,000 condo, and a 14-year marriage—was laid off two days before Christmas. He divorced, lost his savings and his condo, and lives on Social Security and disability benefits.
- Gerald Feldman lost his \$57,000-a-year job as director of finance and equipment administrator for a midsize office equipment retailer. He receives \$270 a week in extended unemployment benefits; his wife Claire earns \$8 an hour working in collections for a retailer. They are four months behind in their mortgage payments and have received a notice of foreclosure.
- Sara Rutenberg, a Hollywood TV studio attorney, says she feels incredible anxiety about her job, her kids, and the declining value of her home. She worries about credit, layoffs, and medical bills.

Thousands of such people are losing much more than their jobs. They are losing their place in society, their optimism, and their self-esteem. Even corporate giants like IBM, General Motors, Procter & Gamble, and United Technologies have cut thousands of positions, producing deep social, psychological, and economic trauma. Many Americans, for the first time since World War II, feel that tomorrow may not yield a brighter future.

Few people argue with corporations' need to restructure, downsize, and cut costs in an effort to become more efficient and competitive. But some critics question the ethics of executives who allow overstaffing when times are good, yet impersonally cut thousands of jobs during recessions and restructuring; they say layoffs are nothing more than managers admitting they failed to plan. Not only are the individuals who lose jobs damaged, but workers who are spared are often left demoralized. Rights Associates, a counseling and outplacement firm, questioned human relations executives at 909 companies that have downsized. Seventy percent reported that workers who kept their jobs felt insecure about their future employment prospects.

Downsizing holds several other potential drawbacks. Layoffs can be very expensive, especially if the organization has to rehire in the future. As a result of layoffs, experience, skills, and loyalty leave the organization. According to a study conducted by the Wharton School of Business at the University of Pennsylvania, companies with a history of layoffs have trouble attracting new talent when needed. The same study also shows that more than a third of the downsizing companies had to use overtime or consultants later to do the job.

Some firms are committed to retaining their employees through restructuring efforts during good times and bad. Even though losses reached \$2.3 billion at Ford Motor Co., very few employees were released. Net income fell 12 percent at 3M, but employees who were willing to relocate could stay. Sales dropped 16 percent at Baldor Electric, but no layoffs occurred because the CEO believes that to build a good company, you have to get and keep the best people. Strategies for reducing the number of layoffs include instituting hiring freezes, restricting overtime, retraining or reassigning employees, switching to part-time work, sharing jobs, converting employees to consultants, giving unpaid vacations, shortening the work week, and reducing pay. Jack Welch, CEO of General Electric, feels worker skills have to be upgraded through intense and continuous training: "Companies can't promise employment, but we may be able to guarantee employability."

The continued restructuring of American organizations will bring more layoffs in the coming years. But managers responsible for downsizing must consider layoffs' long-term impact on the organization. After all, an effective organizational structure should contribute to the organization's performance. According to Frank Popoff, CEO of Dow Chemical, when you lay people off, "You lose all the loyalty you've busted your butt to build. The quality of work you get from motivated workers is literally light-years ahead of what you get from people who aren't well motivated."

Source: Adapted from "Jack Welch's Lesson for Success," *Fortune*, January 25, 1993, pp. 86-93; Edmund Faltermayer, "Is This Layoff Necessary?" *Fortune*, June 1, 1992, pp. 71-86; Bruce Nussbaum, Ann Therese Palmer, Alice Z Cuneo, and Barbara Carlson, "Downward Mobility," *Business Week*, March 23, 1992, pp. 56-63; and Brian O'Reilly, "Preparing for Leaner Times," *Fortune*, January 27, 1992, pp. 40-47.

In general, organizations characterized by high specialization, high delegation of authority, functional departments, and wide spans of control are more formalized. Scientific management, then, results in a high degree of formalization, while craftsmanship leads to less formalization. In this sense, organizations that empower workers reduce formalization.

## Centralization

*Centralization*, as we said earlier, refers to how much the authority to make decisions is dispersed throughout the organization. In a highly centralized organization, decision-making authority is retained by top-level managers. A highly decentralized organization disperses decision-making authority throughout the operation. Most organizations are neither centralized or decentralized, but somewhere in between the two extremes.

In terms of the four organizational structure decisions, centralization is the result of high specialization, low delegation of authority, the use of functional departments, and wide spans of control.

## Complexity

**Complexity** is defined as the number of different job titles and the number of different departments. As organizations grow, divide work, and create more departments, they become more complex. Because of the dissimilarities in the jobs of both individuals and departments, a complex organization is more difficult to manage than one with few job titles and departments.

High specialization, product departmentalization, customer departmentalization, geographic departmentalization, high delegation of authority, and narrow spans of control result in high complexity.

Organizations differ in terms of how much they're formalized and centralized as well as their degree of complexity. These differences result from managers' decisions concerning the organization's structure. No single structure is best for a particular organization. Structure's purpose is to reward and encourage behaviors that lead to accomplishing organizational objectives. Regardless of differences in how formalized, centralized, and complex organizations are, the critical issue is whether the organizational structure enables employees to do quality work. Perhaps the most important point is that managers must manage organizational structures over time and make changes in response to the changing environment.

### complexity

The number of different job titles and the number of different departments.

## ■ ORGANIZATIONAL DESIGN

In this chapter we have noted that organizational structure is the framework of jobs and departments that directs individuals' and groups' behavior toward achieving an organization's objectives. Structure provides the foundation within which the organization functions, and managers must design an organizational structure that enhances the organization's overall strategy. Managers have many alternatives in developing an organizational structure. **Organizational design** is the process by which they develop an organizational structure. Since organizational structure is determined by specialization of jobs, delegation of authority, departmentalization, and span of control (Figure 9-1), organizational design includes coordinating these dimensions of organizational structure and deciding the extent to which the organization will be specialized, centralized and so on.

Two extreme models of organizational design—the mechanistic model and organic model—have provided much of the framework for understanding organizational design.<sup>33</sup>

### organizational design

The process by which managers develop an organizational structure.

## The Mechanistic Model

In the early part of the 20th century, much theory and practice in management was guided by the nature of the work and existing organizational structure at that time. That is, many organizations, seeking a high production level, relied on unskilled workers. Factory workers were highly specialized, and little authority was delegated. Thus the term

**mechanistic organization**

A rigid organization that attempts to achieve production and efficiency through rules, specialized jobs, and centralized authority.

**mechanistic organization** describes a rigid organization that attempts to achieve production and efficiency through rules, specialized jobs, and centralized authority.

Max Weber used the term *bureaucracy* to describe an organization based on a formal system of legitimate authority.<sup>34</sup> The major characteristics of Weber's bureaucracy describe the mechanistic mode:

- Tasks are divided into highly specialized jobs.
- Each task is performed according to a standardized set of rules that ensures uniformity.
- Each member of the organization is accountable to a single manager.
- Business should be conducted impersonally, and managers should maintain a social distance from workers.
- Employment and advancement should be based on technical qualifications, and workers should be protected from arbitrary dismissal.

As you can see, this represents an extreme type of organization—perhaps not the kind in which you have worked or would like to work. It is important, though, to view the mechanistic model as one end of a continuum, and see the organic model as the other. Neither is the ideal form of organizational design, and most organizations change over time. Later this chapter will look at other forms of more or less bureaucratic organizational design.

## The Organic Model

**organic organization**

An organization that seeks to maximize flexibility and adaptability. It encourages greater utilization of human potential and de-emphasizes specialization of jobs, status, and rank.

The organic model of organizational design is in sharp contrast to the mechanistic model. The **organic organization** seeks to maximize flexibility and adaptability. While the mechanistic model is rigid and bureaucratic, the organic model encourages greater utilization of human potential. The organic model de-emphasizes specialization of jobs, status, and rank. Horizontal and lateral relationships are as important as vertical relationships.<sup>35</sup>

The organic organization provides individuals with a supportive work environment and builds a sense of personal worth and importance.<sup>36</sup> Thus managers in this organization encourage and motivate employees to reach their potential. This type of organization tends to be decentralized, and communication flows throughout the organization rather than through the chain of command. Departmentalization would be based on product and customer rather than on function.

The organic model describes a more human organization. You may have already decided that this is the best type of organization. It may look that way. Earlier in the chapter, we said that the best structure is one that facilitates getting the work done well. We also said that structure sometimes interferes with quality work. But this doesn't mean that everything about the mechanistic model is bad in all situations or that everything about the organic model is good in all situations. Remember, we're describing a continuum. Between these two extremes are many organizational designs—some we have yet to discover.

## The Matrix Organization

**matrix organization**

A cross-functional organization overlay that creates multiple lines of authority and places people in teams to work on tasks for a finite period of time.

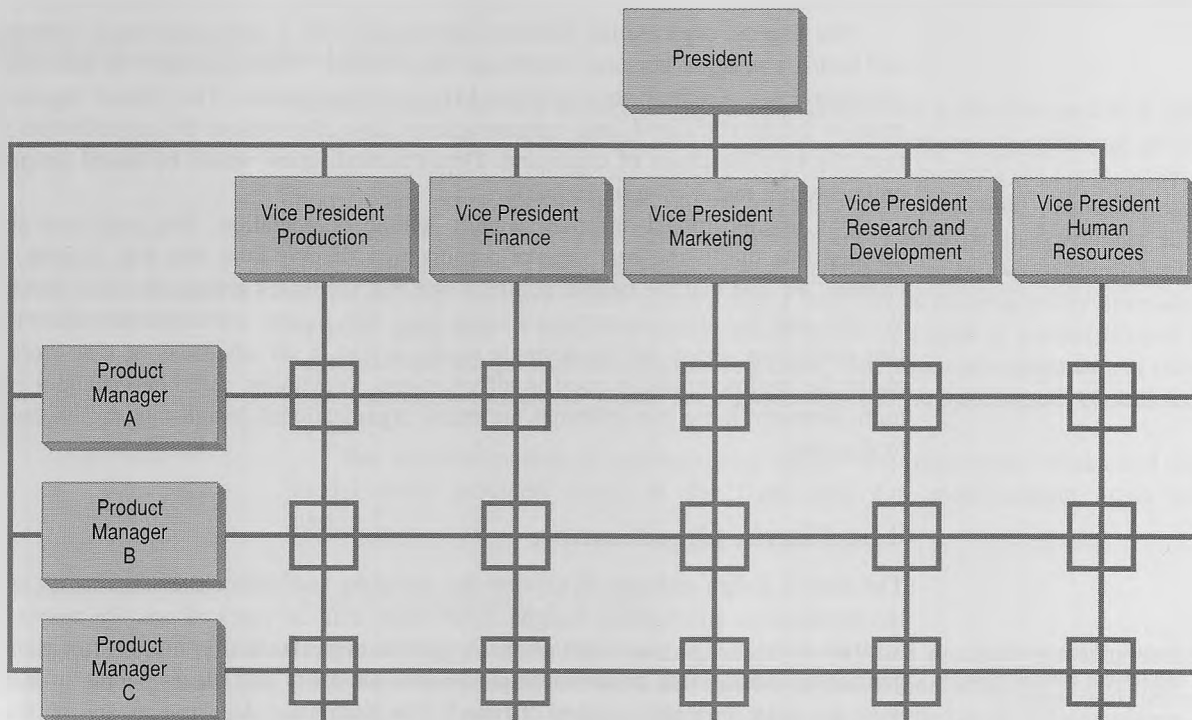
The matrix design attempts to capture the strengths and reduce the weaknesses of both the mechanistic and organic designs. After more than 30 years of use, the matrix organization continues to elude definition. A **matrix organization** is a cross-functional organization overlay that creates multiple lines of authority and places people in teams to work on tasks for a finite period of time.<sup>37</sup> The functional departments are the foundation, and a number of products or temporary departments are superimposed across the

functional departments. The result (Figure 9-10) is a dual, rather than singular, line of command. This form of organization could be thought to fall in the middle of the continuum, with mechanistic and organic organizations at the two extremes. Although the matrix organization was first developed in the aerospace industry, it is now used in all types of organizations, both private and public.

As Figure 9-10 shows, individuals or groups in each cell report to two managers. For instance, someone working in marketing on Product A would report to the Vice President-Marketing and Product Manager A. This arrangement is useful in speeding up innovation because each person's primary responsibility is to help produce what the organization sells. The key is to free people from bureaucratic constraints by empowering them to create winning ideas and products, while at the same time providing the structure needed to be successful.<sup>38</sup> Frigidaire Co., owned by Swedish-based Eletrolux since 1986, uses a matrix organization that functions as a team and focuses attention on the consumer. The matrix organization has helped Frigidaire to become increasingly competitive, flexible, and market-driven.<sup>39</sup>

Matrix organizations have increased in popularity as organizations have decentralized and adopted quality programs. They are most appropriate when coordination is needed in complex and uncertain environments.<sup>40</sup> Matrix organizations lead to efficient use of a specialized staff, offer timely response to a changing environment, enable technical specialists to interact with each other, free top-level management from day-to-day activities to spend more time planning, and encourage individual growth and development.<sup>41</sup> Since product or project groups are often employed with the matrix design, many organizations using teams and quality circles adopt this form of organization because of its flexibility and adaptability.

FIGURE 9-10  
The Matrix Organization



The matrix design has several drawbacks. Dow Chemical adopted a matrix organization in the 1960s to promote internal communication. But the matrix generated miles of red tape, scores of committees, and an even larger bureaucracy. Nonetheless Dow sticks with the matrix today and credits it with many of the firm's successes.<sup>42</sup> The matrix can lead to confusion because individuals or groups report to more than one superior. Several bosses may place conflicting demands on subordinates or struggle with each other for power, placing workers in a compromising position. In some cases, organizations find that groups take longer to make decisions than individuals. The matrix is also costly because additional managers and staff may be needed.<sup>43</sup>

## Other Forms of Organizational Design

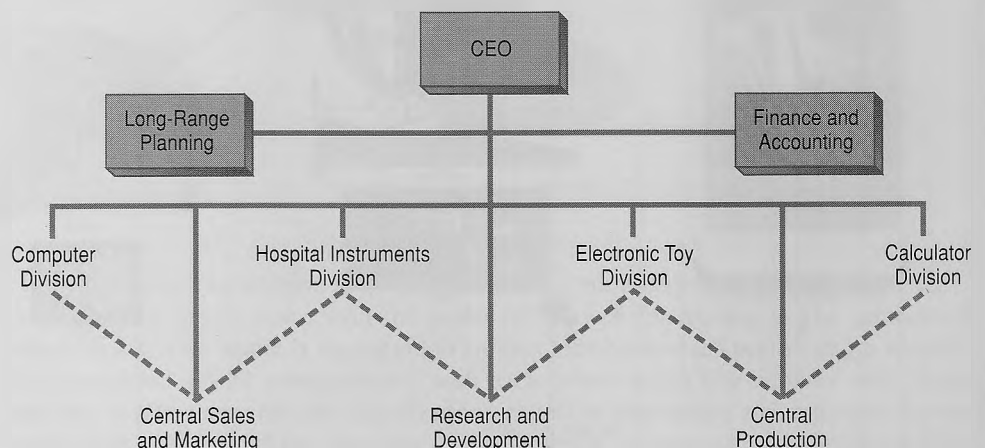
Many other forms of organizational design have been developed or are emerging in response to the rapidly changing environment. Increased global competitiveness, decentralization, buyouts and hostile takeovers, and the quality revolution are just a few of the factors causing organizations to search for new designs. This section looks at several additional forms of organizational design.

**The Multidivisional Organization** The multidivisional (M-Form) organization has emerged in Western Europe and the United States during the past 50 years.<sup>44</sup> The **multidivisional organization** (Figure 9-11) is a high-performance organization whose operating units or divisions are partially interdependent. Thus each division's product is different from the other divisions'. But all divisions share common endowments such as technology, skill, and information. Hewlett-Packard is divided into 50 semiautonomous divisions, one manufacturing hospital instruments, a second computers, a third hand-held calculators, and so on. Each division sells to slightly different customers and uses different manufacturing methods, but all share a common foundation in electrical engineering, use similar manufacturing methods, and depend on a central laboratory to supplement their research.

This design attempts to strike a balance between autonomy for the divisions and control over them. The M-Form structure represents the ambiguity common in many organizations. That is, each division is partially independent yet partially dependent on the entire organization. IBM found that as a huge, centralized organization it simply could not react fast enough to changes in the competitive marketplace. With the M-Form, each division is expected to operate independently to maximize profits and is sufficiently autonomous to make timely decisions. But the M-Form only succeeds if

multidivisional organization  
A high-performance organization whose operating units or divisions are partially interdependent.

FIGURE 9-11  
The Multidivisional (M-Form)  
Organization



divisions cooperate on things they share in common. The key is to make sure this cooperation does not stifle a division's creativity and performance. This is the delicate balance between centralization and decentralization.

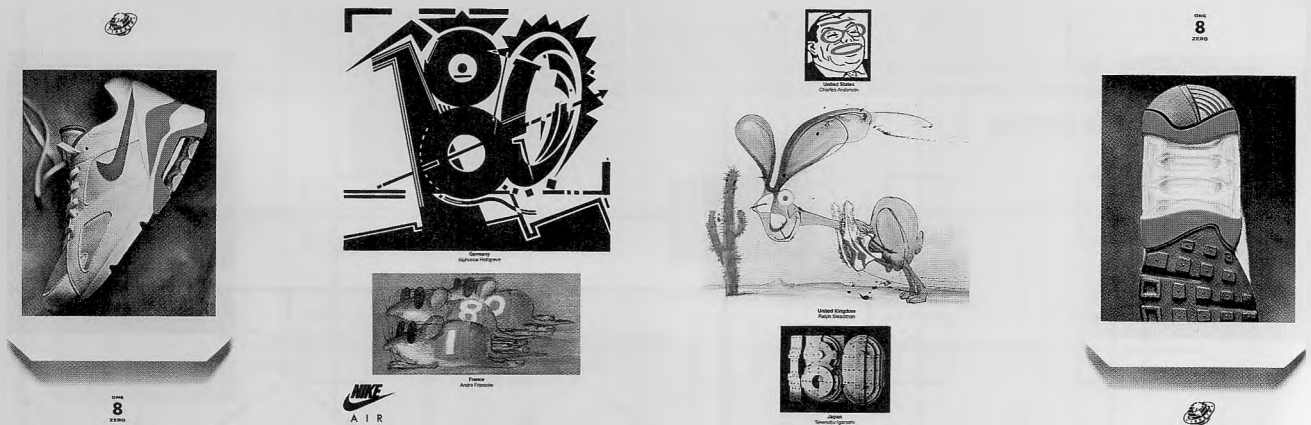
#### network organization

A flexible, sometimes temporary, relationship between manufacturers, buyers, suppliers, even customers.

**The Network Organization** A **network organization** is a flexible, sometimes temporary, relationship between manufacturers, buyers, suppliers, and even customers.<sup>45</sup> The design is dynamic in that the major components can be assembled or reassembled to meet changing competitive conditions. A major advantage of networks is that each member can concentrate on those activities it performs best. Members are held together by contracts and pursuit of common goals, not by the more traditional hierarchy. The term *virtual corporation* has been used to describe a temporary network of independent organizations, linked by information technology, that come together quickly to exploit fast-changing opportunities.<sup>46</sup> A virtual corporation has neither a central office nor an organization chart; rather, it is a series of partnerships that will more than likely terminate once an opportunity is met. Similarly, a *modular corporation* consists of a hub surrounded by a network of the best suppliers in the world. The hub is the center of activities, such as research and development; the network is made up of outside specialists that make the parts, handle deliveries, and perform accounting activities.<sup>47</sup>

Some organizations have pushed networks to the point where barriers between the firm, its customers, and its competitors have almost disappeared. Rather than manufacturing the \$3.4 billion worth of products it sells annually, Nike has established a network of subcontractors in China, South Korea, Taiwan, and Thailand. Each develops its own products, while Nike continually invests in research and development, providing subcontractors with the results. Even if subcontractors use this knowledge to make products for competitors, Nike feels it will benefit most of all from what subcontractors learn in the process. Nike can respond to changes in fashion faster than its rivals by rearranging the network.<sup>48</sup>

This design is gaining popularity not only in the United States but globally. Members can be added as needed when operating in a global context. For example, a firm entering a foreign country for the first time may add a broker or a trading company to the network. Members that are not performing or are no longer needed can be removed. Since members pursue their distinctive competencies, quality is enhanced. Organizations can also eliminate those activities or operations that can be done better by others.



© Nike, Inc. 1991

Nike has established a network of subcontractors in different countries, each developing its own products while Nike invests in research and development.

## GLOBAL EXCHANGE

## GLOBAL NETWORK ORGANIZATIONS

A new form of organizational structure is changing the global business environment. This organization is delayed and downsized, and it operates through a network of market-sensitive business units. These entities, known as *network organizations*, originated over a decade ago but have recently been labeled the organizational structure of the future. The network's center or hub is a centralized staff of functional specialists managed in traditional ways. The extended network consists of a decentralized global structure of rotating members: one that designs the product, one that manufactures it, and so on. The network's composition changes constantly to meet the organization's global needs. The structure of a global network organization is shown below.

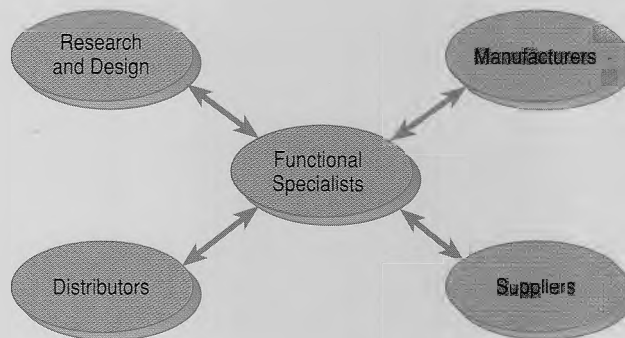
Many factors explain network organizations' growing popularity. Organizations designed in the 1950s and 1960s sought economies of scale through centralized planning and control. This organizational structure became obsolete in the 1980s when the forces of technology and globalization demanded both efficiency and effectiveness. A structure was needed that adapted quickly to innovations while at the same time controlling costs. Organizations were forced to search globally for new markets, minimize costs, maximize returns, specialize in those activities the organization does best, and farm out activities that could be performed more efficiently by others. The network structure enables organizations to concentrate on those things it does most efficiently and contract the remaining activities with other firms.

For example, BMW utilizes a global network organization. Any part of a BMW may come from another firm; about

55 to 75 percent of the total production costs at BMW come from parts contracted with other firms. BMW keeps abreast of technological developments through its own subsidiaries and partnerships with other firms. BMW Motor Sports Group, Advanced Engineering Group, and Motorcycle Group specialize in technologically advanced forms of automobile or motorcycle development and production. Each of these subsidiaries concentrates on engineering and design innovations; these groups' objective is to identify the best outside supplier for a specific technology. BMW also engages in joint ventures with Leowe Opta (electronics), the French firm Cecigram (new production technologies), and others.

Global competition in the 21st century will force managers, at least to some extent, to design global network organizational structures. Network structures facilitate lateral communication that is lacking in many organizational hierarchies. They also help managers and workers unleash creativity. The forces that have pushed many U.S. and foreign firms to adopt network forms of organizational structure are likely to intensify with the emergence of new global participants, like Eastern Europe. New foreign products will increase competition and new foreign markets will mean new opportunities. It is hard to imagine the traditional organization surviving in this environment.

Source: Adapted from Charles C. Snow, Raymond E. Miles, and Henry J. Coleman, "Managing 21st Century Network Organizations," *Organizational Dynamics*, Winter 1992, pp. 5-19; Ralph H. Kilman, "A Networked Company That Embraces the World," *Information Strategy: The Executive's Journal*, Spring 1990, pp. 23-26; and John B. Bush and Alan L. Frohman, "Communication in a Network Organization," *Organizational Dynamics*, Autumn 1991, pp. 23-36.



Several other terms have been used to describe this emerging organizational design. Some refer to *spider webs*, with the center of the web functioning as the centralized organization. This center is connected to various members—each performing a specialized function, and all interconnected with each other—much like a spider web. Each member is able to tap into the organization's collective knowledge and expertise via the spider web. A *shamrock* has also been used to describe an organization based around the core of essential executives and workers, and supported by external contractors and part-time help. The Global Exchange examines the growth of global network organizations.



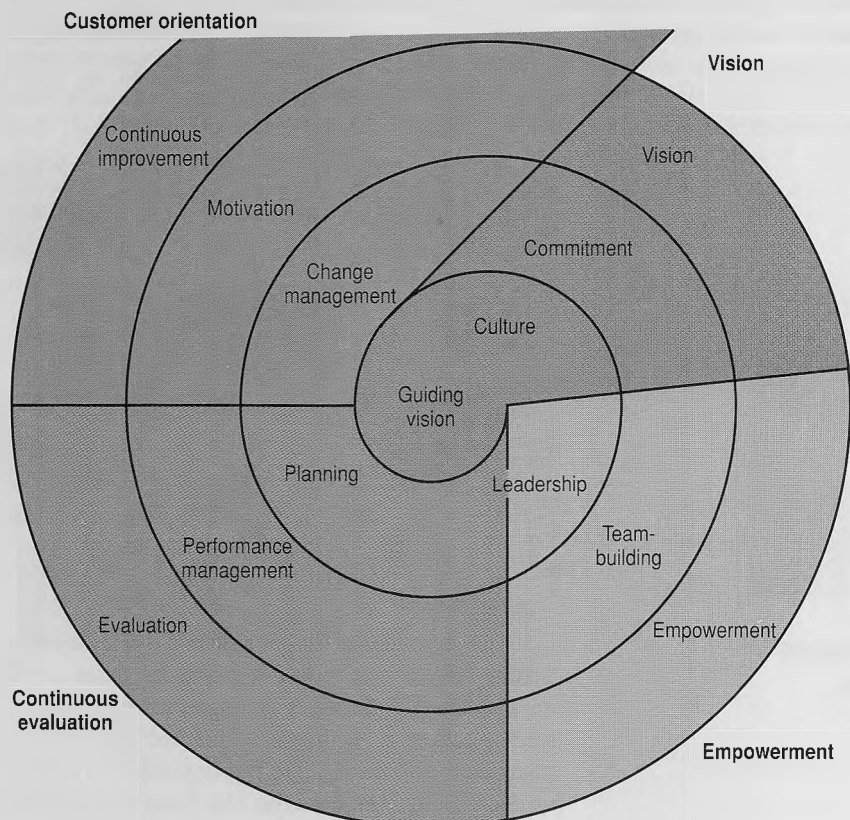
**The Complete Organization** Many different metaphors have been used to describe changes in modern organizations: *reengineering*, *paradigm shifting*, and *reframing*. The emerging organizations of the future have been described as lean, flexible, responsive, and perhaps above all else, highly competitive. Many of these attributes are captured in what Philip Crosby calls *completeness*, as characterized by the following:

- Policy is made by leadership with the consent of the governed.
- Requirements are provided in a way that everyone understands.
- Everyone keeps learning due to the availability of information and freedom of choice.
- Performance measurement is based on a culture of consideration.
- The organization's purpose is to help individuals be successful in every aspect of their lives.<sup>49</sup>

According to Crosby, modern communication systems will let management know and understand the will of the people. Because of this, misunderstandings will be avoided, special interest groups will be easily identified, and activities will be well thought out. At the chapter's start we said that an effective organizational structure enables workers to get the job done. Complete organizations are responsive structures committed to quality.

Many challenges remain; new forms of organizations will be developed to meet them. One challenge is designing quality-based organizations and implementing total quality management programs. The *spiral model* (Figure 9-12) integrates many concepts, practices, and philosophies of quality management, such as flexibility, complete-

FIGURE 9-12  
The Spiral Model



ness, and empowerment. The spiral indicates that quality implementation is continuous. From the center of the spiral comes the guiding vision of the organization, from which stems the foundational principles of culture, leadership, planning, and change management. The next layer includes the management dynamics of commitment, team building, performance management, and motivation. The final layer contains four implementation activities associated with quality management: vision, empowerment, evaluation, and continuous improvement. The spiral is divided into four slices, each representing these four activities.<sup>50</sup>

What will the organization of the year 2000 look like? Will it be a global network or a matrix organization? Will complete managers really respond to the will of the people? Will the spiral model represent how organizations develop a structure? Or will some new form of organization be developed? Anticipating and shaping the future is part of the excitement of management. And although we can't answer all these questions definitively, we do know that to survive, organizations of the future will be designed in such a way that workers are committed to quality and customers are satisfied.

## ■ SUMMARY OF LEARNING OBJECTIVES

### ***Define the terms organizing and organizational structure.***

Organizing is the process of structuring both human and physical resources to accomplish organizational objectives. Organizational structure is the framework of jobs and departments that directs individuals' and groups' behavior toward achieving the organization's objectives.

### ***Determine when organizational structure is a problem.***

Whenever work is not getting done well, organizational structure is a problem. Conflicts between departments or groups within an organization suggest a structure problem. Difficulty in coordinating work between departments, slowness in adapting to change, and ambiguous job assignments also indicate problems with organizational structure.

### ***Explain how managers determine organizational structure.***

Managers determine organizational structure by deciding the degree to which jobs are specialized; determining the extent to which authority is delegated; grouping jobs according to some logical arrangement; and determining the number of people who report to one manager.

### ***Compare scientific management and craftsmanship.***

Scientific management requires that tasks be broken down to the smallest element and that problem solving be elevated to managers. Taylor used time and motion studies to identify basic movements that minimize effort and maximize output. Craftsmanship is basically the opposite. Craftsmen are responsible for their own work, with management providing the means and facilities for the craftsmen to perform the entire operation.

### ***Discuss the significance of work teams and quality circles.***

Many organizations are modifying and restructuring jobs so they can be performed by work teams. A work team is a group of employees who (1) work closely together to pursue common objectives and (2) can be directed by a manager or are self-managed. A quality circle is a small group of people who do similar work and meet regularly to discuss their work, identify problems, and present possible solutions.

### ***Discuss how authority can be delegated.***

Authority can be delegated by decentralizing the organization, giving an individual (usually a manager) the right to make a decision without obtaining approval of a higher-level manager. Some organizations have begun to empower production workers to make decisions that typically have been made by managers.

### ***List the most common bases for departmentalization.***

The most common bases for departmentalization are by function, product, customer, and geography. Some organizations use a combination of these, called mixed departmentalization, while some are actually doing away with the traditional departmental structure. Process organization groups jobs according to the processes that satisfy customer needs.

### ***Explain the different dimensions of organizational structure.***

Three dimensions are used to compare organizations. Formalization refers to the extent to which procedures are written down and filed. Centralization is the extent to which authority is distributed throughout the organization. And complexity reflects the number of different job titles and different departments.

### ***Compare mechanistic, organic, and matrix organizations.***

The mechanistic model represents one end of a continuum. It is a rigid organizational design that attempts to achieve production and efficiency through rules, specialized jobs, and centralized authority. The organic model (at the opposite end of the continuum) seeks to maximize flexibility and adaptability by encouraging greater utilization of human potential. The matrix organization falls in the middle of the continuum. It is a cross-functional organizational overlay that creates multiple lines of authority.

### ***Discuss several emerging forms of organizational design.***

The multidivisional organization is a high-performance organization whose operating units or divisions are partially interdependent. This design attempts to strike a balance between autonomy for the division and control over them. A network organization is a flexible, sometimes temporary, relationship between manufacturers, buyers, suppliers, customers, and others. The members

can be changed rapidly to meet competitive challenges. In complete organizations, policy is made by leaders with the workers' consent, and requirements are provided in a way that everyone

understands. The organization's purpose is to help individuals be successful in every aspect of their lives.

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## ■ KEY TERMS

centralization, p. 260	functional departmentalization, p. 264	organic organization, p. 271
chain of command, p. 262	geographic departmentalization, p. 265	organizational design, p. 270
complexity, p. 270	line position, p. 263	organizational structure, p. 254
customer departmentalization, p. 264	matrix organization, p. 271	process organization, p. 266
decentralization, p. 260	mechanistic organization, p. 271	product departmentalization, p. 264
departmentalization, p. 263	mixed departmentalization, p. 265	quality circle, p. 259
empowerment, p. 261	multidivisional organization, p. 273	span of control, p. 266
formalization, p. 268	network organization, p. 273	staff position, p. 263

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## ■ REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What are some common myths about organizational structure?
2. What is the difference between teams and quality circles?
3. What are the advantages and disadvantages of decentralization?
4. Distinguish between line and staff positions.
5. Compare the different forms of departmentalization with an emphasis on the strengths and weaknesses of each.
6. Contrast the various forms of organizational design using the mechanistic and organic models as opposite ends of a continuum.

8. How does empowerment relate to total quality management?
9. In terms of organizational structure and design, how do you think the organization of the future will look?

### Application

10. Think of recent purchases in which you, as the customer, were not satisfied. Did you hold the worker responsible? Could your dissatisfaction be attributed to problems with organizational structure and design? What could managers do to make sure other customers do not experience the same problem?

### Understanding

7. Why is organizational structure so critical to organizations' success?

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## ■ CASE 9-1

### Johnson & Johnson Decentralizes

The 1980s have become known in business as the decade of financial restructuring. Takeovers, mergers, and acquisitions dominated business during this period. The 1990s are seeing a different kind of restructuring, as corporations try to make their organizations more decentralized, giving people more freedom to be creative and eliminating inefficiencies that have plagued many large firms. The real problem is not size, but the burden it places on the job of managing. According to management consultant Peter Drucker, "The Fortune 500 is over." Drucker doesn't mean that large corporations will all go out of business, but he believes

they will begin to divide their assets and resources into smaller, more efficient, and more independent businesses. IBM is organizing into more autonomous units, GM is eliminating 74,000 jobs and closing 21 factories, and AT&T is contracting services like payroll, billing, and public relations.

Johnson & Johnson, with annual revenues of \$12.4 billion, is a large organization with the best features of a small organization: focus, flexibility, and speed. CEO Ralph Larsen oversees 166 highly decentralized businesses, each focusing on health care, with annual sales from \$100,000 to \$1 billion. Larsen not only encourages each company's president to act independently, he expects them to. Marvin Woodall, president of tiny startup

Johnson & Johnson Interventional Systems Co., doesn't spend much time at his parent company's headquarters. He prefers to run his small staff an hour away, and if he wants to go to Europe to check on operations there, he doesn't ask. Larsen also decides whom to hire, what products to produce, and whom to sell them to. Ultimately Larsen and the other 165 presidents are accountable to executives at "headquarters," which some presidents visit as infrequently as four times a year. Only 1.5 percent of J&J's 82,700 employees work at headquarters, which doesn't actually manage but provides the capital and selects the people to run the businesses.

Johnson & Johnson was decentralizing long before it became fashionable in corporate America. Decentralization was pushed by Chairman Robert Johnson in the 1930s, when he encouraged Ethicon Inc. (manufacturer of sutures) and Personal Products Co. (feminine hygiene products) to operate independently. Since J&J has had over 50 years of practice, the company knows how to make decentralization work. But J&J also knows the importance of balancing autonomy and corporate structure—decentralization and centralization. Such a balance is difficult to achieve.

At the heart of Johnson & Johnson's management system is a diverse array of products ranging from familiar consumer goods like Band-Aids and baby powder to advanced care products for yeast infections and athlete's foot. Given all these different products, Larsen compares his job to an orchestra conductor's: providing inspiration and direction but assuring creative freedom. For instance, the company funded its Vistakon division hundreds of millions of dollars to start a new business making and selling disposable contact lenses. Today this business generates \$250 million a year in sales. Larsen's job is not only to fund such ventures, but also to require that everyone in the organization focus on cutting costs and generating an acceptable return on investment. Thus each president has to think like an entrepreneur, counting every penny and spending only on projects that yield a

satisfactory profit. That makes it critical for Larsen to select the right executives to run the 166 companies.

Decentralization is not without risks. Numerous businesses operating autonomously can result in duplication of function, increasing overhead. At J&J, overhead is 41 percent of sales, compared to 30 percent for more centralized Merck and 28 percent for Bristol-Myers Squibb, another competitor. Sales functions are also duplicated, as dozens of J&J sales representatives from different units call on large retailers like Wal-Mart and Kmart; big retailers prefer to reduce the number of contacts from suppliers. To cut duplication, Larsen has established employee teams called customer-support centers to work on-site with retailers to simplify distribution and ordering. Larsen has also pushed the different companies to reduce duplication in functions such as payroll, purchasing, distribution, and accounts payable. In addition, he presses hard to keep hiring from getting out of hand, another problem with decentralization.

Although decentralization does pose some problems, Larsen plans to stick with it. Since 1980 yearly profits have averaged over 19 percent. And as global competition intensifies, large organizations will have to be focused, stay close to the marketplace to come up with ideas, and encourage employees' creativity.

## Questions

1. How can organizational structure limit large organizations like Johnson & Johnson?
2. Why does decentralization seem to be working so well at J&J?
3. How does J&J balance centralization and decentralization?
4. Name some problems organizations are likely to face when decentralizing.
5. Could Johnson & Johnson be described as a multidivisional organization? Explain.

## ■ CASE 9-2

### Teamwork at Volvo

Volvo is trying to determine if the assembly line has become outdated as mass markets disappear. In 1974 the Swedish automaker dismantled the assembly line at its plant in Kalmar, Sweden. The line was replaced with a system in which cars are built by small, decentralized work teams that produce sections of cars. Volvo officials believe strongly that teams, and a return to craftsmanship, will improve quality and increase employees' pride in their work. In fact, Volvo believes so strongly in teamwork that this system is also being put into place at the company's new plant in Uddevalla, Sweden.

The Uddevalla plant was completed in 1990 to build the 740 and 940 models. By the end of 1991 the plant was producing about 22,000 cars annually; at full capacity it will employ 1,000 workers and produce 40,000 cars annually. At the Uddevalla fa-

cility, self-managed teams of 8 to 10 members assemble complete cars from start to finish. Cars being assembled are not moved on a conveyor line from worker to worker but rather are assembled in a stationary position. A special device tilts the car as needed so that workers can perform their tasks. Each team has a high degree of autonomy and responsibility; they set their own break times and vacation schedules and reassign work when a team member is absent. Teams also participate in policy-making decisions and are responsible for a variety of tasks, including quality control, production planning, developing work procedures, servicing equipment, and ordering supplies.

Workers at the Uddevalla plant are paid for performance. In addition to wages, bonuses are paid for maintaining quality and productivity and for meeting weekly delivery targets. There are no supervisors and plant foremen; each of six "production workshops" house 80 to 100 employees who are divided into



assembly teams. Each assembly team has a coordinator (chosen on a rotating basis), who has direct contact with the managers. To make sure the system works, employees are provided with abundant information. Volvo also goes to great lengths to ensure that workers have an in-depth understanding of company history, tradition, and its strategy. The free flow of information is encouraged and workers have input on everything from assembly processes to new-product innovations.

The new system at Uddevalla isn't totally successful. Although morale is up and absenteeism is down, productivity is not as high as at Volvo's plant in Ghent, Belgium, where building a car on the assembly line takes about half the time. Lennert Ericsson, president of the metal workers' union at the Uddevalla plant, thinks the approach there will work: "I am convinced that our ways [teams] will be successful and competitive. Our next goal is to be better than Kalmar, and when we get to that, our goal will be to get to Ghent."

Volvo has invested heavily in training workers at the Uddevalla plant. First, employees attend a 16-week initiation course as part of a 16-month training program in which workers learn about auto assembly. Workers are encouraged to share experiences with one another and exchange ideas.

Both union and management feel confident that the new system will improve the organization. But it will take time. The sys-

tem puts numerous demands on everyone, and there has been some resistance. And like other automakers, Volvo hasn't escaped the current worldwide slump in car sales. But several experts pick Volvo as the company to invest in once the economy rebounds. Stock in the firm climbed from 35 in early 1991 to 60 about a year later, while shares of Gm, Ford, and Chrysler were still down from their 1991 highs. Investment firm Bear Stearns thinks the Swedish automaker's profits will boom. In the meantime, striving to become the world's first truly global auto producer, Volvo has developed alliances with French automaker Renault and Japan's Mitsubishi.

### Questions

1. How is Volvo returning to craftsmanship? Why does the firm think this will improve quality?
2. What is the difference between teams at the Kalmar plant and self-managed teams at Uddevalla?
3. How important is empowerment in Volvo's Uddevalla facility?
4. Why do you think there is resistance to the team approach at Uddevalla? How can Volvo overcome this resistance?

## ■ APPLICATION EXERCISE

### Starting a Quality Circle

Could you use the quality team concept in your class? Using much of what we discussed in this chapter, let's take a stab at it. Call it quality circles if you like. (Actually, it will be difficult in this brief application to develop a quality circle.) First we will provide some guidelines. Then you can design a program to implement a quality team. The guidelines are: (1) participation is voluntary, (2) emphasis is on self-development and mutual-development, (3) all team members will participate, and (4) the team will operate continuously.

A list of suggested steps follows. Propose how you would complete each step.

Step 1: Stimulate interest.

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Step 2: Identify the issues.

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Step 3: Identify the areas for improvement.

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Step 4: Select team leaders.

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Step 5: Form teams.

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CHAPTER

10

JOB ANALYSIS, DESIGN, AND REDESIGN

*After studying this chapter, you should be able to:*

List the steps in job analysis.

■  
Compare job descriptions and job specifications.

■  
Define the term *job design*.

■  
Evaluate the job specialization approach to job design.

■  
Discuss the concepts of job range and job depth.

■  
Explain how job redesign differs from job design.

■  
Contrast the different approaches to job redesign.

■  
Discuss the advantages of the team-based approach to job design and redesign.

## CINCINNATI MILACRON: DESIGNING JOBS FOR TODAY'S WORKERS

Managers pay a whopping \$1,000 to attend one of W. Edwards Deming's "Quality, Productivity and Competitive Position" seminars. The esteemed management consultant—now over 90 years old—is credited with teaching the Japanese how to produce top-quality goods. Yet he condemns the way workers are treated in America. Says Deming, "People want to work, but they want to take joy in their work. American managers still insist on managing people instead of the system—creating fear and mistrust in the workplace, removing joy, rewarding themselves at the top with bonuses and perks, punishing those at the bottom. It is destructive, and it prevents companies from functioning effectively as a system. ■ In 1992 Japanese politicians set off an intense debate when they blasted the American work ethic. Are American workers lazy, or are the jobs designed in a manner that encourages laziness and absenteeism? Deming believes the latter. In fact, by some measures Americans are working harder than ever. The percentage of Americans working has increased steadily since 1948, and increased 77 percent for women. More Americans than ever hold two jobs; among families headed by married couples, 65 percent have two or more people working. But many people show up for work less than enthused, feel pressured, worry about losing their jobs, and are asked to do more



© Rob Kinmonth

Cincinnati Milacron work team.

for less money. Some experts feel it is time to look at work differently. Workers have changed, as has the work environment. Jobs must be designed to satisfy literate, independent-minded workers. ■ In 1991 Cincinnati Milacron, Inc. opened a small plant in Cincinnati, Ohio. Here workers in teams of two build an entire computer-controlled lathe by themselves. They don't punch timeclocks and they don't have supervisors. They are responsible for making the machine, installing it, and teaching customers how it is operated. Absenteeism is almost zero, and workers feel like they are part of what they are doing. Although such a solution may still be the exception, it

illustrates how workers respond when given a chance to participate in the workplace. ■ Cincinnati Milacron was one of 15 U.S. manufacturers of plastics machinery that dominated the market in 1980, when foreign-made equipment began flowing into the States. By 1985 foreign competition had captured half of the U.S. market. Cincinnati Milacron is now one of the five U.S. firms that survived the decade—partly because it adopted teamwork. ■ When business got so bad in 1983, workers at an Ohio plant realized they had to fight to save their jobs and the plant. They also knew the answer was to somehow change the way they worked so they made better, more competitive products. Up to then, products had been developed in the traditional method, passed sequentially from one department to another. In an effort to develop an improved injection molder, a team was organized to develop the machine simultaneously. Workers from manufacturing, marketing, engineering, purchasing, and inventory joined the nine-member team. The team reported directly to the vice president of plastics machinery to increase autonomy and reduce the bureaucracy. The new machine was delivered on schedule and on budget, and outsold Cincinnati Milacron's previous model by two to one. And perhaps more importantly, Toyota recently purchased several machines for its auto plants.

Source: Adapted from Ronald E. Yates, "U.S. Management 'Doomed' to Failure," *The Orlando Sentinel*, January 19, 1992, pp. D1, D4; Bob Davis and Dana Milbank, "If the U.S. Work Ethic Is Fading, Alienation May Be Main Reason," *The Wall Street Journal*, February 7, 1992, pp. A1, A8; Ronald Yates, "Prophet of Boom," *Chicago Tribune Magazine*, February 16, 1992, pp. 14-22; and Charles Garfield, *Second to None* (Homewood, Il.: Business One Irwin, 1992), pp. 168-69.

In Chapter 9 we discussed how some organizations are designing structures that empower workers to make their own decisions. Workers in America have changed greatly during the 20th century. They are more literate and they have different objectives in their work. People want interesting work, recognition for good work, the chance to work with others who respect them, an opportunity to develop skills, and a voice in the design of their jobs—they want to be heard. They are no longer satisfied to simply have a job, as few of today's independent-minded workers remember what it was like to be out of work during the Depression. Even fewer realize that prior to the Depression, unemployment insurance did not exist. In those days, people had no choice but to work, and do as they were told.

Work itself is also changing. Robots do much of the work in factories, replacing many traditional blue-collar jobs. And white-collar workers, once thought to be indispensable, are now losing their jobs regularly as firms decentralize. In July 1993, Procter & Gamble announced that it would cut 13,000 jobs by 1996 through restructuring and by closing 30 plants.<sup>1</sup> Organizations are being told that the front-line workers needs more autonomy to make decisions. Organizations like Cincinnati Milacron are struggling to design—or redesign—jobs more suited to today's worker and the current work environment.

This chapter examines job design. First, we will discuss the steps involved in job analysis, including developing job descriptions and job specifications. Then we will present three different aspects of job design: job specialization, job range, and job depth. Next, approaches to job redesign will be examined, including job rotation, job enlargement, and job enrichment. Finally, we will discuss the team-based approach to job design.

## ■ JOB ANALYSIS

### job analysis

The process of gathering, analyzing, and synthesizing information about jobs.

Prior to actually designing a job, the organization must determine the description of the job itself. **Job analysis** is the process of gathering, analyzing, and synthesizing information about jobs.<sup>2</sup> This time-consuming, complicated task is a vital input to job design decisions. Job analysis (1) specifies the task that must be accomplished to complete a job and (2) determines the skills and knowledge necessary to perform the tasks.<sup>3</sup> Table 10-1 lists some questions that may be answered through job analysis.

Job analysis is an ongoing process. As organizations evolve over time, missions and objectives change, as do conditions in the environment and the nature of the work. By analyzing and redesigning existing jobs, organizations can adapt to those changes and remain competitive. Many jobs have changed as a result of technology, global competition, and the pressure to produce quality products. Managers are learning that organizations are a collection of human beings that need to be developed and nurtured, not a collection of assets to be traded, manipulated, and motivated by fear (as the Ethics Spotlight relates). The essence of empowerment is providing workers with more latitude in

TABLE 10-1

### Questions Answered by Job Analysis

Question	Possible Answers
What activities are required in a job?	Hand and body motions, use of equipment, services, communication with others.
What skills are needed to perform the activities?	Education, previous experience, licenses, degrees, or other personal characteristics.
What are the working conditions of the job?	Physical demands, degree of accountability and responsibility, extent of supervision, and other job environment factors.



## ETHICS SPOTLIGHT

## DRIVING OUT FEAR

Some say fear is a great motivator. This may have been true when the pyramids were built or in American “sweatshops” of the late 1800s. But today’s work force is not made up of first-generation, uneducated laborers, and more and more managers are coming to the realization that individuals cannot perform their best unless they feel secure. One of Deming’s most important points for integrating total quality into the organization is to drive out fear. Consider the following:

- Constantly being afraid of losing your job.
- Waking up each morning dreading going to work.
- Working in an environment that makes you feel afraid, insecure, and inadequate.
- Being fired for bringing a problem to management’s attention.
- Having a boss who uses punishment to make sure you do as you are told.

Of course, the list could go on indefinitely. Unfortunately, many workers regularly experience these fears. And the consequences can be devastating to both the individual and the organization. Fear can lead to higher levels of stress, health and family problems, lower levels of performance, and general burnout. As a result, the organization suffers. Individuals do not perform at a high level, but rather show up for work and go through the motions. This attitude can become contagious as even the more enthusiastic workers become demotivated and fearful. Ultimately quality suffers; quality is difficult to achieve unless workers feel secure. The economic loss to the organization is impossible to measure. To obtain quality, managers must develop a culture of openness in which individuals are not afraid to speak up, make a mistake, and so on.

Managers who use their power to create fear are not only behaving unethically, they are most likely not accomplishing their objectives. Workers may believe they will be punished if they do not perform, which of course generates fear. But

fear impedes performance, it does not increase performance. On the other hand, managers can project an image of support and teamwork. It has been demonstrated repeatedly that rewarding individuals for good work is much more effective than the threat of punishment.

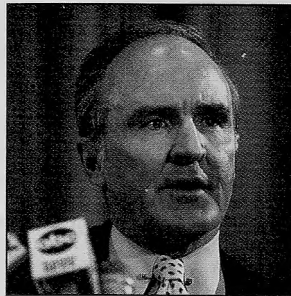
Driving out fear is not a simple task. In some organizations, workers are skeptical because after being told they could speak up or that their jobs were secure, managers penalized or even fired a worker who spoke up. The only way to overcome fear and negative feelings that build up over time is to treat workers with dignity and respect; eliminating fear must start at the top.

Managers’ actions must demonstrate that management by fear is no longer acceptable. A firm can do this by providing training, treating all workers fairly, and maintaining an atmosphere of teamwork. John Welch Jr.,

CEO of General Electric, made it clear in the firm’s annual report who gets promoted and who doesn’t. In short, he won’t tolerate autocratic managers and has fired several at the highest levels of the company. Those managers who do not suppress and intimidate workers, and who perform, have a bright future.

Change cannot take place all at once. By maintaining a consistent atmosphere that is devoid of fear, managers stimulate cooperation and mutual respect. Eventually workers begin to trust and work as a team. In the long run they are much more positive about their jobs, their coworkers and supervisor, and the organization. At this point high quality can be achieved.

Source: Adapted from W. Edwards Deming, *Out of the Crisis* (Boston: MIT Center for Advanced Engineering Study, 1986, pp. 59–62; Marshall Sashkin and Kenneth J. Kiser, *Total Quality Management* (Seabrook: Ducochon, 1991), pp. 29–30; Howard S. Gitlow and Shelby J. Gitlow, *The Deming Guide to Quality and Competitive Position* (Englewood Cliffs, N.J.: Prentice-Hall, 1987), pp. 130–38; and James C. Hyatt and Amal Kumar Naj, “GE Is No Place for Autocrats, Welch Decrees,” *The Wall Street Journal*, March 3, 1992, pp. B1, B6.



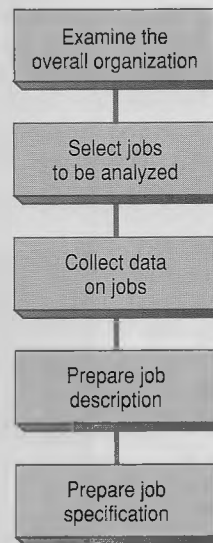
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John Welch Jr., CEO of General Electric

their decisions, enabling them to improve quality. As we will see later, this also influences job design.

Job analysis applies to all types of jobs. Job analysis began with factory jobs, an integral part of the scientific management movement. The purpose was to use objective data to determine the single best way to design work. But eventually job analysis made its way into office and clerical jobs, and today applies to management jobs as well. Job analysis is used to help design work that enhances employee performance, not to limit workers by determining the single best way to do things. In many instances, those

FIGURE 10-1  
Steps in a Typical Job Analysis



directly involved in doing the work are participating in the job analysis. They are closest to the task and can provide excellent information about the job.

### Steps in Job Analysis

A typical job analysis involves several steps (Figure 10-1). First, the job analyst must examine how each job fits into the overall organization. An overview of the organization and jobs provides a working picture of the arrangement of departments, units, and jobs. During this step, organization charts are used to examine the formal relationships among the firm's departments and units. The relationships among jobs are also examined. For example, when analyzing an assembly line job, the analyst would be interested in the flow of work to and from the assembly line worker. Since analyzing each job would be too costly and time consuming, the second step involves determining which jobs in the organization will be analyzed.

The third step involves collecting data on the jobs to be analyzed. Data are collected on the characteristics of the job, the behaviors and activities required by the job, and the employee skills needed to perform it. Several methods are used to collect job analysis data. Observation is used to collect data for jobs that require manual or standardized activities, such as assembly line work. Interviewing workers, often conducted along with observation, is probably the most widely used data collection method. Questionnaires and logs or diaries pertaining to job tasks, frequency of tasks, when the tasks are accomplished, and so on are also used to collect information. A questionnaire called the *Job Analysis Information Format* (Figure 10-2) can provide basic information for use with any method employed to collect analysis data. Information collected by the job analyst is then used to prepare job descriptions and job specifications, steps 4 and 5.

### Job Descriptions and Job Specifications

The major output of job analysis is the job description. The **job description** is a written summary of the job: its activities, equipment required to perform the activities, and the working conditions of the job. It helps the organization with a variety of activities, including planning, recruiting, and training. It also helps workers understand what a

#### job description

A written summary of the job, detailing the job's activities, equipment required to perform them, and the job's working conditions.

FIGURE 10-2

## Job Analysis Information Format

Your Job Title _____	Code _____	Date _____
Class Title _____	Department _____	
Your Name _____	Facility _____	
Supervisor's Title _____	Prepared by _____	
Superior's Name _____	Hours Worked _____	A.M. _____ to A.M. _____ P.M. _____ P.M. _____

1. What is the general purpose of your job?
2. What was your last job? If it was in another organization, please name it.
3. To what job would you normally expect to be promoted?
4. If you regularly supervise others, list them by name and job title.
5. If you supervise others, please check those activities that are part of your supervisory duties.
 

<input type="checkbox"/> Hiring	<input type="checkbox"/> Coaching	<input type="checkbox"/> Promoting
<input type="checkbox"/> Orienting	<input type="checkbox"/> Counseling	<input type="checkbox"/> Compensating
<input type="checkbox"/> Training	<input type="checkbox"/> Budgeting	<input type="checkbox"/> Disciplining
<input type="checkbox"/> Scheduling	<input type="checkbox"/> Directing	<input type="checkbox"/> Terminating
<input type="checkbox"/> Developing	<input type="checkbox"/> Measuring performance	<input type="checkbox"/> Other _____
6. How would you describe the successful completion and results of your work?
7. *Job duties*—Please briefly describe *what* you do and, if possible, *how* you do it. Indicate those duties you consider to be most important and/or most difficult.
  - a. *Daily duties*—
  - b. *Periodic duties* (Please indicate whether weekly, monthly, quarterly, etc.)—
  - c. *Duties performed at irregular intervals*—
  - d. How long have you been performing these duties?
  - e. Are you now performing unnecessary duties? If yes, please describe.
  - f. Should you be performing duties not now included in your job? If yes, please describe.
8. *Education*. Please check the blank that indicates the educational *requirements* for the job, not your *own* educational background.
 

a. <input type="checkbox"/> No formal education required.	d. <input type="checkbox"/> 2-year college certificate or equivalent.
b. <input type="checkbox"/> Less than high school diploma.	e. <input type="checkbox"/> 4-year college degree.
c. <input type="checkbox"/> High school diploma or equivalent.	f. <input type="checkbox"/> Education beyond undergraduate degree and/or professional license.

List advanced degrees or specific professional license or certificate required.

(continued)

FIGURE 10-2 (concluded)

Please indicate the education you had when you were placed on this job.

9. *Experience.* Please check the amount needed to perform your job.

- |  |  |
|--|--|
| a. <input type="checkbox"/> None.                              | e. <input type="checkbox"/> One to three years.  |
| b. <input type="checkbox"/> Less than one month.               | f. <input type="checkbox"/> Three to five years. |
| c. <input type="checkbox"/> One month to less than six months. | g. <input type="checkbox"/> Five to 10 years.    |
| d. <input type="checkbox"/> Six months to one year.            | h. <input type="checkbox"/> Over 10 years.       |

Please indicate the experience you had when you were placed on this job.

10. *Skill.* Please list any skills required in the performance of your job. (For example, amount of accuracy, alertness, precision in working with described tools, methods, systems, etc.)

Please list skills you possessed when you were placed on this job.

11. *Equipment.* Does your work require the use of any equipment? Yes  No . If yes, please list the equipment and check whether you use it rarely, occasionally, or frequently.

Equipment	Rarely	Occasionally	Frequently
a. _____	_____	_____	_____
b. _____	_____	_____	_____
c. _____	_____	_____	_____
d. _____	_____	_____	_____

specific job entails and what jobs fit their particular skills and interests. Figure 10-3 shows a job description of a human resource manager.

Traditionally a human resource manager was responsible for writing job descriptions. These job descriptions usually emphasize what employees should do, how they should think, and so on. In other words, they were for the most part prescriptive. Many organizations, in an effort to encourage more participation, now involve workers in developing their own job descriptions. By teaching workers how to write their own job descriptions and then having the employees and supervisors discuss and agree on a job description, workers must think about the best way to achieve desired outcomes. Rather than being prescriptive, this is an outcome-oriented approach to developing job descriptions. It is used by organizations interested in empowering workers to take control of their own jobs.

The **job specification** is a written explanation of skills, knowledge, abilities, and other characteristics needed to perform a job effectively. The job specification evolves from the job description. The key difference is that the job description describes factors about the job, while the job specification describes factors about the person. The job specification is useful in recruiting and selecting workers.

**job specification**

A written explanation of skills, knowledge, abilities, and other characteristics needed to perform a job effectively.

■ **JOB DESIGN**

**job design**

A determination of exactly what tasks must be performed to complete the work.

After job analyses, job descriptions, and job specifications have been done, an organization can use their information to design and redesign jobs. **Job design** determines exactly what tasks must be performed to complete the work. Job design should structure job elements and duties to increase performance and satisfaction.

There is no one best way to design jobs. Managers enjoy an array of choices. The choice of job design involves making trade-offs based on different characteristics of the job. Some job designs emphasize structuring jobs so they are broken down into simple, repetitive tasks; others emphasize the enjoyment of the work. This section discusses three characteristics of job design: job specialization, job range, and job depth.

FIGURE 10-3  
 Job Description of a Human Resource Manager

JOB TITLE: HUMAN RESOURCE MANAGER

Department: HRM

Date: Jan. 1, 1994

*General Description of the Job*

Performs responsible administrative work managing personnel activities of a large state agency or institution. Work involves responsibility for the planning and administration of an HRM program that includes recruitment, examination, selection, evaluation, appointment, promotion, transfer, and recommended change of status of agency employees, and a system of communication for disseminating necessary information to workers. Works under general supervision, exercising initiative and independent judgment in the performance of assigned tasks.

*Job Activities*

Participates in overall planning and policymaking to provide effective and uniform personnel services. Communicates policy through organizational levels by bulletins, meetings, and personal contact. Interviews applicants, evaluates qualifications, classifies applications. Recruits and screens applicants to fill vacancies and reviews applications of qualified persons. Confers with supervisors on personnel matters, including placement problems, retention or release of probationary employees, transfers, demotions, and dismissals of permanent employees. Supervises administration of tests. Initiates personnel training activities and coordinates these activities with work of officials and supervisors. Establishes effective service rating system, trains unit supervisors in making employee evaluations. Maintains employee personnel files. Supervises a group of employees directly and through subordinates. Performs related work as assigned.

*General Qualification Requirements*

*Experience and Training*

Should have considerable experience in area of HRM administration. Six-year minimum.

*Education*

Graduation from a four-year college or university, with major work in human resources, business administration, or industrial psychology.

*Knowledge, Skills, and Abilities*

Considerable knowledge of principles and practices of HRM selection and assignment of personnel; job evaluation.

*Responsibility*

Supervises a department of three HRM professionals, one clerk, and one secretary.

## Job Specialization

Scientific management and Taylor's work stimulated a great deal of interest in **job specialization**, which breaks down work into smaller, more discrete tasks. The task specifies what is to be done, how it is to be done, and the exact time allowed for doing it.<sup>4</sup> Although specialization has been criticized because it leads to boredom and dissatisfaction, it made sense during the early 20th century, and some of its principles are still relevant today. When Henry Ford developed the moving assembly line for manufacturing cars in 1913, job specialization led to production efficiencies. Many products made today—ranging from children's toys to this textbook to sophisticated computers—simply cannot be made by one individual; some degree of specialization is necessary.

Thus specialization is not the culprit it is often made out to be; the problem for organizations is identifying their appropriate degree of specialization. As we have noted in other chapters, the problems of boredom and absenteeism have plagued some companies and industries. It has long been assumed that managerial or white-collar jobs do not lend themselves to specialization—managers must think, create, and communicate. On the other hand, more and more organizations are designing jobs that enable all workers, including nonmanagerial or blue-collar staff, to be creative and enjoy their jobs. Later in the chapter, we'll discuss strategies for redesigning jobs to overcome the problems associated with job specialization.

### Job specialization

Breaking down work into smaller, more discrete tasks.

## REFLECTIONS BY PHILIP B. CROSBY

## JOB DESIGN

My first job that let me move around the building was as a reliability engineer in a missile assembly area where I learned that the way to enjoy a job, and be considered useful at the same time was to adjust the job so I would be comfortable with the things that interested me and I would be of the most value to the organization. I had discovered that most jobs are described by people who never actually perform them and have no idea of the reality involved. The layout of my job was to investigate problems found by the inspection and test functions during assembly and then classify the incidents as to seriousness, cause, and responsibility. With a code system I filled out these determinations on the bottom of a defect report. Then I was supposed to feed it to the IBM punch card system (obviously, this was a while ago) and go find another problem. However, I soon determined that nothing happened to this information after it went into the system except to be produced as a long, very heavy report for management to ignore.

So I began going to see the department I had determined to be responsible for causing the problem. This was pretty much limited to engineering, production, purchasing, marketing, and quality. Now and then the Navy, our customer, was the villain. There was always enough blame to go around.

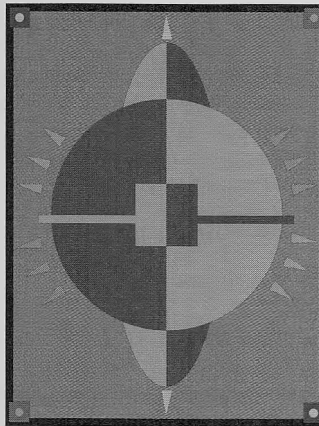
When I visited them at the senior levels (although I certainly was not senior), I showed them the problem and asked what they wanted to do about it. I offered to

help them gather information or take action or both. They were always pleased with the offer and usually were surprised that the situation existed at all. I learned a great deal by participating in their analysis and evaluation. They assumed that I already knew as much as they did so they let me in on everything.

The result of all this was that we routinely began to get rapid corrective action that actually eliminated the problems. I began to publish a regular list of problems and the actions taken. Everyone wanted to be listed on the page that said the action was completed. The part of my job involved with causing this action to happen probably took 5 percent of my time. However without that time investment, I would have just been another in a long line of frustrated trouble shooters. No action ever came out of that list of problems published by the card machine.

The result of it all was that I was promoted to another job where I could help others work in the same way. I immediately redesigned that job to make it more effective and interesting. All this was done by doing, there were no corrections made on paper.

Jobs need not be defined so that they are limited as soon as they brush up against something else. It is reasonable to encourage overlap and innovation as long as the effect is to help the process move toward success. Most jobs are laid out to be too small; none that I ever saw were too big. The more unimportant they are, the longer the description of their content.



## Job Range and Depth

### job range

The number of tasks a worker performs.

### job depth

The amount of discretion a worker has in performing tasks.

Two other job characteristics are range and depth. **Job range** refers to the number of tasks a worker performs. A greater number of tasks takes longer for one individual to complete than fewer tasks. **Job depth** refers to the amount of discretion a worker has in performing tasks. Jobs designed with little depth are generally at lower levels of the organization.

Job specialization is closely related to the range and depth of jobs. Generally, more specialized jobs have low range and depth, such as assembly line workers or bookkeepers. They perform only a few tasks and have little discretion in performing them. On the other hand, less specialized jobs such as teachers or scientists have high range and depth.

Job range and depth can be used to differentiate jobs within and between organizations. Within an organization, jobs can be designed with different ranges and depths. Generally, as a person moves higher up in the organization and assumes more responsibility, job range and depth increase. But even at the same level, a machine mechanic may have higher range and depth than a machine operator. And an assembly line job at a Ford plant may not have the same range and depth as an assembly line job at a Toyota plant.

As is the case with specialization, it is the manager's responsibility to design jobs with optimal range and depth. If an employee has too many tasks or too much discretion, the job will not be accomplished efficiently and performance will suffer. Conversely workers performing a single task with no discretion become bored, which may also lead to poor performance.

## ■ JOB REDESIGN

### Job redesign

Attempts by the organization to improve the quality of work and give workers more autonomy.

In response to the limits of specialization, organizations began to redesign jobs to give workers more autonomy, while at the same time meeting organizational objectives for performance. Table 10–2 presents the results of a Gallup poll of American workers. As can be seen, interesting work and the opportunity to learn new skills are more important than high income or chances for promotion, though workers are fairly dissatisfied with the former aspects of their jobs. **Job redesign** refers to an organization's attempts to improve the quality of work and give workers more autonomy. Typically job redesign attempts to improve coordination, productivity, and product quality, while at the same time responding to workers' needs for learning, challenge, variety, increased responsibility, and achievement.<sup>5</sup> Job specialization is associated with the scientific management movement and gives employees the least amount of autonomy. This section covers several approaches to redesigning jobs (job rotation, job enlargement, job enrichment, and flex-time) that gives workers more autonomy. The last section of the chapter covers team-based approaches associated with total quality management techniques, which provide workers with the most autonomy.

TABLE 10–2

What Is Most Important to Workers (Percentage of American workers who believe certain aspects of their jobs are very important, and percentage who are completely satisfied with these aspects of their current jobs)

	Very Important	Completely Satisfied
Good health insurance and other benefits	81%	27%
Interesting work	78%	41%
Job security	78%	35%
The opportunity to learn new skills	68%	31%
Annual vacations of a week or more	66%	35%
Being able to work independently	64%	42%
Recognition from coworkers	62%	24%
Having a job in which you can help others	58%	34%
Limited job stress	58%	18%
Regular hours, no nights or weekends	58%	40%
High income	56%	13%
Working close to home	55%	46%
Work that is important to society	53%	34%
Chances for promotion	53%	20%
Contact with a lot of people	52%	45%

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## Job Rotation

### job rotation

Systematically moving employees from one job to another.

The **job rotation** approach involves systematically moving employees from one job to another. Job rotation increases job range by introducing workers to more jobs and therefore more tasks. The goal is to reduce worker dissatisfaction caused by job specialization and to increase interest and motivation.<sup>6</sup> For instance, workers in a tool factory may work on a machine one week, conduct stress tests the next, then pack orders, and so on. A variety of companies including Ford, Bethlehem Steel, and Western Electric have used this approach.

Job rotation's major drawback is that it does little to change the nature of the work itself. Rather than performing one task over and over again, a worker performs a variety of tasks. In both cases, the jobs are highly specialized so workers may grow bored or dissatisfied. Inefficiencies may also result since workers must be trained for several jobs. Because of these limitations, job rotation has not been entirely successful, but it is often used along with other approaches we will now discuss.

## Job Enlargement

### job enlargement

Increasing the number of tasks a worker performs.

Job enlargement was organization's first attempt to actually redesign work. In a study of mass production jobs in auto assembly plants, researchers found that workers were dissatisfied with highly specialized and repetitive tasks.<sup>7</sup> Based on this assumption, the **job enlargement** approach increases the worker's number of tasks. For example, a job may be redesigned so that a worker responsible for performing four tasks is given eight tasks to complete, thereby increasing the job range. While job rotation involves moving employees from one job or task to another, job enlargement seeks to increase job satisfaction by increasing the number of tasks the worker performs, thereby reducing boredom and monotony.

Many organizations have implemented job enlargement programs, including American Telephone & Telegraph (AT&T) and Maytag. Although job enlargement requires additional training and may not remove all the boredom, many such programs have increased satisfaction. Unfortunately job enlargement isn't always successful. If workers simply end up doing four boring tasks instead of two, it is unlikely that satisfaction will rise. The Global Exchange examines implications of global competition for job redesign and retraining workers.

## Job Enrichment

### job enrichment

Giving workers more control of their activities, addressing their needs for growth, recognition, and responsibility.

Based on Herzberg's two-factor theory of work motivation (see Chapter 13), much work has been directed at changing jobs in more meaningful ways than was accomplished by job rotation or job enlargement. This theory's basic idea is that workers are motivated by jobs that increase their responsibility and feeling of self-worth.<sup>8</sup> **Job enrichment** attempts to give workers more control of their activities, addressing their needs for growth, recognition, and responsibility. Job enrichment increases not only the number of tasks performed (job range), but also job depth by giving workers more opportunity to exercise discretion over their work.

There are several approaches to job enrichment. Some managers redesign jobs to delegate more authority to workers, while others remove controls and assign new tasks to make the work as interesting as possible. This can be accomplished by redesigning jobs with some additional features, providing learning opportunities, giving workers control over resources and tasks, and letting workers schedule some of their own work.

One widely known method of job enrichment is the job characteristics approach, which looks at the job from the job holder's perspective and not the organization's.<sup>9</sup> The **job characteristics approach** (Figure 10-4) suggests that jobs should be redesigned to

### job characteristics approach

An approach suggesting that jobs should be redesigned to include important core dimensions that increase motivation, performance, and satisfaction, and reduce absenteeism and turnover.



## GLOBAL EXCHANGE

## JOB DESIGN AND THE GLOBAL ECONOMY

According to renowned economist Milton Friedman, the combination of political and technological changes throughout the world opens up a vast amount of low-cost labor. Indeed, it could lead to what Friedman calls another Industrial Revolution. But the news isn't good for everyone. As the United States, Mexico, and Canada put the final touches on the North American Free Trade Agreement, more American jobs may well go south. In 1992 \$13-an-hour workers at a North American Philips Corp. plant in Greenville, Tennessee, were laid off when the jobs were moved to Juarez, Mexico, where pay is \$2 an hour. As global competition intensified during the 1980s, thousands of factory workers were laid off or suffered wage cuts as factories and jobs moved to foreign countries.

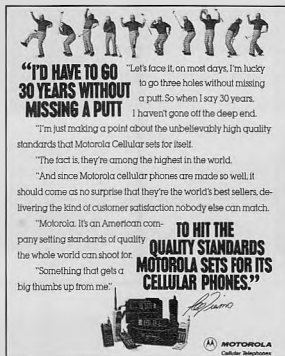
The 1990s is likely to see more of the same. The trend around the world is to create trading regions, such as the European Community and Pacific Rim. According to President Carlos Salinas of Mexico, the only way for North America to compete with these nations is to unite through the Free Trade Agreement. Meanwhile, countries such as China and Malaysia are rapidly increasing their exports. Unfortunately this will all dramatically impact lower-skilled workers in the United States. For instance, Sears has cut 21,000 low-skilled jobs since 1990.

But the news isn't all bad. Those who advocate free trade—like MIT economist Rudiger Dornbusch—argue that the loss of low-skilled jobs is bound to happen, especially in a world where cheap labor is plentiful. But if trade growth increases exports of quality goods, higher-paying jobs should be developed as lower-paying jobs are lost. Between 55 and 60 percent of Motorola's workers are employed in the United States, even though more than half of Motorola's sales are outside the United States. The cost of labor is a relatively small part of the cost of the product. Manufacturing plants are located close to the markets they

serve. Major criteria for choosing a plant location include its proximity to the customers and the level of skill of the labor force. Motorola also learned that making high-quality products in a short time requires highly skilled workers and teamwork systems. To boost quality and productivity, jobs have been designed so that the 3,000 workers in Arlington Heights, Illinois, making cellular phones work in teams. One team discovered a way to reduce static, which causes defects as circuit boards for phones are produced. This discovery increased quality and gave Motorola an edge over foreign competitors.

Motorola's higher-skilled approach requires designing and redesigning jobs so that workers can unleash their creativity. Even companies in such labor-intensive industries as apparel are trying this approach. Russell, Levi Strauss, and Hanes have created teams of 30 to 50 workers to make an entire item. The team members, not the managers or engineers, determine the best way to produce the garment. Levi's Blue Ridge, Georgia, plant converted entirely to teams, and defects fell from 2.6 percent of production to 1.9 percent within a year.

Some companies are learning the hard way that closing plants and moving jobs abroad is not always the answer. General Electric's motor division closed several plants and demanded that the remaining hourly workers accept an 11 percent pay cut and pass up scheduled raises. Although the pay cuts saved \$25 million a year, both morale and productivity dropped dramatically. The division is restructuring again. This time teams of seven to eight workers rotate tasks and make daily decisions about their work. So far productivity gains have been better than average. GE's senior vice president for external and industrial relations says, "The biggest change in our thinking since 1988 is that we now see that the productivity available is really extraordinary."



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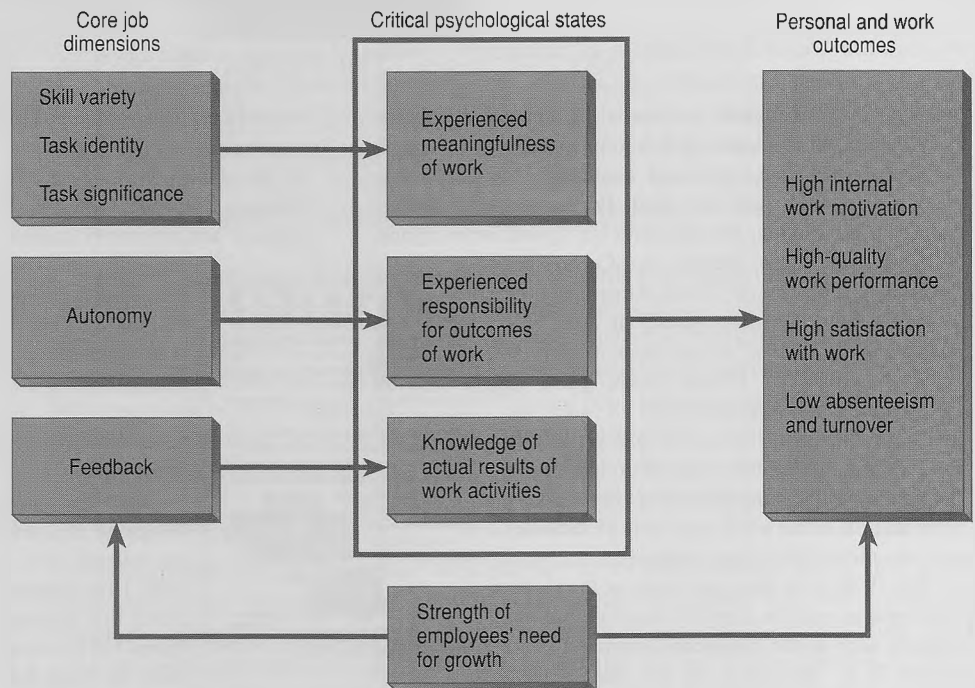
Motorola cellular phones are the world's best seller because they are such high quality, delivering the kind of customer satisfaction no other company can match.

include important core dimensions that increase motivation, performance, and satisfaction, and reduce absenteeism and turnover.<sup>10</sup> These core dimensions include:

**Skill variety:** The degree to which the job requires a variety of different activities in carrying out the work, which involves a number of an individual's skills and talents.

**Task identity:** The degree to which the job requires completion of a "whole" and identifiable piece of work—that is, doing a job from beginning to end with a visible outcome.

FIGURE 10-4  
The Job Characteristics Approach



Source: Adapted from J. Richard Hackman and R. G. Oldham, "Motivation through the Design of Work: Test of a Theory," *Organizational Behavior and Human Performance*, August 1976, p. 256.

*Task significance:* The degree to which the job has a substantial impact on other people's lives or work—whether in the immediate organization or in the external environment.

*Autonomy:* The degree to which the job provides substantial freedom, independence, and discretion to the individual in scheduling work and in determining the procedures to be used in carrying it out.

*Feedback:* The degree to which carrying out work activities required by the job results in individuals obtaining direct and clear information about the effectiveness of their performance.

Presence of these core dimensions in a job is expected to create in workers three critical psychological states that are necessary for motivation and satisfaction:<sup>11</sup>

1. *Experienced meaningfulness:* The degree to which job holders experience work as important, valuable, and worthwhile.
2. *Experienced responsibility:* The extent to which job holders feel personally responsible and accountable for results of their work.
3. *Knowledge of results:* Job holders' understanding of how effectively they are performing their jobs.

The more these three states are experienced, the higher the motivation, performance, and satisfaction, and the lower the absenteeism and turnover.

As Figure 10-4 shows, three of the job dimensions—skill variety, task identity, and task significance—contribute to a sense of meaningfulness. Autonomy is directly related to feelings of responsibility. The more control workers feel they have over their jobs, the more they feel responsible. Feedback is related to knowledge of results. For workers to be internally motivated, they must have a sense of the quality of their performance. This sense comes from feedback.

Since different people have different capabilities and needs, managers should be aware of the potential for individual differences to affect how the job characteristics approach works. The final part of the model, called employee need-growth strength, suggests that people with a strong need to grow and expand their potential are expected to respond more strongly to the core job dimensions than those with low growth-need strength. For example, job enrichment will probably have less effect on a person without strong need for personal growth than on a person who values personal growth.

Managers must realize that job enrichment might change a job's skill requirements. Thus not everyone will necessarily be able to perform the enriched job, especially without additional training. And the organization may need to adjust its compensation rates for the enriched job because of the higher skill levels required.<sup>12</sup>

Before beginning a job enrichment effort, managers should complete at least two actions. First, the job in question needs to be thoroughly understood. Enrichment might not be feasible due to costs or other technological constraints. Second, individual preferences about enriched work should be considered. Do the employees want the work to be enriched? Obviously, accurate job descriptions and job specifications can greatly facilitate assessing these issues.

## Flextime

Another approach to redesigning jobs lets employees have input in establishing their work schedules. **Flextime** is a schedule that allows workers to select starting and quitting times within limits set by management.<sup>13</sup> Rather than working the traditional eight-hour day, workers are given greater flexibility in deciding exactly when they will work. A person may work 10 hours one day and 6 another. Jobs designed using flextime include bank tellers, data entry clerks, lab technicians, engineers, and nurses.

Flextime programs have reportedly been successful in many instances. Over half of the firms using them report such improvements as increased productivity, lower labor costs, and higher morale.<sup>14</sup> One study found that flextime reduces paid absence, idle time, and overtime pay.<sup>15</sup> Another study reported that satisfaction with the work schedules and with interactions improved significantly for both managers and nonmanagers.<sup>16</sup> Furthermore, companies are finding that flextime builds loyalty, and that employees are committed to making flextime work.<sup>17</sup>

Flextime is difficult to implement for production units with assembly lines and multiple shifts. Since work is largely machine controlled, it is a challenge to plan flexible work schedules. Flextime is also difficult to arrange for jobs that must be continuously covered like bus drivers or retail sales clerks. There can also be increased cost of heating and cooling buildings for longer workdays. It may not be possible to coordinate supervisor and subordinate work schedules, resulting in lack of supervision part of the time. Most workers may prefer similar hours—say 9 A.M. to 5 P.M.—leaving other times understaffed. Without supervision, some employees may abuse flexible scheduling. Thus, while flextime is appealing and some evidence suggests it has been successful, proper administration is needed to ensure success.

### flextime

A schedule that allows workers to select starting and quitting times within limits set by management.

## ■ TEAM-BASED APPROACH TO JOB DESIGN AND REDESIGN

Throughout most of Europe, Asia, and most recently the United States, the concept of job design is being revolutionized. The thrust of this new approach is to place greater emphasis on worker autonomy and increased decision-making responsibility. This new form of job design goes beyond traditional job enrichment programs by empowering workers, often members of teams, to make their own decisions. At Amgen (a Thousand Oaks, California, biotech firm), teams are used for every job from product development

to distribution. Sales have grown an average of 102.9 percent for four years, while annual profits have grown an average of 182.2 percent.<sup>18</sup> As we noted in Chapter 9, a team is a group of employees who work closely together to pursue common objectives; a team cannot be effective unless supported by the organization's basic structure. Figure 10-2 shows that team-based approaches to job design and redesign provide workers with the greatest autonomy, and is synonymous with total quality management. One of the team-based approach's most important benefits is improved communication and coordination. People learn how other jobs are done and how to coordinate efforts to work together better.<sup>19</sup>

The use of teams has implications not only for organizational structure but also for the design of specific jobs. Working as a member of a highly motivated, self-directed work team is much different than performing several specialized tasks or performing jobs redesigned through job enrichment programs. While job enrichment gives workers more responsibility, they are still part of a large manufacturing group. Work flows from one person to another, each with a specific job to do. As a member of a work team, an individual participates in small group decisions. The group decides when to perform tasks, who will perform them, and so on. Many labels have been used to describe this approach, including Japanese management, TQM, and autonomous work groups. We will refer to it in general as a team-based approach. Table 10-3 compares various approaches to job design and redesign.

Teams also motivate workers by moving them sideways (laterally) instead of up. With fewer promotions to give out due to decentralization, many organizations are redesigning jobs and developing teams that enable employees to transfer back and forth among teams that make different products. This replaces the assembly line structure in which employ-

TABLE 10-3  
Approaches to Job Design and Redesign

	Job Specialization	Job Rotation	Job Enlargement	Job Enrichment	Job Teams
Description	Breaks work down into small, more discrete tasks.	Systematically moves workers from one job to another.	Increases the number of tasks the worker performs.	Increases the number of tasks and gives workers more control over activities.	Group works together to complete an entire task.
Assumptions	Production efficiencies can be achieved through division of labor.	By providing more variety, specialization reduces worker dissatisfaction.	Workers are dissatisfied with highly specialized and repetitive tasks.	Giving workers more control meets their needs for growth, recognition, and responsibility.	Team work reduces boredom and increases satisfaction and quality.
Setting	Assembly line and mass production jobs.	Assembly lines and settings that can entail several different jobs.	Mass production, office, and clerical jobs.	Mass production, office, clerical, and managerial jobs.	Mass production, office, clerical, and managerial jobs.
Strengths	Workers master one job; minimizes training; useful if workers are unskilled or illiterate.	Can increase interest and motivation in the short run.	Can increase satisfaction and decrease boredom and monotony.	Provides growth and learning opportunities; redesigning jobs based on dimensions is important to workers.	Provides the most autonomy and opportunity for growth; empowers workers to make their own decisions.
Weaknesses	Can lead to boredom and absenteeism, little variety, responsibility, or growth.	Requires more training; doesn't change the nature of the work itself.	Requires more training; may not remove all the boredom from jobs.	Can change skill requirements, necessitating additional training; everyone may not be able to perform the enriched job.	Very difficult to implement; must overcome resistance; may be costly and time-consuming before benefits occur.

ees worked on one product. For instance, American Greetings Corporation redesigned 400 jobs into teams and asked workers and managers to reapply. All employees were guaranteed a job without a pay cut, and many moved laterally into a new type of work.<sup>20</sup> This process unleashes creativity and gives workers a change in tasks and a chance to work with different people without having to deal with the uncertainty of changing jobs or organizations.

When an organization decides to build teamwork into its structure, it must design or redesign jobs accordingly. It is easy to talk about team-based approaches but actually involving members of the organization in teamwork is difficult. Typically developing teams involves redesigning jobs so that workers' (or teams') activities make up a whole or more complete task.<sup>21</sup> Although knowledgeable workers are critical to successful teams, individual skills are substantially leveraged through teamwork. Thus managers

## QUALITY BENCHMARK

### EIGHT KEYS TO QUALITY

To achieve quality, the CEO must:

1. Work with employees to decide what the company should be.
2. Focus quality effort on customer service, not on cost cutting.
3. Show willingness to change everything.
4. Set up pilot programs where employees learn how to solve problems.
5. Let workers make changes they suggest.
6. Reward employees for improving the way the company serves its customers.
7. Keep workers informed on the success or failure of the quality program.
8. Stay actively involved throughout the quality effort.

Source: Rath & Strong: *Fortune*, © 1992 Time Inc. All rights reserved.



Schneider National Inc.

Truck drivers at Schneider National have computers in their cabs, and are empowered to make decisions that improve operations.

must provide employees with the knowledge and skills needed to perform tasks, but more importantly, they must create an atmosphere in which teamwork can prosper.<sup>22</sup> For the most part, this attitude or philosophy flows from the top down and creates a sense of group pride, good relations with coworkers, and a spirit of teamwork that brings out the best in worker performance.<sup>23</sup> Training team members within this context eliminates old, counterproductive ideas and signals workers that the spirit of teamwork permeates the organization.

Perhaps the most important aspect of designing jobs for teams is empowering workers so that they have greater control over their work. This basically means that jobs must be designed so that authority equals responsibility. By making individuals accountable for their actions, they become challenged to take responsibility for thinking, for implementing ideas, and for investing themselves in the organization.<sup>24</sup> Empowerment involves several conditions:

- Workers must believe their efforts can result in positive outcomes.
- Workers must have the knowledge and skills to do their jobs effectively.
- Work must be designed to form a “whole” job that is meaningful to the worker.
- Workers must have the authority to make decisions about the work on their own.<sup>25</sup>

Designing jobs that empower workers to make decisions about their work can help the organization as well as the individual. Chaparral Steel has become the world’s lowest-cost steel producer. Management attributes this distinction to empowered workers who take the initiative, use their heads, and get the job done. In return, workers don’t punch clocks, they set their own lunch hours and breaks, they park next to the CEO, and they share in company profits. Many workers have proposed innovations and ideas that have lowered costs dramatically.<sup>26</sup> At trucking firm Schneider National, everyone from drivers up is empowered to make decisions that improve operations. Each of the 9,000 drivers can earn a fifth paycheck every month based on performance, and Schneider National has become the industry leader.<sup>27</sup> Suggestions by empowered workers saved Eaton Corporation (manufacturers of gears, valves, and axles) \$1.4 million in a year. For instance, one worker suggested how sandblasting welding electrodes rather than machining them would save \$5,126 a year. Employees have earned \$44,000 in credits at the factory store for such ideas.<sup>28</sup>

Although there has been much talk about teams, their use is still fairly uncommon in the United States. In 1990 it was estimated that less than 10 percent of the American work force was organized into teams.<sup>29</sup> But organizations hesitate to adopt this approach for several reasons. Many executives and managers are simply reluctant to empower workers. Additionally workers themselves have been reluctant to participate in teams, fearing that teams will reduce their freedom when, in fact, they should do just the opposite. Some workers simply do not want to accept accountability for their work, opting for an easier—yet more mediocre—job experience. Some organization’s large bureaucratic structures are not conducive to designing jobs in which workers set their own schedules and production goals, have access to formerly confidential information, vote on such issues as pay raises and new hires, and make other critical decisions. Some organizations try to implement teams, but either don’t go far enough in empowering workers or don’t give the concept long enough to work. When truly empowered, teams can turn bored employees into productive partners.

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## ■ SUMMARY OF LEARNING OBJECTIVES

### *List the five steps in job analysis.*

Job analysis involves examining the overall organization, selecting the jobs to be analyzed, collecting data on jobs, preparing the job description, and preparing the job specification.

### *Compare job descriptions and job specifications.*

A job description is a written summary of the job. It details the job’s activities, equipment required to perform those activities, and the job’s working conditions. A job specification evolves

from the job description. It's a written explanation of skills, knowledge, abilities, and other characteristics needed to perform a job effectively.

**Define the term** job design.

Job design determines exactly what tasks must be performed to complete the work. Job design should structure job elements and duties to increase performance and satisfaction.

**Evaluate the job specialization approach to job design.**

The job specialization approach to job design breaks down work into smaller, more discrete tasks. Specialization leads to production efficiencies and was useful when the assembly line was developed. Job specialization has been criticized for leading to monotony and boredom for workers, taking enjoyment out of the job.

**Discuss the concepts of job range and job design.**

Job range refers to the number of tasks a worker performs. Job depth refers to the amount of discretion a worker has in performing the tasks. Highly specialized jobs generally have low range and depth, while less specialized jobs have high range and depth.

**Explain how job redesign differs from job design.**

Job redesign refers to organizations' attempts to improve the quality of work and give workers more autonomy. While job de-

sign determines exactly what tasks must be performed, job redesign is more concerned with how the tasks can be made interesting and challenging to workers.

**Contrast the different approaches to job redesign.**

There are several approaches to job redesign. Job rotation involves systematically moving workers from one job to another, but does little to change the nature of the work itself. Job enlargement increases the number of tasks performed by a worker, actually changing the work. However workers may simply end up doing more tasks that they don't enjoy. Job enrichment gives workers more control of their activities, thereby addressing their needs for growth and recognition. Flextime enables workers to select their work schedules within limits set by management.

**Discuss the advantages of the team-based approach to job design and redesign.**

Teams provide workers with the greatest amount of autonomy. Although job enrichment gives workers more responsibility, they are still part of a large manufacturing group. As a member of a team, an individual participates in small group decisions. By empowering team members so they have greater control over their work, managers challenge workers to take responsibility for thinking, implementing ideas, and investing themselves in the organization.

## ■ KEY TERMS

flextime, p. 295	job design, p. 288	job redesign, p. 291
job analysis, p. 284	job enlargement, p. 292	job rotation, p. 292
job characteristics approach, p. 292	job enrichment, p. 292	job specialization, p. 289
job depth, p. 290	job range, p. 290	job specification, p. 288
job description, p. 286		

## ■ REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What steps are involved in job analysis, and what is the major output?
2. Explain the difference between job range and job depth.
3. Why do firms use job rotation?
4. What approach to job redesign represents the first attempt to actually redesign work? Why?
5. What are the core dimensions of the job suggested in the job characteristics approach?
6. What is empowerment? How does it relate to designing work teams?
8. Why did organizations begin to redesign jobs?
9. How do team-based approaches to job design and redesign differ from other approaches?

### Application

10. Call a local company in your area and ask for a sample job description. Does it do a good job of explaining what the job entails? If you were looking for a job, would you find it complete and helpful?

### Understanding

7. Why is job specialization often blamed for boredom and absenteeism?

## ■ CASE 10-1

### Improving Productivity through Job Design at Whirlpool

Whirlpool Corporation is the world's largest manufacturer of major appliances. Based in Benton Harbor, Michigan, the firm has factories or joint venture partners in 10 countries throughout the world. The key to Whirlpool's success in this highly competitive global market is productivity—output per hour of work. Increasing productivity enables Whirlpool to reduce costs and boost profits. Customers benefit from lower prices, and employees receive higher wages.

Like many organizations, Whirlpool has found it hard to increase productivity. One exception is its Benton Harbor plant, where metal rods are turned into parts for washers and dryers. Since 1988 productivity has increased by over 19 percent from 92.8 parts manufactured per labor-hour to 110.6 parts. Additionally, the number of parts rejected has fallen from 837 per million to 10 per million, making Benton Harbor a world class factory. As a result workers' pay at the plant has increased about 12 percent during this period, outpacing the gains of the average U.S. manufacturing worker. And aided by these and other gains in productivity, the company has been able to keep the prices of its washing machines down while increasing their quality.

Boosting productivity at Benton Harbor wasn't easy. Productivity at the plant had been terrible. Workers took little pride in their work and hid mistakes. If a machine broke, they made no attempt to fix it. By the mid-1980s the plant was near closing. A Whirlpool assembly plant next door to the parts factory was closed, and 1,000 jobs were lost. Unless productivity improved, the parts plant would also have to close. But Whirlpool didn't invest in new machines and equipment for the factory. Instead the firm invested in its workers, teaching them how to improve quality.

Source: Adapted from Rick Wartzman, "A Whirlpool Factory Raises Productivity—and Pay of Workers," *The Wall Street Journal*, May 4, 1992, pp. A1, A4; Thomas Jaffe, "Brazilian Whirlpool," *Forbes*, June 8, 1992, p. 165; and David Woodruff and Fred Kapner, "Whirlpool Goes Off on a World Tour," *Business Week*, June 3, 1991, pp. 98–100.

## ■ CASE 10-2

### Team-Based Job Design at Semco S/A

Semco S/A is Brazil's largest manufacturer of marine and food-processing machinery. Close to financial disaster in 1980, Semco is now one of Brazil's fastest-growing companies. The turnaround began in 1980 when Ricardo Semler became president and redesigned Semco's organizational structure and management style. When Semler started the process, the company had 11 layers of management; he reduced them first to eight, then six, and finally three. Since 1980 employment is up 700 percent and sales are up over 800 percent.

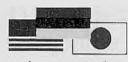
A big part of Semler's reorganization involved using a team-based approach to job design. Work teams run the show at

Jobs were redesigned with quality in mind. Managers felt that by teaching workers how to improve quality, less time would be wasted on bad parts and productivity would increase. An important part of this effort was to design jobs so workers could see how their products (parts) are put into the final products (washers and dryers). Informing workers about the entire process enables them to make adjustments to help the process flow more smoothly. A new training center was developed where an interactive computer teaches workers everything from general math to skills needed to use tools and gauges. The objective is to design jobs that let workers use their heads, and then give them the knowledge and skills needed to do just that.

The turnaround at Benton Harbor will never be finished because Whirlpool has learned that quality improvement is a never-ending process. One group of workers is trying to find a way to recycle oil used to cool and lubricate the machines. Some workers admit they're working much harder than they ever did. But competition has only intensified, and major appliance prices have not kept pace with inflation. Also, major appliance sales have dropped in the United States due to the recession. And when the recovery comes, overcapacity and price competition will mean even more pressure to improve productivity.

### Questions

1. Why is productivity so important for Whirlpool?
2. What does job design have to do with productivity and quality?
3. How did Whirlpool empower its workers, and how did this benefit both the company and the workers?
4. Do you think Whirlpool could improve its situation even more by moving the Benton Harbor factory to another country with cheaper labor?



Semco, setting their own time schedules and production goals, sharing information and profits, and determining how earnings are distributed, who gets hired, and who gets promoted. Some employees even set their own salaries. Semler himself leaves the company for months at a time, and the company does fine without him. He says it's all in the way the company is organized and jobs are designed.

How can the president leave and not be missed? By empowering workers and sharing information, power within Semco comes from the value one provides, not from hoarding information or having the largest office. According to Semler, when everyone has the same basis of information, the organization hierarchy tends to disappear. By publishing the balance sheet and

Source: Adapted from Michael Rigg, "Vision and Value: Keys to Initiating Organizational Change," *Industrial Engineering*, June 1992, pp. 12–13; Charles Garfield, *Second to None* (Homewood, Ill.: Business One Irwin, 1992), pp. 157–64; and Anthony A. Atkinson, "The Promise of Employee Involvement," *CMA Magazine*, April 1990, p. 8.



all financials monthly on the bulletin board, everyone knows what the company is making. The result of such sharing of information is one of the few plants in the world where all workers have flextime. Everyone on the assembly line come and go whenever they want, as they schedule their own time.

This might sound too good to be true. Wouldn't many workers cut out early and not show up at all? Not when you hire responsible adults, a basic assumption that Semco begins with. Employees are encouraged to contribute their best efforts to the organization and are rewarded for doing so. Semco has experienced very little abuse of the system. When people are treated as problem solvers and empowered to make decisions, Semco has found that they will solve problems one way or another.

Managers are encouraged to take the company in any direction they want. And practically no one stays in the same position for more than two or three years. Jobs are rotated drastically—a sales manager becomes a controller for rocket fuel propellants. Although this is a personal decision, most people request a change once they are ready to try something else.

Although everyone can't be in leadership positions, they are given the opportunity to make a lot of money without going into management. Many people make more than their bosses since they have specific skills that are difficult to find. Besides paying well, jobs are designed to be self-fulfilling so people can feel

their work is worthwhile. One approach is to eliminate jobs that cannot be made fulfilling. Semco has no secretaries, no receptionists, and no assistants of any type. Everyone does their own work.

Few workers at Semco complain that they are not autonomous. In fact, some would like more structure in their jobs. But structure costs money, and workers have to approve the budget. Semler has cut the corporate budget every year. He predicts that his company will be about the same size in 20 years, but will generate much more business. The reason is that the company relies on its employees' brains and creativity. By using a team-based approach to job design, Semco hopes to increase productivity without adding layers of bureaucracy.

## Questions

1. Why did Semler reduce the layers of management when he became president of Semco?
2. How does Semco use a team-based approach to job design?
3. Why is it important that information be shared among everyone?
4. How does Semco use job rotation?
5. Assess the importance of both pay and job fulfillment in a team-based approach such as Semco's.

## ■ APPLICATION EXERCISE

### Developing a Job Description

The purpose of this exercise is to develop a job description for a job of your choice. Since the job description is the output of a systematic job analysis, you must select a job and obtain the needed information before developing the job description. You can select any job, perhaps one you've held, are holding now, or would like to hold. Here's a list of jobs for your convenience:

Airline pilot	Talk show host
Computer operator	Teacher
Golf coach	Retail clerk
Police officer	Intensive care nurse
Machine operator	Auto mechanic

Once you have selected a job, reread the material on job analysis. How can you obtain the information needed to write the job description? Try calling a company and talking with someone in that job or in the human resource department. Once you have all the information you need, use the following format to write the job description.

<i>Job title:</i>	Give the job's title and other identifying information such as its wage and benefits classification.
<i>Summary:</i>	In a brief one- or two-sentence statement, describe the job's purpose and what outputs are expected from someone holding it.
<i>Equipment:</i>	Clear statement of the tools, equipment, and information required for effectively performing the job.
<i>Environment:</i>	Give the job's working conditions, location, and other relevant characteristics of the immediate work environment such as hazards and noise levels.
<i>Activities:</i>	Describe job duties, behaviors performed on the job, and social interactions associated with the work (for example, size of work group and amount of dependency in the work).

CHAPTER

11

HUMAN RESOURCE MANAGEMENT

*After studying this chapter, you should be able to:*

Define *human resource management (HRM)*

Explain how HRM is linked to strategic planning.

List several sources from which job applicants are recruited.

State the purpose of EEO programs and identify the three main factors that contributed to EEO's development.

Describe the forecasting and planning aspects of human resource planning.

List the typical decision steps in the human resource management selection process.

Define *training* and *learning*.

Compare some of the more popular methods of performance evaluation.

Discuss the difference between direct and indirect compensation.

Explain the comparable worth concept.

## HIRING RIGHT MAKES SENSE

Top-performing organizations invest much energy, time, and attention in the hiring and selection process. Fairfield Inn puts a potential job candidate through an average of 14 interviews. Finding the right person for the job is considered essential to perpetuate the best culture at Thomas Interior Systems, an office furnishings designer and reseller in Elmhurst, Illinois. The small firm has only 75 employees, but prides itself on having every worker

become part of the quality-driven culture. ■ Careful, intensive recruitment and selection like Fairfield Inn's and Thomas Interiors System's serve two purposes. First, the organization gains a close look at candidates' suitability, especially their fit with the culture. Second, attention to detail gives candidates plenty of opportunity to eliminate themselves if the culture doesn't feel right. Being rigorous, fair, and accurate in recruitment and selection minimizes the mistake of the wrong person being attracted and taking the job. ■ Rigorous screening is expensive, but hiring the wrong people who do not fit a quality-based culture is also costly. Hiring, training, and initiating frequent recruitment and screening processes can cost over \$50,000 for a single mid-level management position. ■ Some examples of how serious hiring decisions



Photo courtesy of Marriott Corporation

Fairfield Inn works hard to identify the right person for the job to be done.

are highlight the attention that needs to be paid to this human resource management activity. ■ Bridgestone Corporation built a new tire plant in Warren County, Tennessee, and used self-directed teams to establish a new-hire assessment center that closely examined job applicants that made it through a four-hour general aptitude test administered by the state of Tennessee. Only 1 in 15 applicants passed this test, while a mere 3 of every 100 applicants made it through the entire aptitude test, assessment center, and interview screening process and were hired. ■ Holland America is consistently rated the cruise ship industry's top five-star customer service performer. The firm emphasizes quality

service in every interaction with customers. The industry believes that Holland's five-star ranking is largely because of the people it hires and how they are screened. Twelve or more interviews and a battery of tests are used. Successful candidates are then sent to the cruise line's training program to learn how to administer service. Next they spend months under the close supervision and mentorship of a senior employee on the line's flagship. ■ In-

insurance company American General reduced annual turnover of its agents by over 20 percent with the use of a carefully constructed questionnaire administered to potential hires. Younger's, a department store in Iowa, cut staff turnover rates by 25 percent with a similar test. ■ Hiring correctly, hiring the best, and following up on the hiring itself are the rules in organizations that care about quality. Hiring well just doesn't happen. It requires time, energy, and a commitment to recruitment and selection. These activities are easy to overlook. However, as Fairfield Inn, Thomas Interior Systems, Bridgestone Corporation, Holland America, and American General have determined, becoming a top performer and staying on top are much easier if hiring correctly becomes a practiced principle.

Source: Adapted from Suzanne Oliver, "Slouches Make Better Operators," *Forbes*, August 16, 1993, pp. 104-5; Jim Clemmer, *Firing on All Cylinders* (Homewood, Ill.: Business One Irwin, 1992), pp. 148-49, 154-56; Michael Barrier, "Small Firms Put Quality First," *Nation's Business*, May 1992, pp. 22-32; Barbara Levin, "Chevrolet's HR Conference: Strategic Planning to Meet Corporate Goals," *HR Focus*, May 1992, p. 9; and Jay W. Spechler, *When America Does It Right* (Norcross, Ga.: Industrial

Human resources are the key resource in creating a quality-oriented organization. This is obvious in firms such as Fairfield Inn and Merck. Being recognized as an important person who is needed, respected, and listened to is an important part of belonging to an organization, a work team, or even an occupation group. Peters and Waterman's *In Search of Excellence* expresses a fundamental lesson about human resources' importance:

*Treat people as adults. Treat them as partners; treat them with dignity; treat them with respect. Treat them—not capital spending and automation—as the primary sources of productivity gains. . . . If you want productivity and the financial reward that goes with it, you must treat your workers as the most important asset.*<sup>1</sup>

John E. Condon, past chairman of the board of the American Society for Quality Control, said it even more specifically: "People really do make quality happen."<sup>2</sup> The obvious importance of human resources in making quality happen and improving competitiveness provides human resource management (HRM) departments with a golden opportunity. Quality can serve as the primary goal that fosters a strategic HRM approach that can add value to an organization's products, services, and image.

This chapter addresses human resources practices, principles, and programs. It suggests that to improve quality and competitiveness, people must be the driving force. As the opening vignette, "Hiring Right Makes Sense," suggests, you must pay attention to people from the start. If you do not hire wisely, it will be almost impossible to instill the quality-is-first culture that is needed to compete effectively. In large, formal organizations such as General Motors and Procter & Gamble, a department usually guides the human resource program. But, even in a small organization, an action-oriented approach to people and their needs, goals, expectations, skills, knowledge, and abilities must be followed. The chapter discusses human resource management (HRM) in terms of the function, department, or activities that are concerned with accomplishing quality improvements and increased competitiveness by acquiring, retaining, developing, and properly utilizing the human resources—managerial and nonmanagerial.

## ■ HUMAN RESOURCE MANAGEMENT BACKGROUND

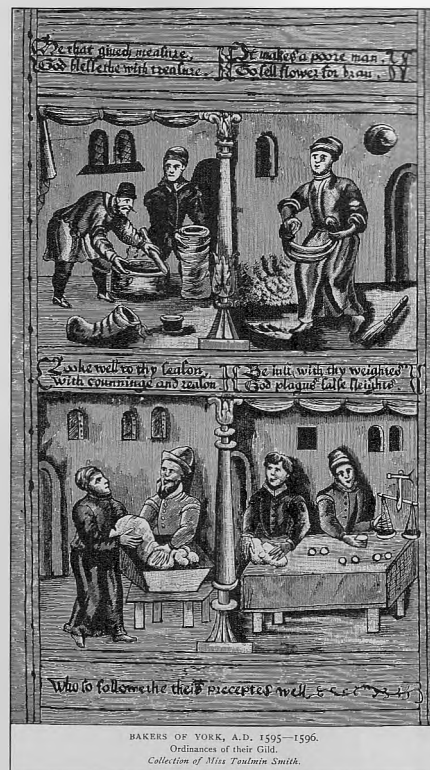
human resource management (HRM)

The process of accomplishing organizational objectives by acquiring, retaining, terminating, developing, and properly using the human resources in an organization.

**Human resource management (HRM)** is a function performed in organizations which facilitates the most effective use of employees to achieve an organization's goals. The history of HRM departments can be traced to England from 1700 to 1785, where masons, carpenters, leather workers, and other craftspeople organized themselves into guilds. They used their unity to improve their work conditions.<sup>3</sup> These guilds became the forerunners of trade unions.

The field further developed with the arrival of the Industrial Revolution in the latter part of the 18th century, which laid the basis for a new and complex industrial society. In simple terms, the Industrial Revolution began with the substitution of steam power and machinery for time-consuming hand labor. Working conditions, social patterns, and the division of labor were significantly altered. A new kind of employee, a boss (who wasn't necessarily the owner as had usually been the case in the past), became a power broker in the new factory system. With these changes also came a widening gap between workers and owners.

The drastic changes in technology, the growth of organizations, the rise of unions, and government concern and intervention concerning working people resulted in the development of personnel departments. No specific date is assigned to the appearance of the first personnel department, but around the 1920s more and more organizations seemed to take note of and do something about the conflict between employees and management.<sup>4</sup> Early personnel administrators—called *welfare secretaries*—were hired to bridge the gap between management and operators (workers). In other words, they were to speak to workers in their own language and then recommend to management what had to be done to get the best results from employees.



North Wind Picture Archives

The English craftsman has a long human resource management history.

For years the HRM function wasn't linked to the corporate profit margin or what is referred to as the *bottom line*. HRM's role in the firm's strategic plan and overall strategy was usually couched in fuzzy terms and abstractions. HRM was merely a tag-along unit with people-oriented plans; it was not a major part of the planning and strategic thinking process. Today, thanks to recognition of the crucial importance of people, HRM is increasingly a major player in developing strategic plans. Organizational plans and strategies are inextricably linked to human resource plans and strategies. HRM strategies must reflect clearly the organization's strategy with regard to people, profit, and quality improvement.<sup>5</sup> The human resource manager is expected to play a crucial role in improving employees' skills and the firm's profitability. In essence HRM is now viewed as a "profit center" and not simply a "cost center."

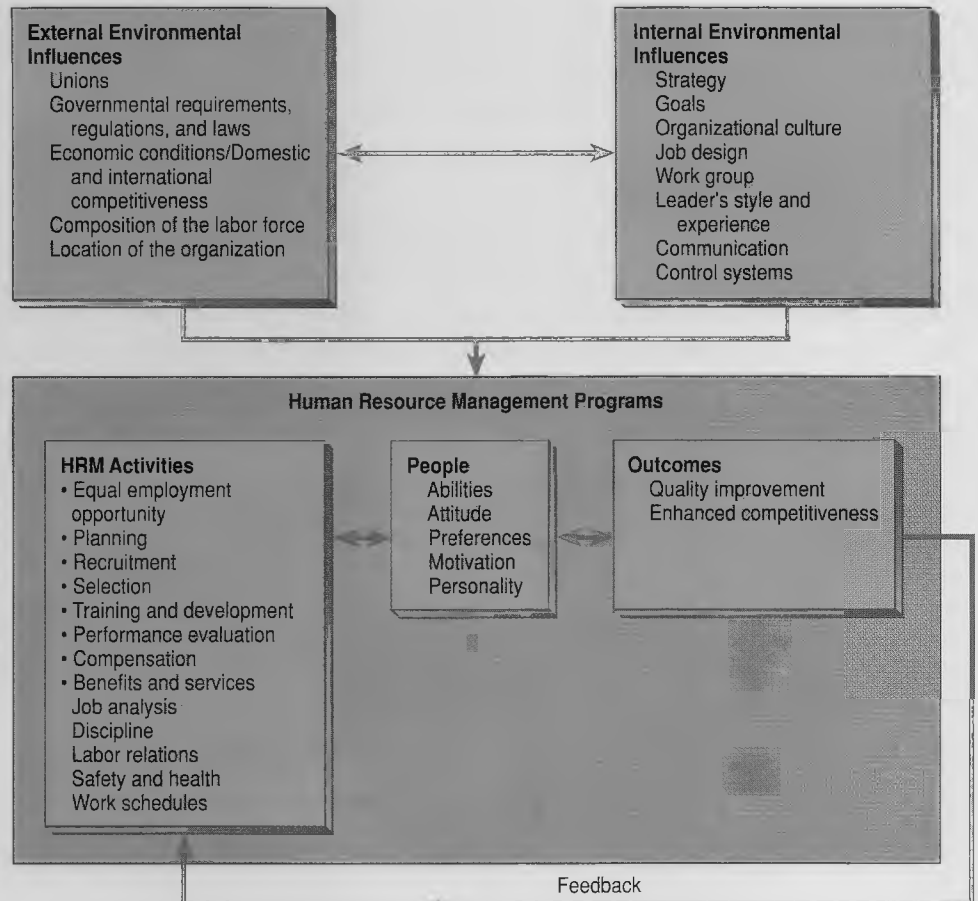
## A Model of Human Resource Management

So many factors influence workers' behavior and performance that a framework or a model can be used as a way to order everything. A model is simply a map that can help a manager or anyone see how the pieces, parts, and activities fit together. Figure 11-1 presents five main parts: some of the internal and external environmental forces, HRM activities, characteristics of people, and the two main outcomes discussed throughout the book (quality improvement and enhanced competitiveness).

Since so many HRM activities are practiced, only eight (noted by dots in Figure 11-1) are covered in this chapter. Remember that organizations, by conducting HRM activities, attempt to find and keep the best-qualified human resources to accomplish their goal. Matching people and activities to improve quality and competitiveness is a top priority. Improper matching thwarts quality improvement.

FIGURE 11-1

A Model of Human Resource Management Activities and Outcomes



\* Discussed in this chapter

## ■ EQUAL EMPLOYMENT OPPORTUNITY

**equal employment opportunity (EEO)**

An umbrella term that encompasses all laws and regulations prohibiting and/or requiring affirmative action.

**affirmative action**

Programs designed to ensure proportional representation of workers on the basis of race, religion, or sex. If a company has a federal contract exceeding \$50,000, it's required to have an affirmative action program. Firms can also voluntarily establish such programs.

**Equal employment opportunity (EEO)** is an umbrella term that encompasses all laws and regulations prohibiting and/or requiring affirmative action. **Affirmative action** programs are designed to ensure proportional representation of workers on the basis of race, religion, or sex. Companies with federal contracts exceeding \$50,000 are required by the government to have such programs. Firms can also voluntarily establish such programs. Included would be Title VII, the Americans with Disability Act, and the Age Discrimination in Employment Act. Most states have laws that prohibit discrimination, some of which are broader than federal laws.<sup>6</sup>

Although consumers' suits against manufacturers of defective products account for a large portion of the increased litigation, suits by employees or job candidates against employers are burgeoning.<sup>7</sup> The Civil Rights Act of 1991 increased the likelihood that employees will sue by making their discrimination cases easier to win and by making the damages they can be awarded more substantial.<sup>8</sup> Therefore it is in the organization's best interest for managers to develop policies and procedures that comply with the law. The best way to begin studying the relationship between HRM functions and the law is to devote time and attention to equal employment opportunity. No other regulatory area has so thoroughly affected HRM as EEO. EEO has implications for almost every activity in HRM: hiring, recruiting, training, terminating, compensating, evaluating, planning, disciplining, and collective bargaining.<sup>9</sup> Employers set up equal employment opportunity

(EEO) programs to prevent employment discrimination in the workplace and/or to take remedial action to offset past employment discrimination.<sup>10</sup>

The three main factors that led to the development of EEO were (1) changes in societal values, (2) the economic status of women and minorities, and (3) the emerging role of government regulation.

## Societal Values and EEO

Throughout history, Western society has accepted the principle that people should be rewarded according to the worth of their contributions. When the United States became a nation, that principle was embodied in the American dream: the idea that any individual, through hard work, could advance from the most humble origins to the highest station, according to the worth of her or his contributions. In the United States success did not depend on being born into a privileged family; equal opportunity was everyone's birthright. To this day, the American dream, with its emphasis on merit rather than privilege, is widely accepted by the public.

Until the early 1960s it was not unusual for many people, while believing in the American dream of rewards based on merit, to also believe that African-Americans (and other minorities) had their "place"—a place largely cut off from rewards that the majority received. This apparent contradiction in beliefs was the U.S. dilemma as observed even in the 1940s by the distinguished Swedish economist, Gunnar Myrdal, in his studies of United States race relations for the Carnegie Corporation. African-Americans were often excluded from schools, public accommodations, jobs, and voting. Economic realities for blacks belied the ideals of the American dream.<sup>11</sup>

## Economic Status of Minorities before 1964

Undeniable economic inequality helped focus national attention on employment as a specific area of discrimination. In the 1950s, unemployment figures for African-Americans were twice as high as for whites, and higher still among nonwhite youth. While African-Americans accounted for only 10 percent of the labor force, they represented 20 percent of total unemployment and nearly 30 percent of long-term unemployment. Moreover, in 1961 only one half of African-American men worked steadily at full-time jobs, while two thirds of white men did. African-Americans were three times as likely as whites to work less than full-time. Similar statistical differences existed for other minorities, such as Hispanics and Native Americans.<sup>12</sup>

## The Government

There is no need to develop a detailed analysis to convince you that the government is playing an increasing role in all phases of life. According to some estimates, government expenditures on federal regulation have increased from \$750 million in 1970 to over \$4 billion in 1987.<sup>13</sup> But this is only a small fraction of the total cost of regulation. The public spends billions of dollars to comply with regulations.

In organizations, much of the compliance burden has been directed to the HRM department. But every manager and employee has a compliance responsibility. The growth of equal employment opportunity has given employees specific rights in their relationship with their employers. Employee rights were not widely publicized or seen as front-page news prior to the early 1970s. Today employee rights and perceptions that something is wrong are taken very seriously. When employees perceive discrimination problems, it is difficult to work hard, to concentrate on quality principles, and to remain committed to the firm.

## ■ HUMAN RESOURCE PLANNING

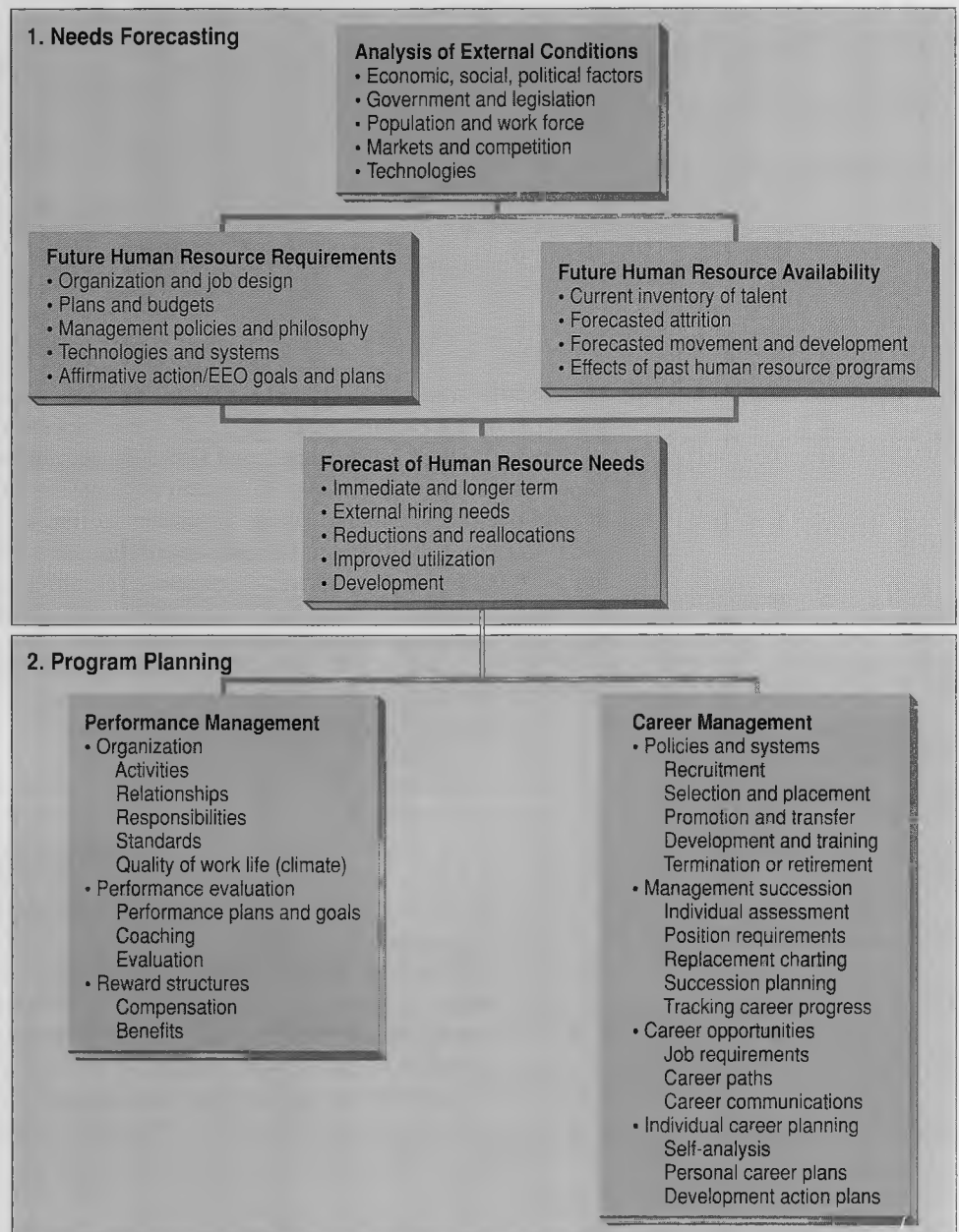
*human resource planning (HRP)*  
Estimating the size and makeup of the future work force.

**Human resource planning** is a two-step process that involves forecasting future human resource needs and then planning how to adequately fulfill and manage these needs. Figure 11–2 points out the activities involved in needs forecasting and program planning.

Human resource planning's major objective is determining the best use of the talent and skills available to accomplish what's best for the individual and the organization.<sup>14</sup> As Figure 11–2 shows, needs forecasting involves four specific activities. The external market conditions must be studied, as well as the firm's future human resource requirements. The firm must determine if talented and skilled human resources are available.

Human resource planning also involves paying attention to the performance of the organization and the individual. Thus evaluation, developing compensation and reward

FIGURE 11–2  
The Human Resource Planning Process





programs, and coaching are important planning activities. There's also the need to select, assign, develop, and manage the careers of individuals.

Human resource planning requires the linking of external analysis and scanning with human resource management. Techniques and activities must be carefully employed to accomplish the quality and competitiveness outcomes that a firm seeks. These techniques include the use of:

1. *Human resource inventories*: the skills, abilities, and knowledge that exist within the firm already.
2. *Human resource forecast*: the firm's future requirements in terms of numbers available, skill mix, and external labor supply.
3. *Action plans*: the recruitment, selection, training, orientation, promotion, development, and compensation plans used.
4. *Control and evaluation*: the monitoring system used to determine the degree of attainment of human resource goals.

Human resource planning involves the necessary activities that help managers reduce uncertainty about the future. For human resource plans, managers can make forecasts, plan so that change can be managed more efficiently, and display the role they play in properly managing human resources.

## ■ RECRUITMENT

### recruitment

The set of activities an organization uses to attract job candidates with the abilities and attitudes needed to help the organization achieve its objectives.

Whenever human resources must be expanded or replenished, a recruitment plan must be established or set in motion. **Recruitment** is the set of activities an organization uses to attract job candidates with the abilities and attitudes needed to help the organization achieve its objectives. Recruitment requires a sound human resource planning system that includes personnel inventories, forecasts of the supply and demand of human resources, action plans, and control and evaluation procedures. The first step in recruitment is a clear specification of needs: number of people, skills mix, knowledge, and experience level. This information is especially important so that affirmative action goals and time-tables for the recruitment and hiring of minorities can be met.

If human resource needs cannot be met within the company, outside sources must be tapped. Enron keeps a file on applicants who have sought employment with it over the past year. Even though these applicants were not hired, they frequently maintain an interest in working for a company with a good reputation and image. By carefully screening these files, some good applicants can be added to the pool of candidates.

*Advertisements* in newspapers, trade journals, and magazines notify potential applicants of openings. Responses to advertisements will come from both qualified and unqualified individuals. Occasionally a company will list a post office box number rather than provide the company name. Called *blind ads*, such advertisements eliminate the need to contact every applicant. But they do not permit a company to use its name or logo as a form of promotion. Some organizations effectively use their own employees in newspaper and magazine ads. For example, a General Dynamics ad cites its employees as "19,000 reasons why business is good in San Diego." Thus the firm calls attention to its presence in the city. The ad also features employee security badges with photographs. Using employees in the ads personalizes the company to recruits.<sup>15</sup>

The college campus is a major source for recruiting lower-level managers. Many colleges and universities have placement centers that work with organizational recruiters. Applicants read ads and information provided by the companies, and then they sign up for interviews. The most promising applicants are invited to visit the companies for more interviews.

To find experienced employees in the external market, organizations use private employment agencies, executive search firms, and/or state employment agencies. Some private employment agencies and executive search firms are called *no-fee agencies*, which

means that the employer pays the fee instead of the applicant. An organization is not obligated to hire any person referred by the agency, but the agency usually is informed when the right person is found.

The employees responsible for recruiting are faced with legal requirements. For example, a certain percentage of minority group members and women must now be recruited for positions that have seldom been filled by minorities. These requirements are enforced by laws administered by the Equal Employment Opportunity Commission (EEOC). The federal government attempts to provide equal opportunities for employment without regard to race, religion, age, sex, national origin, or disability through Title VII of the Civil Rights Act of 1964 and the Equal Employment Opportunity Act of 1972.<sup>16</sup> These laws have broad coverage and apply to any activity, business, or industry in which a labor dispute would hinder commerce. The laws also cover federal, state, and local government agencies.

Even if the EEOC does not get involved with an employer, an individual who feels that discrimination is taking place may sue. Complaints of job discrimination have increased from 108,524 in 1991 to over 114,685 in 1992.<sup>17</sup> But as of September 1992, the EEOC is bringing only approximately 446 suits per year against employers.

Airlines' hiring practices have been the subject of two important court decisions on recruitment. A bona fide occupational qualification (BFOQ) is a position taken by an employer that sex, race, or religion are valid criteria for making decisions about employees or job applicants. One decision held that female gender is not a BFOQ for the job of cabin flight attendant. Another held that an airline's policy that stewardesses must be single is unlawful. No other female employees are subject to the policy, and there was no formal policy restricting employment to single male stewards. Another court ruled it illegal to fire a female employee for being pregnant and unmarried. A sex discrimination case against a New York law firm was settled, before a court ruling, when it agreed to recruit, hire, and promote women attorneys on the same basis as men.

Legal procedures regarding equal employment opportunities and recruitment are important to employers. Organizations must adjust to and work with these laws. Although adjustments are sometimes difficult, they seem to be a better alternative than long, costly court battles. Providing equal opportunities to all qualified job applicants makes sense both legally and morally. The vast majority of managers believe that all citizens have a right to any job they can perform reasonably well after a sufficient amount of training.

## ■ SELECTION

### selection:

The process by which an organization chooses from a list of applicants the person or persons who best meet the criteria for the position available, considering current environmental conditions.

**Selection** is the process by which an organization chooses from a list of applicants the person or persons who best meet the criteria for the position available, considering current environmental and financial conditions. The selection process involves screening and making decisions. Firms such as Fairfield Inn and Holland America spend time and energy on their selection programs. Applicants are screened and the firm decides whether to extend a job offer. Job candidates also enter into the decision-making process by deciding whether the job offer fits their needs and goals. Traditionally the enterprise is attempting to accurately assess the probability that the candidate will succeed in the job.

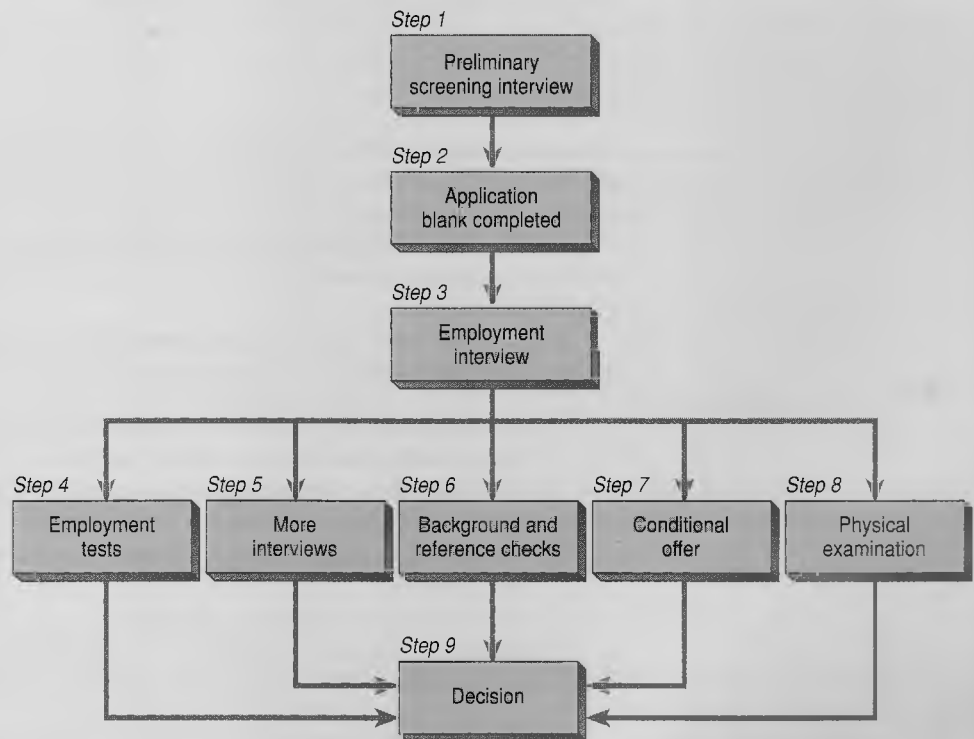
Organizations that emphasize quality require employees who are excellent problem solvers, who can apply statistical concepts, and who are team-oriented. Identifying these abilities and personality characteristics must be done at the selection point. For example, because of the need to be team-oriented, Motorola shows job applicants videotapes of problem-solving groups in action. Applicants are then asked to describe their reactions and how they would respond to the videotaped situations.<sup>18</sup>

The selection of people depends largely on organizational needs and legal requirements. Table 11-1 describes a few of the important legal guidelines affecting the selection step.

**TABLE 11-1**  
Some Legal Guidelines for  
the Selection Step in Staffing

Selection Screening Steps	Legal Activities	Illegal Activities
Tests	Can be used if they have been validated	Cannot be used when there is no relationship between tests results and performing the job
Interview information	To ask if a person is a U.S. citizen To ask about convictions for crime	To require citizenship or to ask proof of citizenship To ask if a person has ever been arrested
Age	To require proof of age after hiring	To require birth certificate
Racial identity	To keep records on racial and ethnic identity for purposes of reporting	To ask for race, creed, or national origin in application or interview

**FIGURE 11-3**  
Typical Selection Decision Steps



The actual selection process is a series of steps. It starts with initial screening and ends with the orientation of newly hired employees. Figure 11-3 presents each step in the process. A candidate can be rejected at any one of the nine steps. Recognizing human resource needs through the planning phase of staffing is the point at which selection begins. Preliminary interviews are used to screen out unqualified applicants. This screening often is an applicant's first personal contact with an organization. Applicants who pass the preliminary screening usually complete an application.

### Screening Interviews

Interviews are used throughout the selection process. Interviewers usually first acquaint themselves with the job analysis information. Second, they review the application

information. Third, they typically ask questions designed to give better insight into the applicants, and they add this information to that on the application.<sup>19</sup>

Three general types of interviews are used: structured, semistructured, and unstructured. In the *structured interview*, the interviewer asks specific questions of all interviewees. In the *semistructured interview*, only some questions are prepared in advance. This approach is less rigid than the structured interview and allows the interviewer more flexibility. The *unstructured interview* allows interviewers the freedom to discuss whatever they think can be important. Comparing answers across interviewees is rather difficult, however.

Some firms now use computers to administer structured employment interviews. Although this does not replace the face-to-face interview, the computer can provide a base of information about each applicant before the interviewer meets him. An applicant can typically complete a 100-question computer-aided interview in less than 20 minutes.<sup>20</sup>

The selection interview's goal is to obtain information for making an accept or reject decision. But in ethical terms, what is reasonable to ask? And what degree of self-disclosure is it legitimate to expect of job candidates? There is little research from an ethical standpoint to help answer these questions.<sup>21</sup>

## Tests

Managers often complain that they have a problem hiring and retaining successful employees. Relying solely on intuition rather than finding objective procedures to select employees is not adequate. Subjective procedures are not very accurate in predicting how employees actually will perform the job. One method to improve upon intuition and subjective judgments is testing.<sup>22</sup> A *test* is a means of obtaining a standardized sample of a person's behavior.

A few of the advantages of valid (how well a test score predicts job success) and reliable (provides consistency of measurement) selection tests are:

1. Improved accuracy in selecting employees. Individuals differ in skills, intelligence, motivation, interests, needs, and goals. If these differences can be measured, and if they're related to job success, then performance can be predicted to some extent by test scores.
2. An objective means for judging. Applicants answer the same questions under test conditions. Then their responses are scored. One applicant's score then can be compared with the other applicants'.
3. Information on present employees' needs. Tests given to present employees provide data on their training, development, or counseling needs.

The U.S. Supreme Court made a landmark ruling relating to tests in the *Griggs v. Duke Power Company* case in 1971.<sup>23</sup> Six years earlier Duke Power had established a policy requiring job applicants to pass a number of tests and have a high school education to qualify for placement and promotion. A group of African-American employees challenged these requirements, arguing that they were denied promotions because of the testing policy. The Supreme Court ruled that neither the high school requirement nor the test scores showed a relationship to successful job performance.

Organizations using any test now must carefully examine how the scores are used. And test results must be validated. There must be statistical proof that test scores are related to job performance. But testing still can be an important part of the selection process.<sup>24</sup> It is also a major tool for making decisions.

An interesting method for making decisions is through the use of *impairment testing*.<sup>25</sup> A video game is used to measure the employee's ability to work. Both labor and management agree that the video testing doesn't violate the employee's privacy. In terms

of cost, timeliness, and accuracy, video impairment testing is better than testing urine or blood samples.

The Factor One impairment test costs about \$200 per employee. It can be used as often as desired. Factor One testing detects impairment of motor skills and eye-hand coordination rather than chemical metabolite. It provides information on whether an employee who's impaired should be working that day. The Factor One test operates on an IBM PC or compatible computer and takes about 30 seconds to complete. Video testing could be applied to fleet truck drivers before they are permitted to leave the dispatch center. Failure to pass the test would mean not being able to drive the truck. Such testing could decrease a company's liability exposure.

Impairment testing doesn't indicate the cause of impairment (e.g., drugs, insomnia, marital problems). It can miss recent illicit drug use. Also the test identifies people as impaired who aren't drug users and for all practical purposes are not performance-impaired.

## The Hiring Decision

After completing the preliminary screening steps—evaluating the application, interviewing, and testing—the organization considers making an offer. Then a *background check* usually is made. The background check consists of verifying various facts expressed in the interview or placed on the application blank and collecting additional data from references and previous employers. The organization also attempts to gather facts about the applicant's performance on earlier jobs. If reference checks yield favorable information, the line manager and an employment division representative usually meet to decide the type of compensation and benefit that will be offered.

## ■ TRAINING AND DEVELOPMENT

Training and development of human resources involve change: change in skills, knowledge, attitudes, and/or social behavior. To remain competitive, changes in these areas are needed. Maintaining technological superiority, teamwork, world-class quality performance, and social harmony among individuals who differ ethnically and skillwise depends on the ability to cope with changes. For example, due to technical and software advances, computer specialists have to be continually retrained.

### Link to Performance

Training is, in short, an attempt to improve current or future employee performance. In most organizations, that emphasize quality, training is done in problem-solving, problem analysis, quality measurement and feedback, and team building. The following specific points are important to know about training:

- **Training** is the systematic process of altering employees' behavior to further organizational goals.
- **Development** is the acquisition of knowledge and skills that may be used in the present or future. It is a more long-term focus.<sup>26</sup>
- A **formal training program** is an effort by the employer to provide opportunities for the employee to acquire job-related skills, attitudes, and knowledge. In the case of total quality improvement programs at IBM, Motorola, and Xerox, all employees go through a formal training program.
- **Learning** is the act by which individuals acquire skills, knowledge, and abilities that result in a relatively permanent change in their behavior.

#### training

The systematic process of altering employees' behavior to further organizational goals.

#### development

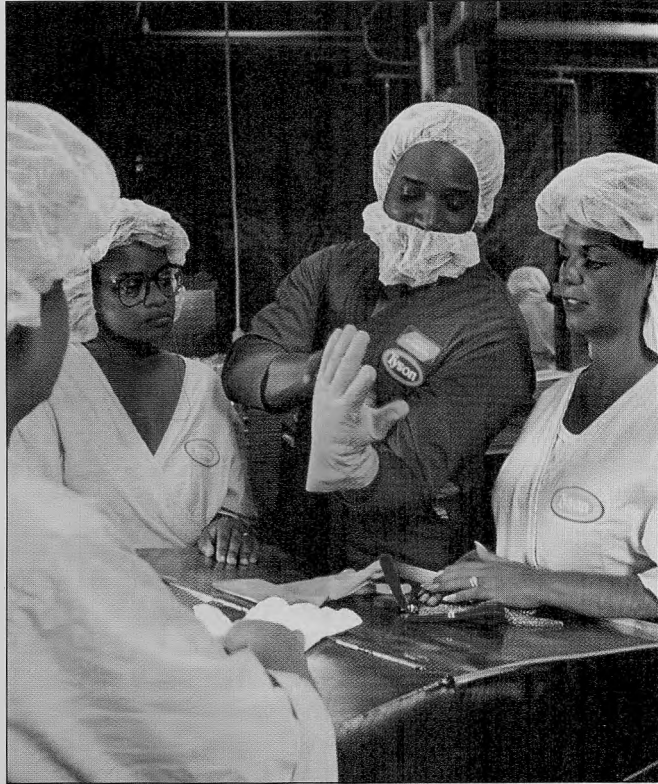
The acquisition of knowledge and skills that may be used in the present or future.

#### formal training program

An effort by the employer to provide opportunities for the employee to acquire job-related skills, attitudes, and knowledge.

#### learning

The act by which individuals acquire skills, knowledge, and abilities that result in a relatively permanent change in their behavior.



© Matt Bradley. Courtesy of Tyson Foods, Inc.

Tyson's human resources are involved in continuous improvement training programs.

- A *skill*, introduced in Chapter 1, is any behavior that has been learned and applied. Therefore, training's goal is to improve skills. Motor skills, cognitive skills, and interpersonal skills are targets of training programs.

Since training and development are forms of education, some findings regarding learning theory logically might be applicable. These principles can be important in the design of both formal and informal training and development programs.

In order to learn, a person must want to learn. In the context of training or development, motivation influences a person's enthusiasm, keeps attention focused on the activities, and reinforces what is learned. For example, if a person is not motivated to improve the quality of his work, little can be accomplished in a training or development program. The Japanese believe that the most important aspect of developing employees is training. The Japanese philosophy is made clear by the Global Exchange. In reading the Global Exchange consider whether these elements are easier to apply in a homogeneous labor force like Japan's than in a culturally diverse labor force such as America's.

### Approaches and Programs

A University of Michigan study and a Hay Associates study found that the most profitable companies (based on the PIMS database) showed the greatest commitment to management and executive development.<sup>27</sup> A study of 300 Fortune service 500 and the top 100 Fortune international 500 companies also provided data. Of the 153 survey respondents, 64 percent represented Fortune 500 industrial companies, 25 percent represented service 100 companies, and 11 percent represented international 100 companies. Table 11-2 on page 316 shows the types of training programs provided to employees.

## GLOBAL EXCHANGE

## HUMAN RESOURCE DEVELOPMENT IN JAPAN

Human resource development in Japan consists of four principal elements. Managers in many Japanese companies believe that the most important element is on-the-job training (OJT).

The second element is a focus on intellectual skills—the know-how to deal with unusual situations such as changes in or problems with production. For example, if a machine is producing defective parts, workers must have sufficient reasoning skills and knowledge to rectify the problem. Japanese manufacturing efficiency is based on production workers with intellectual skills similar to those of production engineers.

Nissan Motors, for example, has gained a reputation for having the most customer-oriented dealers of all auto manufacturers. The company not only trains longer than any other car maker, but insists that every dealer employee—including clerks and secretaries—attend its training. The company's six-day "boot camp" for dealers is heavy on preparing people intellectually for the challenges of selling cars.

The third element of Japanese human resource development is the use of a variety of OJT experiences coupled with short, intensive, off-the-job training (off-JT) to develop necessary skills. Workers gain experience in two to three dozen

positions within a cluster of related workshops or worksites. This broad OJT allows workers to become familiar with a variety of machinery and production methods, and it provides a basis for developing vital intellectual skills.

Theory-oriented off-JT helps workers develop the ability to theorize about and systematize their on-the-job experiences. Japanese workers participate in short (two days to one week) off-JT experiences inserted between OJT every few years.

On a special test track in its training boot camp, Nissan puts everyone behind the wheel of the Infiniti cars they will be selling. For three days participants swoop around the track. They also drive competitors' cars, giving them a chance to learn the difference between how the cars "feel."

The fourth element of human resource development in Japan is fair assessment of skill development and fair compensation. If two workers are doing the same job but one is better at problem solving, that person is compensated accordingly.

Source: Adapted from Kazuo Koike, "Human Resource Development in the Private Sector in Japan," *Workforce Quality: Perspectives from the U.S. and Japan*, International Symposium Report, U.S. Dept. of Labor, 1991, pp. 12–13; and Larry Armstrong, "The Customer as Honored Guest," *Business Week*, October 25, 1991, p. 104.

Figure 11–4 on page 317 breaks down how an estimated \$43.2 billion was spent on formal training in 1991. This amount does not include the cost of employee salaries during training or the hard-to-quantify cost of informal on-the-job training.

Called *human relations programs*, the earliest management programs designed to affect managerial attitudes were oriented toward individual development. Human relations programs were an outgrowth of the human relations movement, which fostered consideration of the individual in the operation of industry from the 1930s to the 1950s. The movement's rationale from the organization's point of view was that an employee-centered liberal supervisory style would lead to more satisfied employees. This, in turn, would reduce absenteeism, employee turnover, and strikes. Sometimes the style also increased performance.

## ■ PERFORMANCE EVALUATION

### Performance evaluation

A postcontrol technique focusing on the extent to which employees have achieved expected levels of work during a specified time period.

**Performance evaluation** is the systematic review of individual job-relevant strengths and weaknesses. Two processes are used in reviewing an individual's job performance: observation and judgment. Both processes are subject to bias or human error. It would be ideal to eliminate evaluation bias and measure only objective indicators of performance, such as number of units produced, cost of completing a unit, or the time to finish a unit. But objective indicators often measure factors beyond a person's control. Therefore subjective criteria such as a manager's rating of a subordinate are often used. It is the manager's rating where bias enters the picture since every rater is asked to observe and then make a judgment on the observations.

TABLE 11-2

Percentages of Firms Providing Various Types of Training to Employees, 1991

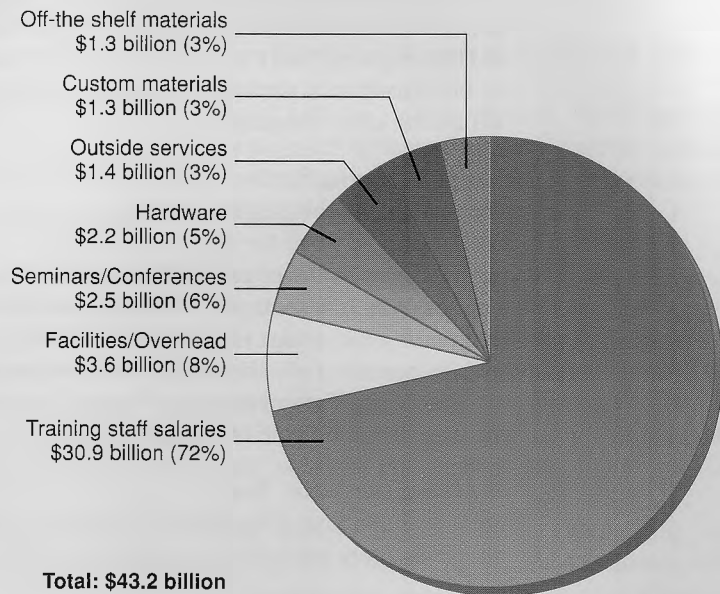
Types of Training	Training Providers (in percent)			
	Total	In-House Staff Only	Outside Consultants Only	Both
New-employee orientation	82%	76%	3%	7%
Performance appraisals	76	53	33	20
Leadership	69	16	13	40
Hiring/selection process	65	31	7	27
Interpersonal skills	64	19	8	37
Word processing	63	24	12	28
New-equipment operation	62	34	4	25
Team building	61	16	10	34
Delegation skills	60	18	12	29
Listening skills	59	22	8	30
Time management	59	15	14	30
Train-the-trainer	59	18	15	26
Product knowledge	58	40	2	16
Goal setting	58	21	8	30
Personal computer applications	57	17	7	33
Motivation	57	15	9	33
Decision making	56	16	11	29
Safety	56	25	2	29
Stress management	54	14	15	26
Computer training	54	10	15	29
Problem solving	53	16	7	30
Quality improvement	50	17	3	30
Managing change	49	14	10	25
Conducting meetings	48	23	7	18
Writing skills	47	13	15	20
Public speaking presentation	47	14	11	22
Planning	46	18	3	25
Data processing	45	13	9	22
Negotiating skills	43	11	12	21
Management information systems	43	8	10	25
Substance abuse	42	11	11	20
Finance	41	13	11	18
Smoking cessation	39	9	18	12
Strategic planning	38	11	8	12
Ethics	37	18	4	19
Marketing	37	10	8	19
Outplacement/retirement planning	36	19	8	9
Purchasing	29	11	7	11
Creativity	27	8	5	14
Reading skills	20	6	7	8
Foreign language	16	5	8	4
Other (topics not listed)	6	3	5	2

Source: Chris Lee, "Who Gets Trained in What." Reprinted with permission from the October 1991 issue of *Training* magazine. Lake-wood Publications, Minneapolis, Minn. All rights reserved.

Deming has called for the elimination of performance evaluation systems. He believes that it is detrimental to improving quality because it angers and alienates employees.<sup>28</sup> He condemns every form of performance evaluation. We believe these comments apply to poorly designed and implemented performance appraisal systems. But his across-the-board indictment is too encompassing. Because of performance appraisal's widespread use over an extended period of time, Deming's condemnation isn't likely to result in its elimination. Performance evaluation doesn't have to discourage quality or teamwork.<sup>29</sup>



FIGURE 11-4  
Dollars Budgeted for Formal  
Training (by U.S. Organizations  
with 100 or More Employees)



Source: Jack Gordon, "Training Budgets: Recession Takes a Bite." Reprinted with permission from the October 1991 issue of *Training* magazine. Lakewood Publications, Minneapolis, Minn. All rights reserved.

Performance evaluation is a difficult process to implement. The problems of bias are hard to overcome. The evaluation itself appears to make raters and ratees uncomfortable. But in terms of HRM, formal evaluations can serve many purposes:

1. To make decisions easier involving promotion, transfer, pay raises, and termination.
2. To help establish training and development programs and evaluate their success.
3. To provide feedback to employees that point to strengths and weaknesses.
4. To predict whether recruitment and selection activities lead to attracting, screening, and hiring the next qualified human resources.
5. To help determine what type of individual can be successful within the organization.

These five purposes can only be accomplished if the evaluation system used satisfies two requirements. It must be relevant to the job(s) being evaluated, and it must be accepted by the raters and ratees. Raters must believe in the importance of evaluation and feedback. Performance evaluation must be viewed as a significant part of the rater's job to motivate human resources. From the ratee's perspective, performance evaluation must be relevant, fair, used by raters familiar with ratees' job performance, and open to modification if flaws are detected. Evaluation systems also must be able to discriminate between good, average, and poor performers.

## Performance Evaluation Methods

Managers usually attempt to select a performance evaluation procedure that will minimize conflict, provide ratees with relevant feedback, and help to achieve organizational objectives. Basically managers must try to develop and implement a performance evaluation program that also can benefit other managers, the work group, and the organization.



worst performers, who are placed in the first and last positions on the ranking list. The next best and next poorest performers then are noted. This continues until all subordinates are on the list. The rater is forced to discriminate by the rank order performance evaluation method.

Some problems are associated with the ranking method. First, ratees in the central portion of the list likely will not be much different from one another on the performance rankings. A second problem involves the size of the group of subordinates being evaluated. Large groups are more difficult to rank than small groups.

**Descriptive Essays** The essay method of performance evaluation requires that the rater describe each ratee's strong and weak points. Some organizations require each rater to discuss specific points, while others allow raters to discuss whatever they believe is appropriate. One problem with the unstructured essay evaluation is that it provides little opportunity to compare ratees on specific performance dimensions. Another limitation involves variations in raters' writing skills. Some simply aren't very good at writing descriptive analyses of subordinates' strengths and weaknesses.

**Behaviorally Anchored Rating Scales** Behaviorally anchored rating scales (BARS) are constructed through the use of *critical incidents*.<sup>30</sup> Critical incidents are examples of specific job behaviors that determine various levels of performance. Once the important areas of performance are identified and defined by employees who know the job, critical incident statements are used to discriminate among levels of performance. The form for a BARS usually covers 6 to 10 specifically defined performance dimensions, each with various descriptive behaviors. Each dimension is based on observable behaviors and is meaningful to the employees being evaluated.

Figure 11-5 (p. 320) shows an example of BARS for a performance competence dimension for engineers. The dimension is defined for the rater; the behaviors define the particular response categories for the rater; and the rater's response is precise and easy to interpret. Feedback provided by the BARS is clear and meaningful. For example, if the ratee is given a 1.5 on a dimension, she is told the specific behavior that the rater evaluated.

A number of advantages can be associated with the use of BARS. Since job-knowledgeable employees participate in the actual development steps, the final evaluation form should be acceptable as a measure of actual performance.

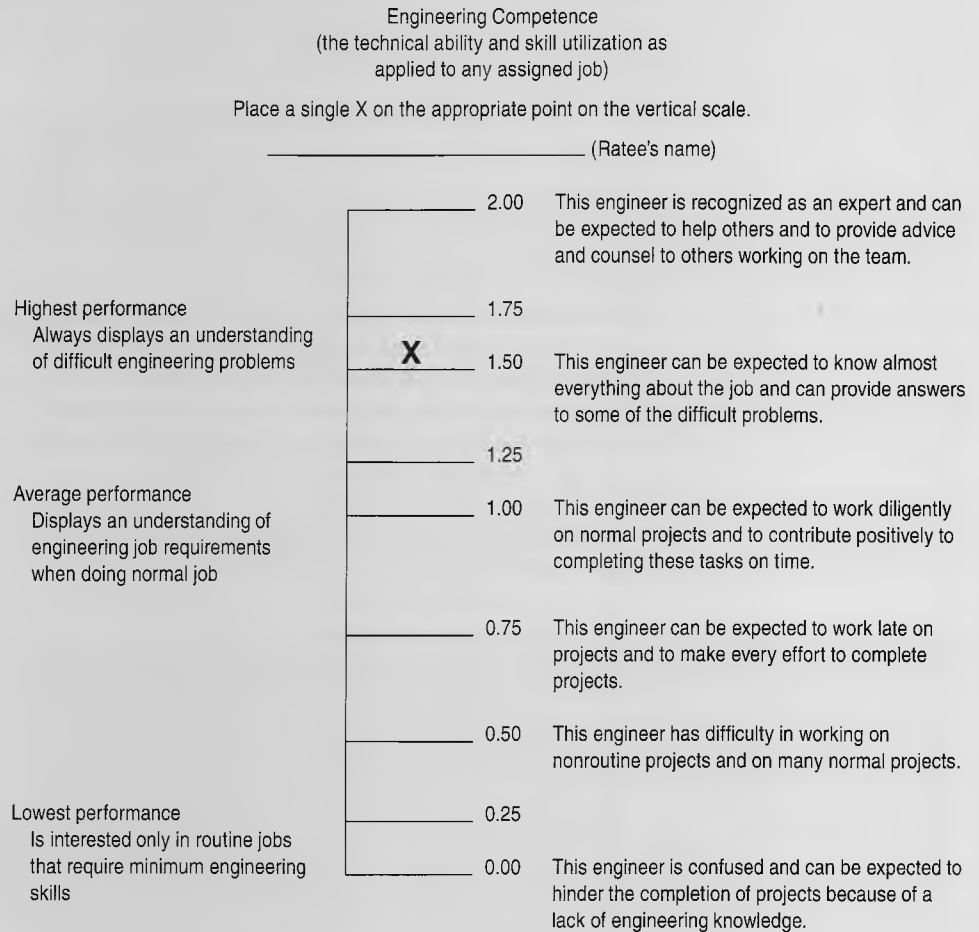
The use of BARS also provides valuable insight into developing training programs. The skills to be developed are specified in terms of actual behavioral incidents rather than abstract or general skills. Trainees in a BARS-based program could learn expected behaviors and how job performance is evaluated.

A behaviorally anchored evaluation system may minimize rating errors. However, some critics of BARS have presented results indicating that the approach is not always the most relevant, stable, and practical. These critics also suggest that more research comparing BARS with the traditional evaluation methods is needed.<sup>31</sup>

Despite the time, cost, and procedural problems of developing and implementing BARS, this system seems to have some advantages. Specifically, a BARS program can minimize subordinates' defensive attitudes toward evaluation. By being involved in the development of BARS, subordinates can make their inputs known. These inputs can be incorporated into the final BARS. The BARS development steps could include both superiors and subordinates. In a sense, then, all parties involved can contribute to the creation of the evaluation criteria (dimensions) and the behavioral incidents that are used to define each level of performance.

**Rating Errors** The numerous traditional performance evaluation methods each have problems and potential rating errors. The major problems and errors can be technical in the form of poor reliability, poor validity, little practicality, or rater misuse. In some situations, raters are extremely harsh or easy in their evaluations. These are called

FIGURE 11-5  
A BARS Performance Dimension



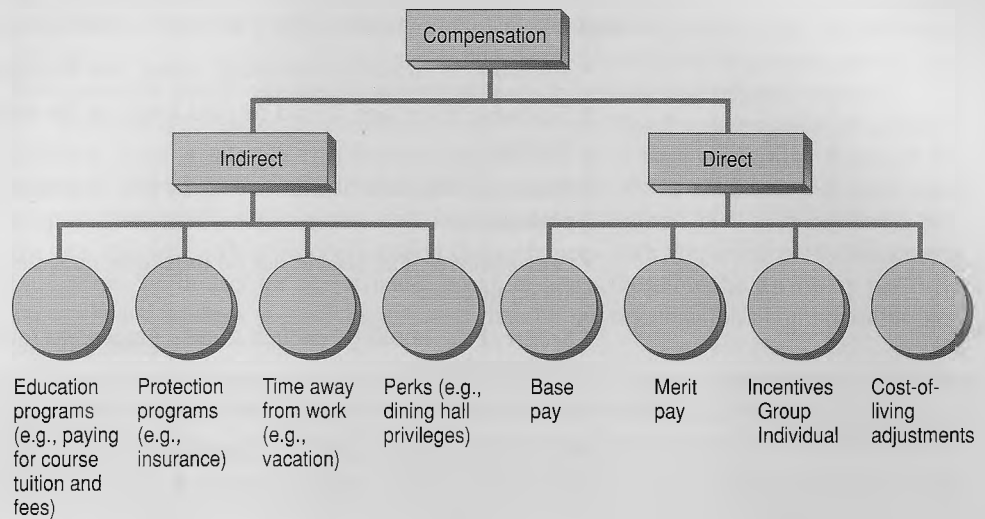
*strictness or leniency rater errors.* The harsh rater tends to give lower-than-average ratings to subordinates. The lenient rater tends to give higher-than-average ratings. These kinds of rating errors typically result because raters apply their own personal standards to the particular performance evaluation system being used. For example, the words *outstanding* or *average* may mean different things to various raters.

Rating errors can be minimized if:

1. Each dimension addresses a single job activity rather than a group of activities.
2. The rater can observe the ratees' behavior on a regular basis.
3. Terms such as *average* are not used on rating scales, since different raters react differently to such words.
4. The rater does not have to evaluate large groups of subordinates. Fatigue and difficulty in discriminating among ratees become major problems when large groups of subordinates are evaluated.
5. Raters are trained to avoid leniency, strictness, and other rating errors.
6. The dimensions being evaluated are meaningful, clearly stated, and important.

*Halo error* involves the rating of a single worker on several aspects of performance. When there is a significant halo error a high correlation among the rater's scores across several performance areas exists. For example, a manager may be asked to rate an employee on quality, teamwork, finishing projects, and initiating projects. In general, a worker would be expected to be good in some of these areas and not so good in other areas so the correlation among the ratings would be moderate to low. When halo error occurs, such a worker receives nearly identical ratings on all the performed areas.

FIGURE 11-6  
Types of Compensation



## ■ COMPENSATION

### compensation

The HRM activity that deals with every type of reward that individuals receive for performing organizational tasks.

**Compensation** is the HRM activity that deals with every type of reward that individuals receive for performing organizational tasks. It is basically an exchange relationship. Employees exchange their labor for financial and nonfinancial rewards. Financial compensation is both direct and indirect. *Direct financial compensation* consists of the pay an employee receives in the form of wages, salary, bonuses, and commissions. *Indirect financial compensation* (also called *benefits*) consists of all financial rewards that are not included in direct financial compensation such as vacation and insurance. Figure 11-6 presents a number of direct and indirect forms of compensation.

Nonfinancial rewards like praise, self-esteem, and recognition (see Chapter 13) also affect employees' satisfaction with the compensation system. Levels of employees' quality and quantity of productivity can be related to nonfinancial rewards as well. A more comprehensive study of compensation would include a special section on nonfinancial rewards.

From the employees' point of view, pay is a necessity in life. The compensation received from work is one of the chief reasons people seek employment. Pay is the means by which they provide for their own and their families' needs. For some people compensation may be the only (or certainly a major) reason why they work. Others find compensation a contributing factor to their efforts. But pay can do more than provide for employees' psychological needs. People's pay indicates their worth to an organization.

Compensation often equals 50 percent of the cash flow of an organization. For some service organizations, it is an even larger percentage. It may be the major method used to attract employees as well as a way to try to motivate them toward more effective performance. Compensation is significant to the economy. For the past 30 years salaries and wages have equaled about 60 percent of United States' and Canada's GNPs.

The quality improvement emphasis on teamwork and shared responsibility is usually better suited for team-based compensation and incentive systems. When individual merit pay systems create a competitive situation, they may be contrary to what quality improvement requires. Group, plant, and organizationwide systems seem more compatible with quality enhancement.

### Compensation Objectives

The objective of the traditional compensation function is to create a system of rewards that is equitable to employer and employee alike. The desired outcome is an employee

who is attracted to the work and motivated to do a good job for the employer. Patton suggests that compensation policy has seven criteria for effectiveness:

- *Adequate.* Minimum government, union, and managerial pay levels should be met.
- *Equitable.* Everyone should be paid fairly, in line with their effort, abilities, and training.
- *Balanced.* Pay, benefits, and other rewards should provide a reasonable total reward package.
- *Cost-effective.* Pay should not be excessive, considering what the organization can afford to pay.
- *Secure.* Pay should be enough to help employees feel secure and aid them in satisfying basic needs.
- *Incentive-providing.* Pay should motivate effective, productive work.
- *Acceptable to the employee.* Employees should understand the pay system and feel that it is reasonable for the enterprise and themselves.<sup>32</sup>

Pay can be determined absolutely or relatively. Some people have argued that a pay system set by a single criterion for the whole nation or the world (i.e., the absolute control of pay) is the best procedure. Since absolute pay systems are not used, however, the pay for each individual is set relative to the pay of others. Pay for a particular position is set relative to three groups:

- Employees working on similar jobs in other organizations (Group A).
- Employees working on different jobs within the organization (Group B).
- Employees working on the same job within the organization (Group C).

The decision to examine pay relative to Group A is called the *pay-level decision*. The objective of the pay-level decision is to keep the organization competitive in the labor market. The major tool used in this decision is the pay survey (discussed later in this chapter). The pay decision relative to Group B is called the *pay-structure decision*. The pay structure involves setting a value on each job within the organization relative to all other jobs. This uses an approach called job evaluation. The decision involving pay relative to Group C is called *individual pay determination*.

## Compensation and Performance

Increasing payroll costs of the 1990s and competition in the global marketplace have caused managers throughout the world to search for ways to increase productivity by linking compensation to employee performance.<sup>33</sup> High performance requires much more than employee motivation. Employee ability and health, adequate equipment, good physical working conditions, effective leadership and management, safety, and other conditions all help raise employee performance levels. But employees' motivation to work harder and better is obviously an important factor. A number of studies indicate that, if pay is tied to performance, the employee produces a higher quality and quantity of work.<sup>34</sup> Not everyone agrees with this. Some researchers argue that if you tie pay to performance, you destroy the intrinsic rewards a person gets from doing the job well.<sup>35</sup> Intrinsic rewards are powerful motivators too, but research on them has been limited to only a few studies. Money's importance to employees varies among individuals. If the organization claims to have an incentive pay system but in fact pays for seniority, the motivation effects of pay will be lost. The key to making compensation systems more effective is to be sure that they are directly connected to expected behaviors.<sup>36</sup>

In sum, theorists disagree over whether pay is a useful mechanism to increase performance. Because of individual differences in employees and jobs, it seems more fruit-

ful to redirect this research to examine (1) the range of behaviors that pay can affect positively or negatively, (2) the amount of change in worker behavior pay can influence, (3) the kinds of employees whom pay influences positively and negatively, and (4) the environmental conditions present when pay leads to positive and negative results.

It can be said that organizations view performance-based compensation programs as anything from a miracle cost-reallocation process to a time-consuming waste of resources.<sup>37</sup> All of these views have merit. To implement such a program, managers must keep in mind that a performance-based compensation system's goal is to develop a productive, efficient, effective organization that enhances both employee performance and motivation.<sup>38</sup> The pay for performance program must, therefore, be driven by performance-oriented systems and processes rather than by the organization's compensation system and processes.

Developing a system that shows employees that pay is tied to performance requires a number of managerial skills. First, managers must be able to allocate pay on the basis of merit. Any merit pay increase must be meaningful, not a token, if it is to be motivational. Second, managers must be willing to specifically discriminate in terms of rating and rewarding performance. Third, managers must communicate the pay system at the time of employment in terms of initial pay, expected long-term pay progressions, and pay adjustments.<sup>39</sup> The manager should also inform the employee that performance levels are required to obtain the pay increases. Finally, managers must have the ability to discuss the pay for performance linkage with subordinates.

The first step in the direction of creating a pay for performance work culture is to develop performance evaluation systems that are considered equitable, meaningful, and comprehensive by both managers and employees. Deming concludes that this is not possible to do with evaluation. When pay rewards cannot be linked to measurable performance, management has a problem. That is, if performance measures are poorly developed, employees will have difficulty perceiving the connection between pay and performance. Thus if compensation is to have any influence on motivation, it is crucial to develop accurate measures of performance.

Linking pay to performance has become simpler than was originally thought due to computer technology.<sup>40</sup> Modern spreadsheet programs used on personal computers enable us to take performance evaluation ratings and directly transform them into projected pay increases. These pay increases can be costed out accurately and subsequently tied to the firm's overall financial strategy. Note, however, that this linkage is predicated on a performance evaluation system that is in place and is adequately communicated to and accepted by employees.

## Selected Methods of Compensation

Employees can be paid for the time they work (flat rates), the output they produce (individual incentives), or a combination of these two factors.

**Flat Rates** In the unionized firm where wages are established by collective bargaining, single *flat rates* rather than different rates are often paid. For example, all clerk typists might make \$6.50 per hour, regardless of seniority or performance. Flat rates correspond to some midpoint on a market survey for that job. Using a flat rate doesn't mean that seniority and experience do not differ. It means that employers and the union choose not to recognize these variations when setting wage rates. Unions insist on ignoring performance differentials for many reasons. They contend that performance measures are inequitable. Jobs need cooperative effort that could be destroyed by wage differentials. Sales organizations, for example, pay a flat rate for a job and add a bonus or incentive to recognize individual differences.

Choosing to pay a flat rate versus different rates for the same job depends on the objectives established by the compensation analyst. Recognizing individual differences



Jeffrey W. Myers/Stock, Boston

This salesperson is attempting to make a sale and earn an incentive.

makes the assumption that employees are not interchangeable or equally productive. By using pay differentials to recognize these differences, managers try to encourage an experienced, efficient, and satisfied work force.

#### Individual Incentives

A form of compensation in which the employee is paid for units produced.

**Individual incentives** Perhaps the oldest form of compensation is the **individual incentive plan** in which the employee is paid for units produced. Individual incentive plans take several forms: *piecework*, *production bonuses* and *commissions*. These methods seek to achieve the incentive goal of compensation.<sup>41</sup>

Straight piecework usually works like this. An employee is guaranteed an hourly rate (often the minimum wage) for performing an expected minimum output (the standard). For production over the standard, the employer pays so much per additional piece produced. This is probably the most frequently used incentive pay plan. The standard is set through work measurement studies as modified by collective bargaining. The base rate and piece rate may emerge from data collected by pay surveys.

A variation of the straight piece rate is the differential piece rate. In this plan, the employer pays a smaller piece rate up to the standard and then a higher piece rate above the standard. Research indicates that the differential piece rate is more effective than the straight piece rate, although it is much less frequently used.<sup>42</sup>

Production bonus systems pay an employee an hourly rate. Then a bonus is paid when the employee exceeds the standard, typically 50 percent of labor savings. This system is not widely used.

Commissions are paid to sales employees. Straight commission is the equivalent of straight piecework and is typically a percentage of the item's price. A variation of the production bonus system for sales is to pay salespeople a small salary and commission or bonus when they exceed standards (the budgeted sales goal).



## ETHICS SPOTLIGHT

## DEC'S VIEW OF ENCOURAGING ETHICS

Human resource practices and ethics are tied together in a "reward the whistleblower" program at Digital Equipment Corporation (DEC). A whistleblower is a person who believes that a violation of the rules or procedures has occurred and informs a superior or person external to the organization about the situation. In an interesting case, a DEC employee received proprietary information from another company that he thought he shouldn't have. He informed his manager, who said not to worry. The employee then informed a senior manager in the division that his immediate manager told him not to worry. The immediate manager was fired for violating policy.

The employee was thanked for his actions. Later, during the course of his regular salary review, he received a bonus for his whistleblowing. But most companies expect employees to adhere to the company's standards and values, and there is no whistleblowing bonus.

DEC believes that rewards and recognition are part of the ethics process. The employee took a risk because the system

encourages silence. It takes courage to buck the system. DEC wants the message circulated that it is serious about ethical behavior.

DEC has initiated an ethics education approach in conducting training programs. Ethics education is used in negotiations training, selection interviewing programs, downsizing policy training, senior human resources training, and performance evaluation training.

DEC has also created a Business Conduct Committee comprised of senior executives. Most cases handled by the committee involve conflicts of interest. The committee meets as needed to resolve ethical dilemmas expressed or written by employees.

There are questions about the ethics surrounding payment of a bonus for whistleblowing. Can this practice create more problems than it solves?

Source: Adapted from "Digital Rewards Ethical Employees Who Buck the System," *Ethikos*, July-August 1991, pp. 5, 7, 16.

Individual incentives are used more frequently in some industries (clothing, steel, textiles) than others (lumber, beverage, bakery) and more often in some jobs (sales, production) than others (maintenance, clerical). Individual incentives are possible only in situations where performance can be well specified in terms of output (sales dollars generated, number of items completed). In addition, employees must work independently of each other so that individual incentives can be applied equitably. Digital Equipment Company (DEC) uses an incentive system to reward whistleblowing. The Ethics Spotlight concerns ethical features of this type of incentive.

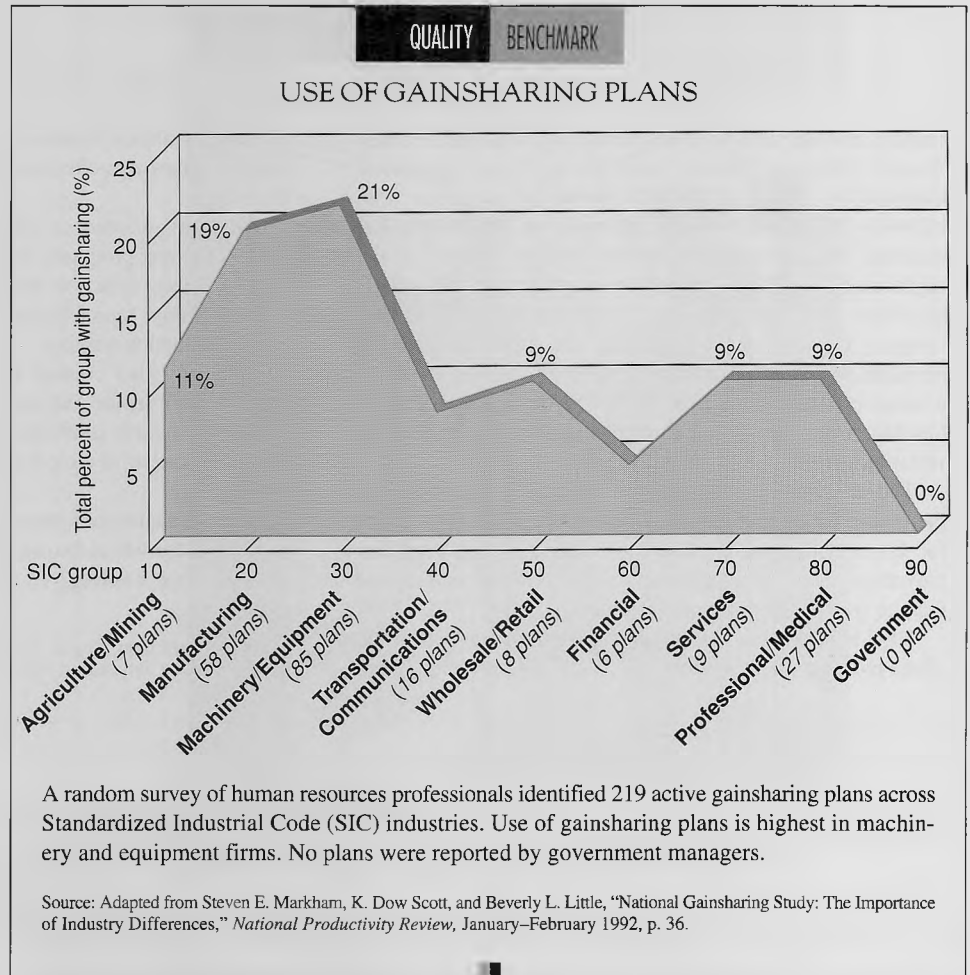
Are individual incentives effective? The research results are mixed.<sup>43</sup> Most studies indicate they do increase output though other performance criteria may suffer. For example, in sales, straight commissions can lead to less attention being paid to servicing accounts. Working on hard-to-sell customers may be neglected because the salesperson will elect to sell to easy customers. There is also evidence of individual differences in the effect of incentives on performance.<sup>44</sup> Some employees are more inclined to perform better than others. This should not be a surprise since we know that people have varying motivations to work.

Each individual-oriented pay plan is attacked by advocates of teamwork and employee involvement-oriented plans. The encouragement of teamwork is assumed to be virtually impossible with the traditional plans for compensating excellent individual performance<sup>45</sup>—a position expressed again and again by Deming and many of his followers.

**Gainsharing Incentive Plans** Gainsharing plans are companywide group incentive plans. Their goal is to unite diverse organizational elements behind the common pursuit of improved organizational effectiveness by allowing employees to share in the proceeds.<sup>46</sup> The system has proven to be exceptionally effective in enhancing organization-wide teamwork. Gainsharing plans that use cash awards and have been in place for at least five years have shown productivity ration improvements resulting in labor cost reductions of 29 percent.<sup>47</sup>

#### gainsharing plans

A compensation system based on a companywide incentive system that results in the sharing of rewards caused by improved productivity, cost reductions, or improved quality.



Since 1983 more and more companies have been implementing gainsharing plans using a formula that establishes a bonus based on improved productivity. Gainsharing rewards are normally distributed on a monthly or quarterly basis.<sup>48</sup> The factors that dictate a gainsharing plan's success include (1) company size, (2) age of the plan, (3) the company's financial stability, (4) unionization, (5) the company's technology, and (6) employees' and managers' attitudes. A gainsharing plan is expensive to administer, so projected benefits must be weighed against costs.

Linking pay to group performance and the creation of team spirit are two reasons cited for gainsharing's rising popularity.<sup>49</sup> For gainsharing to succeed, it must be supported by management. Management must also understand what gainsharing can and can't accomplish in order to optimize this type of group-based incentive program.

The traditional forms of gainsharing—the Scanlon Plan, Rucker Plan, and Improshare—are differentiated by their performance measures.<sup>50</sup> These are organizational systems for sharing benefits (paid in the form of cash bonuses) for improved productivity, cost reductions, or improvements in quality.<sup>51</sup> America's first gainsharing plan was set up in 1935 by the Nunn-Bush Shoe Company in Milwaukee. Today gainsharing plans are found in all types of organizations. Most plans, however, are at large, unionized manufacturers in the Midwest.

*Lincoln Electric Plan* The most successful gainsharing or productivity-sharing plan at a single company is the Lincoln Electric Plan. Lincoln is a manufacturer of arc welding machinery and electric motors in Cleveland, Ohio. Domestic sales totaled \$385 million in 1992.<sup>52</sup> The company claims that its impressive profits stem from an inspired work

force and entrepreneurial management ideas. Lincoln's gainsharing plan was developed by James F. Lincoln, who headed the company for 50 years and wrote the book *Incentive Management*. With a work force of 2,500, the company has a mere 3 percent annual turnover, including retirements. Employees are paid only for what they individually produce. There are no paid holidays and no unions. Promotions are based on merit. Job reassignments must be accepted, and overtime is mandatory. The basic compensation system at Lincoln rests on the following principles: (1) All compensation is based on piecework. (2) There are no perquisites for managers. (3) After two years of employment, the worker can't be laid off. (4) There is no mandatory retirement. An average Lincoln line employee makes \$45,000 per year.

An advisory board of several executives and about 30 employees reviews and makes suggestions for company improvements. The firm has a stock purchase plan in which about two thirds of the employees participate; they now own about one third of the total stock. The stock is privately traded and not sold on any exchange. Employees hire replacements for vacancies in their work group. The company basically subcontracts the work to the work group, using past performance and time studies as standards of performance. When these standards are beaten, the employees share generously in the gains. This bonus isn't used as a substitute for adequate wages for Lincoln Electric, but is an enhancement for a job well done.

## The Equal Pay Act

Today U.S. women working full-time earn only about 65 to 70 percent of what men earn.<sup>53</sup> Historically it was felt that women worked sporadically to being in money for luxuries. The Virginia Slims opinion poll of 1990 found that women and men work for the same primary reason.<sup>54</sup>

The Equal Pay Act (1963) amending the Fair Labor Standards Act is the first anti-discrimination law relating directly to females. The act applies to all employers and employees covered by the fair Labor Standards Act, including executives, managers, and professionals. The Equal Pay Act requires equal pay for equal work for men and women. It defines equal work as employment requiring equal skills, effort, and responsibility under similar working conditions.<sup>55</sup>

Under the Equal Pay Act, an employer can establish different wage rates on the basis of (1) seniority, (2) merit, (3) performance differences (quantity and quality of work) and (4) any factor other than sex. Shift work differentials are also permissible. But all these exceptions must apply equally to men and women. Since passage of the act, the female-male earnings gap has narrowed slightly. And, between 1979 and 1987, the narrowing of the gap reflected increases in earnings per hour rather than in number of hours worked.<sup>56</sup> In an effort to close the remaining earnings gap, there has been a growing movement in the past few years to have the widely accepted concept of equal pay for equal jobs expanded to include equal pay for comparable jobs. Thus, for young people entering the work force today, there is practically no difference between the sexes' wages within a single job; the male/female wage discrepancy is heavily generational.

## Comparable Worth

The doctrine of comparable worth (sometimes called pay equity) is not a position that provides that women and men be paid equally for performing equal work. **Comparable worth** is a concept that attempts to prove and remedy the allegation that employers systematically discriminate by paying women employees less than their work is intrinsically worth, relative to what they pay male employees who work in comparable professions. The term *comparable worth* means different things to different people. Comparable worth relates jobs that are dissimilar in their content (for example, nurse and plumber) and contends that individuals who perform jobs that require similar skills, efforts, and responsibilities under similar work conditions should be compensated equally.<sup>57</sup>

### comparable worth

A concept that attempts to prove that individuals who perform jobs requiring similar skills, efforts, and responsibilities under similar work conditions should be compensated equally.

Advocates of comparable worth depend primarily upon two sets of statistics to demonstrate that women employees are discriminated against by employers. First, they point to statistics that show that women earn from 59 to 88 percent less than male employees overall.<sup>58</sup> For example, the U.S. Census Bureau found that in 1992 the median average income for college educated females aged 25 or older is \$21,659, only slightly more than their male counterparts receive with only a high school education, \$21,650.<sup>59</sup> Second, women tend to be concentrated in lower-paying, predominately female jobs. In spite of the fact that more women are entering the work force, about one fourth of all women employed in 1988 worked in three job categories: secretarial/clerical, retail sales, and food preparation and service.<sup>60</sup>

As for the issue of comparable worth, in a five-to-four decision on June 9, 1984, the Supreme Court ruled that a sex discrimination suit can be brought under the 1964 Civil Rights Act on a basis other than discrimination based on "equal or substantially equal work."<sup>61</sup> The suit involved Washington County, Oregon, prison matrons claiming sex discrimination because male prison guards, whose jobs were somewhat different, received substantially higher pay. The county has evaluated the males' jobs as having 5 percent more job content than the females' jobs, and paid the males 35 percent more. On July 1, 1984, the state of Washington began wage adjustment payments to approximately 15,000 employees. For example, women in female-dominated jobs now receive \$4.17 more per week. This was the first of several adjustments aimed at eliminating state pay disparities between male and female jobs by 1993.<sup>62</sup>

## ■ BENEFITS AND SERVICES

### DEFINITION

Indirect financial compensation consisting of all financial rewards not included in the direct financial compensation package.

Indirect financial compensation, called **benefits** and services, consists of all financial rewards that are not included in direct financial compensation. Unlike pay for performance programs and incentive plans, benefits and services are made available to employees as long as they are employed by the organization. Annual surveys suggest that about 75 percent of all U.S. workers say that benefits are crucial to job choice. If limited to only one benefit (beyond cash), 64 percent say that health care is most important.<sup>63</sup>

Employee benefits and services are part of the rewards of employment that reinforce loyal service to the employer. Major benefits and services programs include pay for time not worked, insurance, pensions, and services like tuition reimbursement.

This definition of benefits and services can be applied to hundreds of programs. There is a lack of agreement on what is or is not to be included, the purposes to be served, responsibility for programs, the costs and values of the various elements, the units in which the costs and values are measured, and the criteria for decision making. Compensation decisions with respect to indirect compensation are more complex than decisions concerned with wages and salaries.

### Benefits Required by Law

The programs offered in work organizations today are the product of efforts in this area for the past 60 years. Before World War II, employers offered a few pensions and services because they had employees' welfare at heart or they wanted to keep out a union. But most benefit programs began in earnest during the war, when wages were strictly regulated.

The unions pushed for nonwage compensation increases, and they got them. Court cases in the late 1940s confirmed unions' right to bargain for benefits: *Inland Steel v. National Labor Relations Board* (1948) over pensions, and *W. W. Cross v. National Labor Relations Board* over insurance. The growth of benefit programs indicates how much unions have used this right. In 1929 benefits cost employers 3 percent of total wages and salaries; by 1949 the cost was up to 16 percent and in the 1970s it was nearly 30 percent. By 1990 costs of benefits and services totaled about 50 percent.<sup>64</sup>

## REFLECTIONS BY PHILIP B. CROSBY

## HUMAN RESOURCE MANAGEMENT

Unfortunately even the best intended human resource functions and programs usually turn out to have some negative impact; people just do not like to be regulated. Even such helpful things as pension programs, ESOPs (employee stock option plans), and savings programs can affect people the wrong way. Most folks do not peer into the future too well when it comes to their work life. They like things now, not later. Many of those who work in HR discover that trying to help people is the most frustrating mission of all.

All of this relates to quality since we all know that one of the main supporting legs of that effort is employees' morale and cooperative spirit. Traditional benefit programs are supposed to help bolster that spirit and yet often do not, no matter how often or how well they are explained. It has always seemed to me that this is because they are not personal enough. I know that nothing should seem more personal than a pension or health care program, but people look at them as entitlements. They think the company is not going out of its way in providing them. So you get no points for doing, but lose points for not doing.

However there is at least one program that is always taken personally, is viewed as a great and

much appreciated benefit, and does not cost much. That is assistance with child care for both male and female employees.

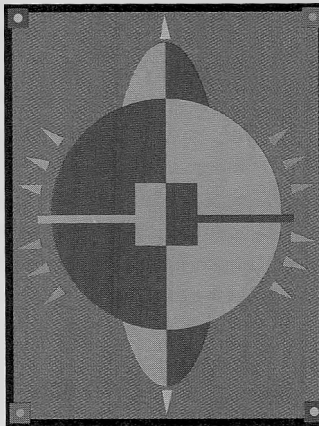
I set up a child care funding program in our company, over the objections of HR and the executive committee. It cost us about \$100 per month per child. The employees who were directly affected were more thrilled than I have ever seen employees be thrilled.

They would seek me out when I walked through the company to shake my hand or give me a hug, or both. Even those who had no eligible children thought the program was wonderful, and that is a rare thing. Usually those who do not benefit from something are upset about it.

The aspect of all this that I never shared with anyone was that the program began when I had a conversation with our receptionist. She told me that half her calls in the afternoon were from children or babysitters checking in with parents. From that I figured that the child care

program would gain the company a lot more work output and a lot less time settling sibling arguments. And it worked out that way. Her parent-child calls dropped to a dribble, with most concerning someone being sick.

So I gained a reputation for being altruistic when in reality I was being a money-grubbing opportunist.



## Additional Benefits and Retirement Plans

In addition to benefits required by the law (such as unemployment insurance, social security, and workers' compensation), many employers also provide other kinds of benefits: compensation for time not worked, insurance protection, and retirement plans. There are many differences in employers' practices regarding these benefits. The most widely used benefits include paid vacations, holidays, and sick leave, life insurance, medical insurance, and pension plans.

**Child Care** Two fairly recent additions to benefits packages are child care and elder care. Nearly 50 percent of today's workers are women and as many as 70 percent of these women have children under age six at home. The Bureau of the Census reports that working mothers pay about \$15.1 billion per year for child care while they work. The U.S. Dept. of Labor estimates that by 1995 more than 80 percent of the women between the ages of 25 and 44 will be working outside the home at least part-time. This suggests that child care programs will become a necessity.<sup>65</sup>

Regardless of these facts, only a small number of U.S. employers offer child care assistance to their employees.<sup>66</sup> Child care needs and preferences are very diverse.

Seventy-seven of the 4,000 companies providing child care, approximately half provide financial assistance, typically through a dependent care option. The Internal Revenue Service Code permits up to \$5,000 of employee payments for dependent care expenses to be excluded from an employee's annual taxable income.<sup>67</sup>

One company that offers child care assistance is Boehringer Ingelheim Corporation, a pharmaceutical firm whose highly trained, skilled work force is 45 percent female.<sup>68</sup> Its child care plan, begun in 1987, covers six different areas: (1) up to eight weeks unpaid leave after the birth or adoption of a child, (2) an Internal Revenue Code Section 129 flexible spending account for child care expenses, (3) reimbursement of up to \$1,000 for adoption fees, (4) a half-hour accommodation time for employees with preschool- or school-age children, (5) provision of child care information, and (6) support of a child care consortium of employers.

**Elder Care** People age 65 or older will comprise 23 percent of the U.S. population by 2050.<sup>69</sup> The ratio of elderly to those of working age was approximately 20 per 100 in 1990 and will be 22 per 100 by 2010.<sup>70</sup> Recent research shows that at least 20 percent of all employees already provide assistance to one or more elderly relatives or friends. On average, these employees spend between 6 to 35 hours per week providing this care. At least 50 percent of these employees also have children at home. The burden falls most heavily on the working woman who traditionally took care of elderly relatives and did not work outside the home. Employees who are also caregivers to seniors experience the following problems: missed work (58 percent), loss of pay (47 percent), and less energy to do their work well (15 percent).

## ■ SPECIAL ISSUES IN HUMAN RESOURCES

The HRM topics already discussed affect quality enhancement. Each topic is important and must be properly managed to ensure the efficient use of human resource abilities, skills, and experience. In addition, however, three special issues—AIDS, sexual harassment, and substance abuse—have become significant in the workplace.

### AIDS in the Workplace

There are many reasons why a company should be knowledgeable about and have a plan to deal with acquired immune deficiency syndrome (AIDS). There is the moral reason that people are dying and organizations are likely to be involved by simply being a part of society. Today about every 54 seconds, another person is infected with the AIDS virus.<sup>71</sup> AIDS is already the leading cause of death of men between 24 and 35 years old. The law of probability suggests that AIDS will enter every workplace eventually. Individuals, work groups, and departments will feel the tragedy of AIDS.

For organizations, AIDS is likely to result in increased costs in medical benefits, as well as short-term and long-term disability coverage, plus lost productivity. The cost of treating U.S. AIDS patients could soar beyond \$11 billion annually in 1994.<sup>72</sup>

Organizations are developing AIDS policies to help minimize some of the fear about the illness and also as a line of defense against discrimination lawsuits. But when New England Telephone allowed an employee diagnosed with AIDS to return to work, some employees refused to work in the same facility and walked off the job.<sup>73</sup> This points out the vital importance of educating employees as part of a comprehensive AIDS awareness program. The Principal Financial Group in Des Moines, Iowa, has published articles on AIDS in its monthly magazine.

Ciba Corning Diagnostics Corporation has a mandatory program of AIDS education for all employees.<sup>74</sup> Video presentations, discussions, reading material, and question-

and-answer sessions are used. Managers in their program discuss legal issues. Every employee receives a packet that includes AIDS awareness readings.

The 1992 Americans with Disability Act (ADA) protects individuals with a disability (e.g., AIDS) from being discriminated against in terms of hiring, advancement, compensation, training, or other conditions of employment. Under the ADA, employers may require employee physicals only if the exams are clearly job-specific and consistent with business necessity and then only after an offer of employment has been made to a job applicant.<sup>75</sup>

A major concern of organizations is finding a balance between the rights of a person with AIDS and coworkers' rights to a healthy, safe environment. Education, counseling, and safety are the keys to minimizing the impact AIDS will have on an organization. Assuming individuals are knowledgeable about AIDS is not warranted. Misperceptions at all levels of organizations are commonplace. Typically most companies fail to develop an AIDS awareness program until it suffers its first or a number of AIDS cases. Taking the initiative is overdue in the United States, especially when AIDS has resulted in the deaths of over 200,000, mostly young, Americans in one decade.

## Sexual Harassment

According to public opinion polls, the majority of American women believe they have experienced sexual harassment on the job. As the law has evolved, two types of conduct have been found to constitute sexual harassment in violation of Title VII of the Civil Rights Act. The first type, originally identified in 1977, is the designated *tangible job benefit*, also known as *quid pro quo harassment*. This form of harassment occurs when an employee's career path is directly impacted by a supervisor's unwelcome requests for sexual favors or other sexual advances.

A second type of sexual harassment is a *hostile work environment*. The elements necessary for proving a hostile work environment-related sexual harassment claim are stated by a New York State case:

*A person would have to show that 1) he or she belongs to a protected group (i.e., female or minority group); 2) he or she was subject to unwelcome sexual harassment as defined above; 3) the harassment complained of was based upon his or her membership in the protected class; and 4) the harassment complained of affected the terms, conditions, or privileges of his or her employment.*

The creation of a work environment in violation of Title VII can occur in many ways depending on the size of the work force, managers' sensitivity to sexual harassment, and the dynamics of the workplace.

As Clarence Thomas's 1991 Supreme Court hearings confirmed, sexual harassment cases are difficult to unravel. Often they involve one person's word against another's. The nation watched as Anita Hill described a series of incidents she found offensive. Clarence Thomas denied that the incidents occurred. Thomas was eventually confirmed to the Supreme Court seat, but the hearings were a catalyst in sexual harassment becoming a major concern across the United States.

Sexual harassment can cause lasting emotional damage, depression, and reduced productivity. Each of these consequences is costly to individuals and organizations. One study estimated that the cost to the federal government resulting from sexual harassment over a two-year period was about \$267 million.

The number of sexual harassment complaints filed with the Equal Employment Opportunity Commission (EEOC) has dramatically increased from 3,456 in 1981 to 5,694 in 1990. Since most victims don't file with the EEOC, these figures represent only some of the incidents. As the problem continues, managers are advised to develop a program to combat sexual harassment. Typically a company-based program involves (1) development of a sexual harassment policy and complaint resolution procedure,

(2) training managers to implement the policy and procedure, (3) educating employees to recognize and confront harassment, (4) providing follow-up care after harassment incidents, and (5) monitoring the workplace for awareness of and compliance with sexual harassment policies.<sup>76</sup>

E. I. Du Pont de Nemours & Company has acquired a reputation as a progressive firm in terms of HRM training on sexual harassment. In 1981 the company prepared and delivered a program to educate managers about the law and sexual harassment. This original program was expanded to include everyone in the firm. A program called "A Matter of Respect" was launched in 1988. To date about 70,000 of Du Pont's 95,000 U.S. employees have completed the workshop. Each session is led by male and female instructors who examine, critique, and role play real-life situations. Video vignettes are also discussed and analyzed. The discussions are designed to help participants examine their own attitudes. Participants also talk to each other and learn that different viewpoints are held and that misunderstandings can easily emerge.<sup>77</sup>

Under Du Pont's policy (which employees firmly believe), reported harassment incidents are fully investigated immediately. The rights of both the accuser and the accused are protected at all times. If the investigation reveals that harassment has occurred, disciplinary action in line with the seriousness of the circumstance is immediately meted out. Some Du Pont harassers have been reprimanded, while others have been terminated. Du Pont's program has been such a success that it now markets "A Matter of Respect" to other companies.

The seriousness of sexual harassment and why it must be dealt with through policies, increased awareness, and training are captured by a statement of the U.S. Merit Protection Board:

*Victims pay all the intangible emotional costs inflicted by anger, humiliation, frustration, withdrawal, dysfunctional family, and other damages that can be sexual harassment's aftermath. Victims of the most severe forms of harassment, including rape, can face not only severe emotional consequences, but also the possibility of a life-threatening disease. Some victims may leave jobs for one with a lower career path in order to escape the sexual harassment.*<sup>78</sup>

Due to its trauma and potential impact, sexual harassment demands prompt managerial action. It is impossible for a worker to pay attention to the quality of production or service when harassment is occurring. Corrective action is required because of the need to protect the rights of every worker. It is also required because the law (although it's gray in some areas) indicates that employers are liable for sexual harassment. In fact, employers may also be responsible for the acts of its employees. For example, where an employer (or its agents) knows or should know of the harassment and fails to take immediate and corrective action, the employer may be held liable. Sending a clear message that sexual harassment of any form will not be tolerated is a recommended course of action.<sup>79</sup>

## Substance Abuse

Substance abuse is a major problem that may impact the safety, productivity, and image of organizations.<sup>80</sup> An American Management Association survey indicates about 75 percent of major U.S. companies now engage in drug testing.<sup>81</sup> Most major corporations also conduct pre-employment substance abuse testing. Like many forms of testing, substance abuse screening has passionate opponents. Claims that it is inaccurate, an invasion of privacy, and demeaning are well articulated. But so long as there are estimates that any firm with more than six employees has a substance abuser, testing is likely to continue. It is also estimated that substance abuse costs U.S. industry over \$100 billion annually because of lost productivity. Substance abusers are absent 2.5 times more days than non-abusers, file five times the number of medical claims and worker's compensation claims,



and have four times as many on-the-job accidents. Clearly programs and policies are needed to reduce the burden of substance abuse.

Management's most powerful tool to combat substance abuse is an informed, educated work force. Detecting substance abuse or a related problem requires careful observation and proper training. Signs of possible substance abuse include:

- Difficulty in recalling instructions.
- Frequent tardiness and absence.
- Numerous restroom breaks.
- Extended work and lunch breaks.
- Difficulty in getting along with coworkers.
- Increased off- and on-the-job accidents.
- Dramatic change in personality.<sup>82</sup>

Can managers be good observers and diagnosticians? Sometimes. But patterns of behavior suggesting substance abuse could also be caused by family problems, workplace stress, or physical health problems. Drugs taken on the job are illegal, while having family problems isn't.

The controversy about substance abuse detection and testing is likely to continue unabated. The need is for a policy and program that (1) explains the company's philosophy on substance abuse, (2) describes the firm's policy on testing, (3) implements a discipline and rehabilitation program, (4) communicates the program to all employees, and (5) educates managers on how to enforce a fair substance abuse policy and program.<sup>83</sup> The foundation of an effective approach to preventing substance abuse is a clear, coherent program. Certainly substance abuse is unacceptable in the workplace. Therefore employers must reserve the right to test even though they'll probably exercise the right sparingly. Dealing fairly with substance abuse problems sends a positive message to employees and customers.

## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define human resource management (HRM).**

Human resource management (HRM) is a function performed in organizations which facilitates effective use of employees to achieve organizational goals.

### **Explain how HRM is linked to strategic planning.**

HRM is a crucial part of most organization's strategic plan. People are the core ingredient in any firm. Thus HRM approaches and activities focus on people. As a result, the strategic plan introduces the people-focused approach of HRM.

### **List several sources from which job applicants are recruited.**

Job applicants are recruited from advertisements, college campuses, employment agencies, search firms, word-of-mouth, and current employee references.

### **State the purpose of EEO programs and identify the three main factors that contributed to EEO's development.**

Equal employment opportunity (EEO) consists of all the laws and regulations pro—and/or requiring affirmative action. The three major factors that contributed to EEO were (1) changes in societal values, (2) the economic status of women and minorities, and (3) the emerging role of government regulation.

### **Describe the forecasting and planning aspects of human resource planning.**

Any manager who's involved with performing management functions and who's concerned about quality and competitiveness must plan carefully and engage in forecasting. Whether the best people will be available to do the job is always an issue. Finding, attracting, and using the most talented and skilled people in the right numbers is the essence of human resource planning. Human resource inventories, forecasts, and evaluations are part of the tool kit used to conduct efficient planning.

### **List the typical decision steps in the human resource management selection process.**

The steps can include a screening interview, completion and review of an application, a formal interview with the supervisor, tests, background checks, and a physical exam.

### **Define training and learning.**

Training is the systematic process of altering employees' behavior to improve the accomplishment of organizational goals. Learning is the art by which people acquire skills and knowledge that result in a relatively permanent change in their behavior.

**Compare some of the more popular methods of performance evaluation.**

Remember that Deming is a loud opponent of any type of performance evaluation. But his extreme view is not widely followed in the question of whether performance evaluation should be conducted. Rating scales are perhaps the most popular evaluation method since they are easy to use. Typically a score is circled or a box is checked as a rater reviews 8 to 10 traits. In the ranking method the rater ranks individuals on each of a list of characteristics. No method has universal approval because they all have weaknesses.

**Discuss the difference between direct and indirect compensation.**

Direct compensation consists of an employee's pay in the form of wages, salaries, bonuses, and commissions. Indirect financial compensation (called benefits) typically includes vacation, various types of insurance, health club privileges, and so on.

**Explain the comparable worth concept.**

Comparable worth relates jobs that are dissimilar in content. It contends that individuals who perform jobs that require similar skill, effort, and responsibility under similar work conditions should be compensated equally.

## ■ KEY TERMS

affirmative action, p. 306  
benefits, p. 328  
comparable worth, p. 327  
compensation, p. 321  
development, p. 313  
equal employment opportunity (EEO), p. 306

formal training program, p. 313  
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human resource management (HRM), p. 304  
human resource planning (HRP), p. 308  
individual incentives, p. 324

learning, p. 313  
performance evaluation, p. 315  
recruitment, p. 309  
selection, p. 310  
training, p. 313

## ■ REVIEW AND DISCUSSION QUESTIONS

### Recall

1. Why has HRM become a more prominent part of organizational strategic plans in the past decade? Do you expect HRM to remain a top priority in the next decade? Why?
2. What are the advantages and disadvantages associated with various forms of testing: intelligence, skills, substance abuse?

performance evaluation? Use practical managerial reasons to develop your response.

3. What has been EEO's impact on diversity in the work force?
4. If employers used the notion that workers must perform "reasonably well," would this enhance or inhibit quality productivity as it relates to world markets?

### Understanding

1. Distinguish between the two recognized forms of sexual harassment. Which form is less difficult to substantiate? Why?
2. Group compensation plans appear to be better suited for firms attempting to create a quality-oriented culture. Does this mean that individual compensation plans will become extinct? Why?
3. Why would managers resist Deming's plan to eliminate

### Application

1. Outline a sound AIDS awareness policy that would properly educate workers.
2. Interview an HRM contact in a large firm. Determine what type of testing program exists and how the test results are used.
3. Search literature and determine what type of group performance evaluation approaches are available. Critique at least two approaches' usefulness to managers.

## ■ CASE 11-1

### The Mirage Hotel: A Human Resource Volcano

At the Mirage Hotel in Las Vegas—a top-quality facility—the management team values human resources. The concerns of quality and concerns for people stand out in many areas.

With 3,054 rooms and 7,000 employees, the Mirage is one of the largest hotels in the world. These 7,000 employees are the key to the Mirage's image as a top-quality hotel. In the hotel industry, employee turnover reaches a staggering 60 percent annually. But the Mirage's turnover rate is only about 19 percent.

Why is there a whopping 41 percent difference between the Mirage's average and the industry's average?

The answer appears to center on employees who like to work at the Mirage and the customers who like to be around pleasant, thoughtful, respectful people. Mirage employees, from the clerk to the director of operations, display a pride, a sense of belonging, and a commitment to their work. They like it, and they project this warmth and spirit for their customers.

As a place of employment, the Mirage has an excellent reputation for concern about employees. When the hotel opened, an intensive screening process was put into place. An aggressive recruitment campaign generated 57,000 applications for the original 6,500 job vacancies. Once people are hired at the Mirage, they go through an intensive training and orientation program. All new employees must successfully master the 10 essential Mirage job tasks. The 10 tasks were developed by analyzing jobs, customer satisfaction, and service. The Mirage spends \$2 million annually on the 10-task training program. Arte Nathan, vice president for human resources, is the person behind the quality and the people-are-first culture that have emerged at the Mirage.

One of Arte Nathan's innovations with a human resource emphasis is called the Mirage Employee Services Center. Employees can file health insurance claims, receive payroll information, and deposit checks direct, and receive other services at the Center. Arte wants employees to feel that they, like the casino and hotel customers, receive service from the hotel. He takes pride in ensuring that employees are satisfied so they can deliver service that results in customer satisfaction.

Work at the Mirage is done with thousands of customers streaming in and out each day. The 7,000 employees, like the thousands of customers, can become lost in the hectic shuffle. To create a more cohesive feeling, Mirage management decided to create 20-person teams. The Mirage is loaded with these em-

ployee teams that have their own leaders. The team is the anchor for the employee, and provides a feeling of being together. Each team wears a different color. Team spirit is highlighted by these different badge or lapel colors.

The employee cafeteria—an excellent facility—serves the same food that hotel guests eat. Employee meals are free, and they can eat as many meals as they like. Again, building employee satisfaction is an important part of how the Mirage does business.

The Mirage has concluded that employees are the first link in the chain of creating a friendly, cooperative, and productive atmosphere for customers. This philosophy not only is expressed, but is also practiced. Customers appear to like the Mirage, and people like to work in the hotel and casino. The connection between effective human resources practices and quality is one reason why the volcano at the front entrance erupts exactly on time and the Mirage earns over \$250 million per year.

Arte Nathan and other managers applied the "customer-is-a-top-priority" thinking to Mirage employees. It is a simple notion that most firms miss in developing programs. The Mirage makes it and keeps it as a top priority in a very competitive business in a city filled with competitors.

## Questions

1. There is tremendous competition for business in Las Vegas. How could another casino and hotel compete effectively against the Mirage?
2. Should the Mirage really be so proud of a 19 percent annual turnover rate?
3. Do you agree with the concept of developing employee satisfaction programs, which, if effective, will lead to customer satisfaction and better business?

## ■ CASE 11-2

### The Maquiladoras

Located in four Mexican towns along the 2,000-mile Mexico-U.S. border are what are called *maquiladoras*. The maquiladoras are foreign-owned and -managed factories (mostly U.S.-owned) that assemble products from parts transported across the border. Once assembled, the products are shipped back to the United States for sale.

*Maquiladoras* means "handwork" in Spanish. In a few years, this maquila industry along Mexico's border has grown to over 2,000 maquiladoras in Tijuana, Nogales, Juarez, and Matamoros. The plants employ over 480,000 Mexicans.

The reason for this booming industry is astonishingly low labor costs. The country's minimum daily wage is less than \$3, and a weekly pay check is less than \$15. These labor costs are less than half of the prevailing wages in Hong Kong, Singapore, South Korea, and other low-labor-cost countries where U.S. companies have constructed assembly plants. U.S. manufacturers pay no tariffs on the parts shipped into Mexico as long as the assem-

bled products are reimported to the United States. Duties on reimported parts are very low.

In short, the maquiladoras are enabling U.S. manufacturers to substantially reduce their production costs. As a result, literally hundreds of U.S. companies have set up assembly shops in Mexico. For example, General Motors has established 17 plants for its labor-intensive assembly work such as cutting and sewing car seats.

Asian—especially Japanese—companies are also fast establishing maquiladoras in the border towns. Over 30 Japanese manufacturers already assemble there. Hitachi, for example, assembles about 100,000 color TV chasis in its Tijuana maquiladoras each year. Chasis are then transported to Hitachi's plant in Anaheim, California, for final assembly. At Matsushita's plant in Tijuana, 1,600 Mexican workers assemble TV chasis. Sony, Sanyo, and 100 other Japanese manufacturers are expected to either build more maquiladoras or expand existing ones in the next few years.

The maquiladoras movement has likewise provided benefits for the Mexican economy. They are transforming the four Mexican communities (which were once tourist towns) into industrial centers. The maquiladoras provide badly needed employment for Mexican workers. In 1990 wage rates in these plants ranged from \$.95 to \$1.70 per hour including benefit costs. The maquiladoras are second only to oil as Mexico's top foreign exchange earner. The quality of work is considered very good in these plants.

The work is long and demanding. Employees work about 49 hours a week in a factory which is typically a one-story, windowless concrete building. Inside, the surroundings are clean but spare—often long tables, chairs, and parts bins. There, employees across the plants assemble a wide array of products: computer keyboards, toys, carburetors, refrigerators, garage door openers, and even waterbeds. A few plants sort coupons; one plant even sorts walnuts. Over one third of the assembly work in the maquiladoras involves clothing production.

For management, operating the maquiladoras, while profitable, can also be challenging. Most of the American managers live in the United States just across the border. Each of the major Mexican maquiladoras communities is less than an hour's driving time from a large U.S. community. Tijuana, for example, is about a half-hour from San Diego. But the drive back often requires

hours due to customs inspection of cars traveling from Mexico into the United States. Electrical blackouts are also common. Telephoning a Mexican border town from the United States often requires 15 to 20 attempts.

Another problem at the maquiladoras is turnover, often running from 70 to 100 percent each year. Younger, unskilled employees continually seek better working conditions and shorter distance from their home (often in the mountains) to work. The companies won't increase the minimum wage to attract recruits. Rather, they offer extras such as inexpensive food in the factory cafeteria, attendance bonuses, discounts on bus rides to work, and Michael Jackson records.

### Questions

1. How do you think management in maquiladoras plants are able to maintain high quality standards of production?
2. Some observers believe that maquiladoras actually help employment in the United States. Do you agree? Why?
3. If the North American Free Trade Agreement is passed and ratified, do you believe that there will be any changes in HRM practices in the maquiladoras plants? Why?

## ■ APPLICATION EXERCISE

### Recruitment Actions

An important HRM activity outlined at this chapter's start involves recruitment (attracting applicants to fill job vacancies). As the chapter says, hiring the right person is vital to accomplishing an organization's quality goals.

### Setting Up the Exercise

1. Divide the class into groups of five or six.
2. Read "Hire the Right Person Recruitment Pool" and answer the questions.
3. Read "Finding the Right Person" and answer the questions.
4. Reconvene the entire class and discuss what the groups concluded.

### Hire the Right Person Recruitment Pool

The objective of this part of the exercise is to review various sources of job candidates. Finding individuals who are team players, interested in quality, and hard working is important. List two internal (within-the-firm) sources of job candidates and at least three external sources of job candidates.

1. Internal source: \_\_\_\_\_  
Likelihood of finding the right person and why: \_\_\_\_\_
2. Internal source: \_\_\_\_\_  
Likelihood of finding the right person and why: \_\_\_\_\_

3. External source: \_\_\_\_\_  
Likelihood of finding the right person and why: \_\_\_\_\_
4. External Source: \_\_\_\_\_  
Likelihood of finding the right person and why: \_\_\_\_\_
5. External source: \_\_\_\_\_  
Likelihood of finding the right person and why: \_\_\_\_\_

- Which source would be best for finding the most qualified job candidates?
- Why should a combination of internal and external sources be used to find the best candidates?
- In the sources identified, which is the best for finding minority candidates? Why?

### Finding the Right Person

Developing a profile of job candidates is needed before a final selection decision is made. Exhibit 11-1 indicates the kind of profile information needed to determine whether a job candidate is quality-oriented. How would you develop the most accurate profile of each of the needed characteristics?

- Which of the characteristics will be difficult to assess during the recruitment and selection phase? Why?
- What are some legal considerations that should be followed in collecting information via an interview, test, or personal references?

EXHIBIT 11-1 Job Applicant Profile	Characteristics	Interview	Test	Personal References	Other
	<ul style="list-style-type: none"><li>▪ Self-motivation</li><li>▪ Interpersonal abilities</li><li>▪ Communication abilities</li><li>▪ Adaptability</li><li>▪ Ability to work as part of a team</li><li>▪ Experience with statistical quality techniques and tools</li><li>▪ Attitude about quality</li></ul>				

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第十五章 企業社會責任  
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第二十一章 企業風險管理  
第二十二章 企業法律與法規  
第二十三章 企業倫理  
第二十四章 企業社會責任  
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PART  
IV

LEADING



CHAPTER 12  
Group Dynamics and Team Building

CHAPTER 13  
Motivation

CHAPTER 14  
Leadership

CHAPTER 15  
Interpersonal and Organizational Communication



CHAPTER

12

GROUP DYNAMICS AND  
TEAM BUILDING

*After studying this chapter, you should be able to:*

Describe the various types of informal and formal groups typically found in organizations.

Explain how the four stages of group development influence the creation of an effective group.

Discuss groups' various characteristics, including rolemaking, group norms, and cohesiveness.

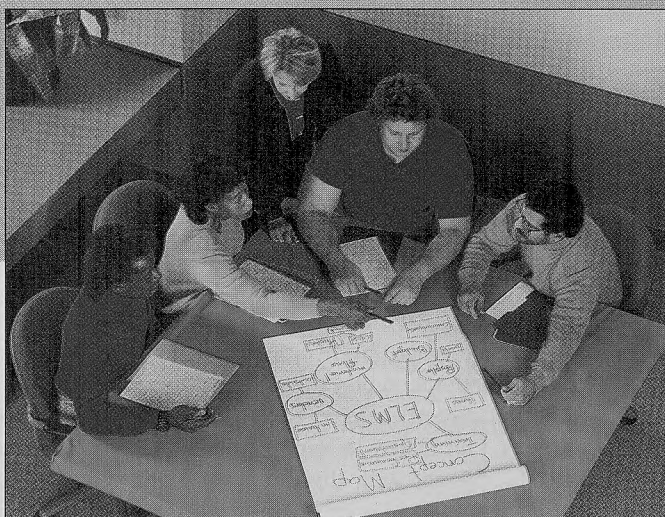
Describe the three parts of the model of effective small group interaction.

List the activities needed to develop team-driven companies.

Discuss some of the problems encountered when building teams.

## WORK TEAMS WORK

A team-based decision in a Florida medical center reduced its turnaround time for routine tests by 70 percent (to 48 minutes), reduced a diagnostic procedure from 40 steps to 8, and reduced the number of hospital staff that come in contact with a patient from 27 to 13. ■ *Sales & Marketing* magazine surveyed sales forces and found that some of the best sales results come from firms using a team-based approach. United Parcel Service, Procter & Gamble, RJR Nabisco, General Electric, and Times Mirror are successful companies that emphasize the collective expertise of teams in solving customer problems. To promote group efforts, some firms have dropped individual incentives, replacing them with compensation that encourages teamwork. ■ An aging Chrysler plant in Indiana, a candidate for closing in the 1980s, was marked by absenteeism, grievances, and defects. In 1986 the union and Chrysler adopted a team approach. Workers became "technicians." Some supervi-



© Scott Goodwin

Working in teams, Pitney Bowes workers have increased productivity.

sors left; those who remained became advisers to the teams. Absenteeism dropped 60 percent. The number of grievances fell from over 1,000 per year to 33 in 1991. Defects per million parts shrank from 300 to 20, an improvement of over 90 percent. ■ Government agencies as well as the private sector have reaped the benefits of teamwork. NASA saved over \$12 million by reducing the

thickness for its space shuttle thermal blankets, based on a suggestion from a quality team. At an Air Force base in California, savings of over \$3.3 million in three years resulted in gainsharing distributions to workers of close to \$1.7 million. Impressed with savings such as these, Pennsylvania Congressman Don Ritter has proposed a federal incentive plan where half of an agency's savings would be returned to the Office of Management and

Budget, a quarter would be distributed among workers, and a quarter would be invested in quality-based training.

■ Pitney Bowes, in Stamford, Connecticut, trained workers in needed basic communication skills, shifted to compensation based on skills rather than seniority, and organized self-managed teams of workers. Teams chose their own members, set production goals, and arranged schedules with little management control. Despite job losses, inventories declined 50 percent and output per square foot rose 50 percent.

Source: Timothy D. Schellhardt, "Managing: 'Theory P' Stresses How Departments Interact," *The Wall Street Journal*, December 13, 1991, p. B1; Timothy D. Schellhardt, "Managing: Coordinated Team Efforts Show Winning Results," *The Wall Street Journal*, December 17, 1990, p. B1; Charles Manz, as cited in Joann S. Lublin, "Trying to Increase Worker Productivity, More Employees Alter Management Style," *The Wall Street Journal*, February 13, 1992, p. B1; Erika Penzer, "Making a Federal Case for Quality," *Incentive* 165, no. 8 (August 1991), p. 30; and Mark Alpert, "Pitney Bowes: Jumping Ahead by Going High Tech," *Fortune*, October 19, 1992, p. 113.



Groups are a common and necessary form of collective action. Armies, sporting teams, bridge clubs, and church choirs are everyday examples of collective behavior known as a group. As we all recognize, there is a power in group behavior that is unmatched by individual action. An organization may ignore an individual's demand for a salary increase. The same demand made by a union for a general membership wage increase, if it is ignored, could cripple the organization's productive capacity. For these reasons, it is natural and important for people to learn the dynamics of group behavior. This chapter describes types of groups, how they function, and what factors are likely to turn any group into a highly effective component of the organization.

## ■ CATEGORIES OF GROUPS

### group

Two or more people who engage in purposeful collective action.

Much of the daily work of organizations is performed by groups. A **group** is defined as two or more people who act together to accomplish a goal. From an organizational perspective, there are two categories of groups: the informal group and the formal group. All other types of groups or teams are variants of these two basic forms of collective behavior.

### informal group

Two or more people who engage in voluntary collective activity for a common purpose. Informal group actions are generally not recognized by the organization.

## Informal Groups

An **informal group** arises when two or more people engage in voluntary collective activity for a common purpose. Informal group actions generally aren't recognized by the organization. Examples of such groups include friendship groups and interest groups.

**Friendship Groups** A friendship group is a collection of people with like values or beliefs who get together for a common purpose—possibly just to have fun!

**Interest Groups** An interest group is a collection of people addressing a specific subject. An example would be five people from different walks of life who meet regularly to discuss art and attend plays.

While not directly related to work organizations, informal groups are found in all organizations. Our ability to join one or more informal groups is greatly enhanced when we regularly interact with diverse groups of people. Most large organizations fit this description quite well. Large organizations increase our exposure to many different informal groups that we might join. With an informal group, the "joining" part is often rather casual.

## Formal Groups

### formal group

Two or more people who engage in organizationally required actions for a common purpose. The term *formal* designates a permanent entity with prescribed organizational roles.

Groups are formal to the extent that membership is based on the employee's position in an organization. **Formal groups** consist of two or more people who engage in organizationally required actions for a common purpose. They're a permanent part of the organization. A marketing department is an example of a formal group. The role definition and membership requirements for a formal group are quite explicit. Thus to maintain membership in the marketing department, a marketing manager may have to reach targeted sales goals for assigned products.

### work group

An organized collection of workers responsible for a task or outcome.

**Work Groups** Within a formal group, such as a customer relations department, there are many work groups. A **work group** is defined as two or more people in a work organization who share a common purpose. This common purpose is usually the completion of a task. The work group is the smallest formal organizational personnel arrangement. As such, a work group represents the most basic level of collective work activity. In a department, it is possible to find many work groups. To govern the relationship between the group and the organization, the group has assigned reporting relationships, a formal



Courtesy Chrysler Corporation

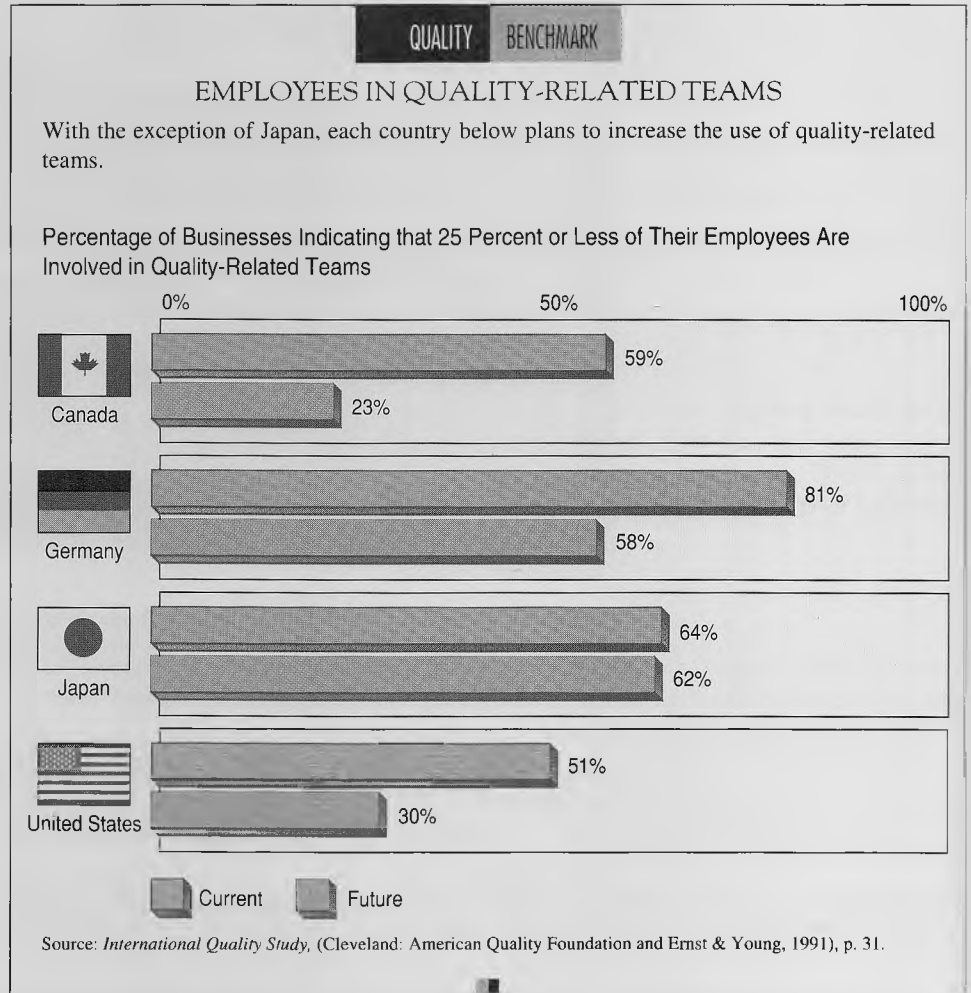
The Chrysler Viper was the product of a self-managing, cross-functional team designed to design a quality car in a short time period.

leader, and, often, specific instructions to guide task completion. For many years the formal work group with external supervision was the mainstay of productive effort in organizations.

**Work Teams** The term *work team* describes a special type of organizational work group. The primary difference between a work team and a work group is the way in which they are governed. Generally, teams are self-managing and have a great deal more decision autonomy than work groups.

Teams have become a widespread business phenomenon in recent years. Success stories of the team concept include product development at Chrysler with the new Viper sports car as well as the use of cross-functional and cross-national work teams at Ford and Mazda.<sup>1</sup> These examples highlight the advantages of using self-managing cross-functional teams to decrease product development time and/or increase overall product quality. While historically the use of teams has tended to be most prevalent in Japanese firms, the team approach seems to be gaining momentum in the United States as well.<sup>2</sup> Over 20 years ago management expert and professor Edward Lawler estimated that about 150 manufacturing plants in the United States used some sort of self-managing team approach. In 1990 he estimated about 7 percent of the manufacturing firms in the United States used a team approach.<sup>3</sup> In 1992 team expert Charles Manz estimated that 40 to 50 percent of all workers would be employed in self-managing teams by the end of the century.<sup>4</sup> For example, by 1989 about 20 percent of General Electric's 120,000 U.S. employees were working under some form of team concept.<sup>5</sup>

A major advantage of the work team concept is quick response time. But another obvious advantage is that the team can be a source of quality assurance at every step of the production process. The team's self-regulating nature allows for greater error detection and correction on the spot rather than at the end of the assembly line. In today's highly automated assembly facilities almost every workstation has a switch within easy reach that the worker can use to stop the assembly line when something is wrong. Stopping the assembly line was far more difficult 20 years ago and required managerial intervention. Because it was more trouble in the past to correct errors on the spot, most errors just slipped through. Immediate error correction means that fewer defects make it through final assembly, which yields higher-quality products. Because of the recent in-



creased concern for quality, this approach may mean that a modern assembly line has to be “down” as much as 20 percent of the time.<sup>6</sup> In a sense, commitment to quality has its price—it means that both organizational systems and work groups must be structured to produce quality. Thus procedures, methods, and practices of both the organization and its work groups must be physically and psychologically attuned to production requirements. To do so, teams have become a focal component in delivering quality medical services, solving sales problems, and making factories more productive.

Teamwork allows one employee to compensate with her strength for another employee’s weakness. Everyone on a team has a chance to contribute ideas, plans, and figures; but anyone may expect to find some of his best ideas submerged by consensus of the team. A good team has a social memory. As a collective, the team should be able to “remember” the contributions of individuals for the good of the group. Over time, contributing members play a major role in shaping the group’s activities.

**Quality Circles** The *quality circle*, introduced in Chapter 9, is a group of employees who meet to brainstorm about how to improve quality and cost control in the workplace. Quality circles differ from work teams in terms of membership, the type and frequency of problems handled, authority to implement decisions, and the group’s relationship to the organization.<sup>7</sup> While work teams are at the core of the organizational structure, quality circles are supplemental. Participation in quality circles may be voluntary or members

**quality circle**

Volunteer group of employees who meet to brainstorm about how to improve quality and cost control in the workplace.

## REFLECTIONS BY PHILIP B. CROSBY

## GROUPS AND QUALITY TEAMS

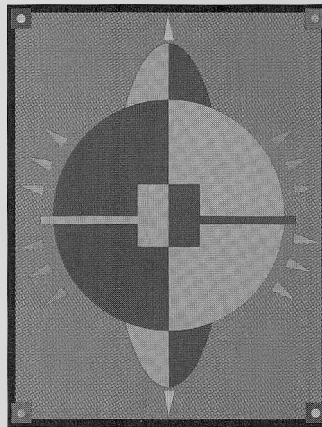
At one time I worked in a “matrix” organization. As a product line quality department manager I reported to the Quality Division director and obtained trained people from his functional departments. He gave me advice and technical direction.

My other boss was the program director who was responsible for the product and also supervised engineering, manufacturing, finance, planning, and several other departments as they worked on his program. He gave me money.

Many people had a problem with being on two charts, with two bosses, even though they had different missions. It didn't bother me because I saw them in different roles and made certain that I kept them informed enough to leave me alone. Communication has to be forced—people will not usually seek it out on their own.

These teams were set up to accomplish a task and then disbanded when the task was complete. Inside the operations special teams would be established to attack a specific problem. They were short-lived and existed only until the problem was resolved completely. This rarely took more than a few weeks. Other groups were brought together for the purpose of communications, such as quality improvement, and they lasted much longer.

It took me a while to learn that just because something is worthwhile, it does not have permission to become fat and inefficient. This was important because it was possible to have meetings going on at all times—there were enough teams about. (I wrote a chapter on this in *Quality without Tears*, showing that one executive only had a single day in which to work each year.).



In my organization, which contained about 1,000 people, we set up some rules for team meetings of all sorts. First, an agenda had to be published at least a day ahead of time. Second, all meetings had to be held standing up, and to this end we removed all the chairs from our conference rooms. No one believed we did this, and folks came from far away just to watch. But we did, and the meetings were short and effective. The message was that it does not take long for prepared people to discuss a subject, come to a conclusion, and then

agree on some action. What takes long is being unstructured and having unlimited time. Those groups we disbanded.

We learned to do as much work as possible within the organization as it was set up, without adding any other blocks anywhere.

may be appointed, depending on the organization. Membership in quality circles is often cross-disciplinary and agendas usually focus on technical or procedural quality problems. Whereas work teams typically deal with problems as they arise, on a continual and informal basis, quality teams usually turn over responsibility for implementing solutions to problems to management. Quality circles can evolve into self-managed teams, but this is atypical.<sup>8</sup>

Within the past 20 years, many American manufacturing firms have embraced quality circles in an effort to respond to worker concerns over the quality of work life, to improve product quality, and to mimic one visible aspect of Japanese success. But the use of quality circles alone is ineffective—and even frustrating and counterproductive—without a companywide commitment to quality management. As W. Edwards Deming notes, quality circles “can thrive only if management will take action on the recommendation of the circle.”<sup>9</sup> Reporting on the use of quality circles in a Japanese auto parts plant, Deming found that effective communication by management fostered a positive team spirit, intense loyalty, and high motivation. He noted extensive use of visual communications in the plant in the form of posters, signs, and graphs.<sup>10</sup>

## ■ STAGES OF GROUP DEVELOPMENT

Now that we've gone over the different kinds of groups, we can examine how groups develop in a four-stage process of forming, storming, norming, and performing (Figure 12-1). Group development describes the progression from a collection of people literally tossed together for a common purpose to a well-functioning whole whose effectiveness has stood the test of time.

### Stage 1: Forming

#### forming

The early stage of group development when members begin to know each other's strengths and weaknesses.

**Forming** is the actual beginning of the group, when members get to know one another and understand each other's abilities and deficits. In the formation stage, the collection of people quickly comes together as a functioning unit. Members temporarily accept formation rules and orders in an effort to initiate the group. With the process underway, formal group functions are defined and the beginnings of hierarchy emerge. Sometimes formal organizational task requirements dictate group purpose. Often a formal leader is appointed to facilitate group development.

### Stage 2: Storming

#### storming

The stage of group development when the group addresses inherent conflicts and develops solutions that keep the group focused on its work.

As the name suggests, this is the most tumultuous stage of development. **Storming** refers to the group's coming to grips with inherent conflicts and developing solutions that keep the group focused on its work. During this stage members learn to accept individual differences as the beginnings of a collective "group personality" emerge. This collective viewpoint is the result of sharing common work, values, and purpose. Along with personality emergence comes informal vying for power or control of the group. Also, specialization through subgroups begins to develop. Group members negotiate roles that are needed for effective group functioning and members adopt those roles.

#### norming

The stage of group development when the group develops norms or unwritten codes of conduct for group behavior.

### Stage 3: Norming

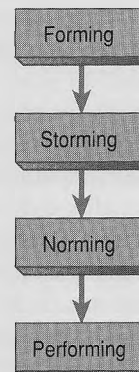
#### shared values

Beliefs, attitudes, or actions that are commonly agreed upon and understood by group members. Shared values are an invisible and unspoken guide to daily behavior within the group and to interaction outside the group.

During the **norming** stage the group charts out its long-term vision of group purpose and how it will function over time. The agreement among members of the long-term vision is referred to as developing **shared values**. The group's norms are the unwritten guides to behavior. Conformity to norms is enforced through rewards and sanction. Members who adhere to norms reap the benefits the group has to offer such as status, affiliation, and personal growth. Deviance from group norms may subject the member to punishment, humiliation, or ostracism.

FIGURE 12-1

Stages of Group Development



## performing

The stage of group development when the group functions to its fullest potential toward goal attainment.

## Stage 4: Performing

The group is now at the **performing** stage in which the group functions as a highly effective unit. During this stage, a group that has remained together for a long period of time fine-tunes group functioning. Group members carefully redefine group roles as needed. They decide how best to balance needs of the group and the organization. At this stage the group is most able to develop members' skills, recruit new members, and perform the group's work at a high level.

Some short-term groups have to disband and merge members into other task groups. Some authors consider this "ungrouping" process a separate stage. By the performing stage, all individuals have learned their roles in the group. The more effective the group, the quicker the group reaches the performing stage of development.

At each stage the group is confronted with increasingly difficult decisions. One of the greatest challenges is how best to reward individual contribution and still maintain the group's integrity. In fully mature groups, individual efforts have been well integrated into specific group functions. Over time, the group's success or failure becomes evident. This is largely determined by how well the group performs its assigned functions and contributes to the organization's overall effectiveness.

## CHARACTERISTICS OF GROUPS

An effective group is one that fully utilizes members' abilities in the attainment of group goals. Groups continue to be effective as long as the group can elicit contributions from members. Another way of thinking about the relationship between a member and the group is as a type of *exchange*. The group member gives time, energy, knowledge, and ability, while the group provides the member with need satisfaction. Group membership holds the potential to satisfy several basic human needs. Individual member needs that are met through group involvement include need for achievement, need for affiliation, and need for power.<sup>11</sup> Members of a group that has successfully attained a specific goal are encouraged to know that goal attainment would have been impossible without their efforts. Likewise successful group members interact. For many individuals, group membership at work is their primary attachment to other people. Table 12-1 identifies 10 characteristics of effective groups.

Like the need for affiliation, the need for power can be fulfilled in a socially acceptable manner at work. Work group hierarchy allows some group members a degree of control over other group members' activities. People are accepted into the group, their

TABLE 12-1

### Characteristics of Effective Groups

1. Group roles and expectations are understood by all group members.
2. Group members have developed a good working relationship.
3. Group members are attracted to the group and are loyal to the leader.
4. Members have a high degree of trust and confidence in one another.
5. Group activities such as decision making and problem solving occur in a supportive atmosphere.
6. The group leader's role is to create a supportive atmosphere in which group work occurs. The leader should (1) seek information from group members about decisions that will affect them and (2) provide information that they need to do their jobs better.
7. The group should attempt to develop each member's full potential.
8. An atmosphere that encourages members to influence each other should be maintained. Influence assures that new ideas enter the group and that dominant personalities work to the group's betterment.
9. The process for selecting a group leader should be based on the qualities that the individual brings to the group that encourage a supportive and open atmosphere.
10. Communication among members and the leader should be encouraged. If problems exist, free and open communication will bring problems to the surface.

Source: Adapted from Rensis Likert, *New Patterns of Management* (New York: McGraw-Hill, 1961), pp. 162-78.

behavior is scrutinized, and they are encouraged or discouraged based on group members' evaluation of them. The group leader or a designated leader may derive a real sense of personal power because of these types of evaluative activities. But beyond these issues of group functioning are other more enduring issues. For example, how does an effective group continue to function at high levels over time? What mechanisms sustain the group even as high-performing members leave the group?

## Role Making in Groups

All work groups are defined by roles that members in the group perform and by the hierarchy or status of these roles. As discussed in Chapter 1, a *role* is a set of shared expectations regarding a member's attitude and task behavior within the group. At the most basic level, a group will have two roles: leader and member.

The greater the group's task complexity, the more roles will emerge. Group member agreement about the role to be performed is referred to as the **sent role**. The sent role is in essence the formal requirements of the role within the group. The **received role** is the role recipient's understanding of what the sent role means. In other words, the sent role may be received differently by different people. The **enacted role** is the manner in which the received role is expressed or redefined by the individual assuming the role.<sup>12</sup> This is how formal group expectations are transmitted, filtered, and processed for action by the role occupant. We all have different backgrounds, values, education, and beliefs about how the job should be done. All these factors are brought to the forefront during role creation and enactment processes.

**Problems in Role Making** Role creation with groups is not without its share of problems. Common problems include role conflict, role ambiguity, and role overload.<sup>13</sup>

**Role conflict** represents the incompatibility between the role's requirements and the individual's own beliefs or expectations. Remember, we all assume multiple roles in many different aspects of our lives. For example, a worker could simultaneously hold the roles of mother, wife, devoted church leader, manager, and engineer. It is easy to see that many of these different roles have required behaviors that may conflict with one another.

Such internal conflict can come from a variety of sources. One source, *interrole conflict*, occurs when two different types of roles collide. A manager may have to fire an employee who is also a friend and the coach of his son's Little League team. The friend part of him doesn't want to fire the man, but his job requires him to do so. *Intrarole conflict* occurs when two similar roles come in conflict—for example, when your boss tells you to increase productivity and your workers are pushing for better working conditions. In this example, you are simultaneously a subordinate and a superior. Further, you believe that the organization needs greater productivity and also that the work rules make for dissatisfied and unmotivated workers. *Intersender conflict* occurs when contradictory messages come from the same source. Your boss preaches that quality is the most important aspect of your work. However he insists on hiring low-skilled workers who can't fully utilize the robotics that are a major determinant of quality in the company. *Person-role conflict* occurs when an individual's beliefs are in direct conflict with the requirements of her role. For example, you know that a product batch is defective and shipping the products could possibly cause consumer injury and increase liability for the firm. You've also received a memo from your boss insisting your job is to help build sales volume by expediting the shipment of as many products as possible. You know shipping the product is wrong but you feel compelled to make your volume quota.

In **role ambiguity**, role requirements are not clear. In general, role ambiguity results when the role occupant is not sure how to fulfill role requirements. Simple routine roles rarely generate ambiguity. In a routine role, such as an assembly line job, role requirements are specific or decision criteria are simple. Professional roles present greater chance of role ambiguity. Managers often face a technical situation that they are not trained to fully understand, and they must decide to rely on a subordinate's judgment.

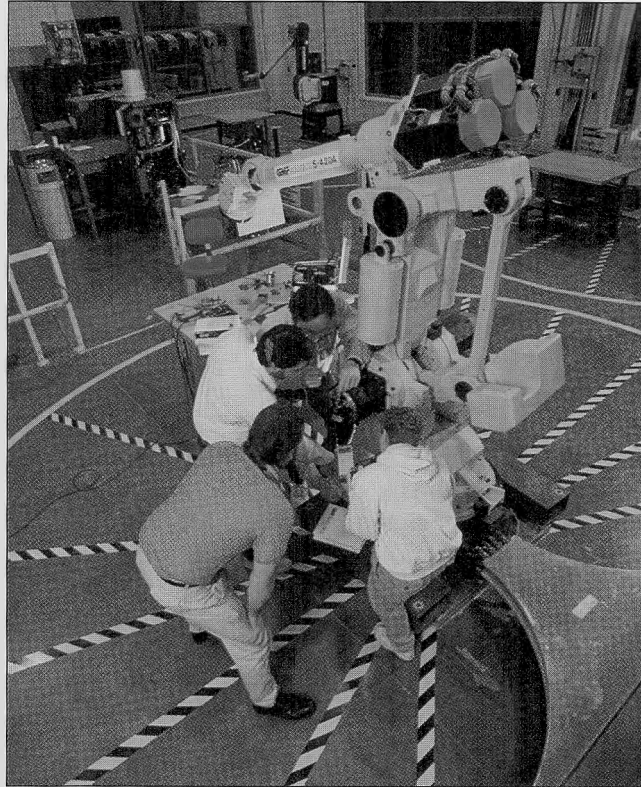
**sent role**  
The role expectations "sent" by group members regarding an individual's attitudes, beliefs, or behaviors.

**received role**  
The role recipient's understanding of what the sent role means.

**enacted role**  
The manner in which the role recipient actually expresses or redefines the received role.

**role conflict**  
Incompatibility between a role's requirements and the individual's own beliefs, attitudes, or expectations.

**role ambiguity**  
A situation in which a role's actual behavioral requirements aren't clear. The role recipient doesn't understand what his actions or responsibilities are in his job.



Ken Kerbs/Dot Picture Agency

Complex tasks and technologies place stress on workers and teams if management pushed workers too hard for immediate results.

The ambiguity for the manager is whether to consult a staff specialist (which might waste time) or go with the subordinate's judgment. The manager knows full well that he'll be held responsible regardless of a positive or a negative outcome.

**Role overload** is a condition where a task's demands overwhelm the role occupant's ability to perform the task. Too much, too little, or conflicting information may surpass the role occupant's ability to perform the task at a satisfactory level. With the emphasis on "lean organizations" and the corresponding reduction of America's white-collar work force, it's very likely that role overload will be a common contributory symptom of role stress reported by those who remain.

Role conflict, role ambiguity, and role overload are all potential problems that can decrease a group's effectiveness. Managers must recognize the potential problems that can undermine a group's overall performance.

## Group Norms

**Group norms** define the borders of acceptable member behavior. Usually within-group behavior is thought of as a positive force in group productivity. But norms can actually have a negative effect on group output. Take, for example, the restriction of output. A work group might easily produce 25 units an hour, yet if the group's strategy is to suppress output, then the norm enforces lower effort and lower output. Norms represent a form of control over intermittent or random behaviors by group members—be they positive or negative behaviors. However, norms are not developed for all situations or circumstances that the group might encounter, but only for those that hold some importance for the group. The group uses rewards and sanctions to encourage acceptance of the norm. Group members who adhere to the norm may receive praise or recognition for

A situation in which the role recipient is overwhelmed by the job's requirements.

A set of expectations about how people are to act.



conformity

The process by which members adopt group norms, roles, and behaviors.

their devotion to group norms. Completing a project ahead of schedule may be rewarded with a Friday afternoon off.

Member acceptance of a norm is referred to as **conformity**. Conformity is important because it creates a system of shared values among both veteran group members and newcomers to the group. On the one hand, newcomers may be amazed by group performance or behavioral expectation.<sup>14</sup> New members quickly learn to meet group expectations if they want a good standing in the group. On the other hand, veteran members of the group help create and enforce group norms. Without group norms, the group's expectations would be vague at best. For this reason, groups with clear normative expectations are more effective at attaining group goals and in the process create greater member satisfaction than groups with comparatively limited normative guidance. Table 12-2 lists the purposes of common group norms and provides examples of situations where the norms are enforced. Group norms are communicated in one of four ways:

- By explicit statements by the group leader.
- By explicit statements by group members.
- By critical events in the group's history.
- From past group experiences.<sup>15</sup>

Most often group norms develop through efforts of the group leader. The leader communicates the group's wishes and values to new members and reinforces them with existing members. But the leader may not always be present in a norm-signaling situation. In this instance, coworkers may communicate the conformity to the group norm. For example, a member of the counter crew at a fast-food restaurant observes a coworker's negative attitude toward customers. He might quickly take the worker aside and remind her that if the customer complained, the entire crew could be reprimanded for her poor attitude. If the rude worker fails to alter her inappropriate customer behavior, she might be shunned by other crew members until her behavior improved.

Another impetus for the development of group norms is a critical event in the group's history. Say, a group representative is outmaneuvered in a staff meeting to the group's disadvantage. This could force a group norm to develop regarding how ideas are presented to other groups to ensure a successful outcome for the group.

cohesiveness

A measure of a group's ability to work well together. Cohesiveness is expressed through the group's ability to do its work effectively, attract new members as needed, influence one another, and maintain the group's integrity over time.

### Cohesiveness

A group has **cohesiveness** to the extent that (1) the group can do its work effectively, attract new members when necessary, and maintain the group over time and (2) members are able to influence one another.<sup>16</sup> Cohesiveness is a way of describing how well the group functions. Highly cohesive groups are good problem solvers. Further, in both work

TABLE 12-2  
Creating Norms in Organizations

Purpose of a Norm	Example in a Work Group
1. To facilitate group survival	The group informally sets productivity goals for the group to do a fair day's work but not much more.
2. To make work expectations clear	When overtime is available, rather than just asking who wants to work overtime and possibly being unfair, a seniority list is used to indicate who had it last and who is now eligible.
3. To help the group avoid embarrassment	Employees might be reprimanded in private and rewarded in public.
4. To express the group's basic values	A group of truck drivers might make it clear that drinking and partying are fun and normal but being convicted of driving under the influence [DUI] will result in expulsion from the group.

Source: Adapted from Daniel C. Feldman, *Academy of Management Review* 9, no. 1 (1984), pp. 47-53.

and social situations, members of cohesive groups interact more than people in less cohesive groups do.

By developing interaction skills, cohesive groups set the stage for greater success in social influence attempts. Social influence regulates deviation from accepted norms.<sup>17</sup> Group members can gang up on an individual member who is acting in ways the group believes conflict with group norms. For example, over a period of weeks, task group members on an auto assembly line might notice that one group member's "quality emphasis" is slipping. Each group member may pick a different time or example to encourage the deviant worker to rethink how he does his job. This type of positive social influence may well make the deviant worker aware of his actions and bring him closer to the group norm. But if the worker's behavior is intolerable to the group, the social influence may be shifted toward the group leader—perhaps to force the leader to fire the worker for nonconformity to the quality norm.

Group decision making is not without some degree of risk. Group norms and conformity tendencies may actually suppress opposing or contrary perspectives. Irving Janis called this concept groupthink. **Groupthink** is "a mode of thinking that people engage in when they are deeply involved in a cohesive in-group, when members' strivings for unanimity override their motivation to realistically appraise alternative courses of action."<sup>18</sup> Groupthink has been given as an explanation for the decision making that led to the Kennedy administration's disastrous 1961 Bay of Pigs invasion. In essence, groupthink means the suppression or ignoring of countervailing ideas that represent a threat to group consensus or unanimity. Unfortunately when the group is wrong, group consensus doesn't mean very much in the long run.

#### groupthink

The suppression or ignoring of countervailing ideas that represent a threat to group consensus or unanimity.

## Cultural Diversity

Groups are increasingly characterized by cultural diversity. Whether at work, at school, or during leisure time, cultural diversity exists in groups whose members differ from each other in important characteristics such as gender, age, ethnic background, disability status, religious affiliation, and lifestyle. The greater the number of these characteristics that are present, the more culturally diverse the group. As U.S. organizations turn to women and minorities to fill an estimated 83 percent of the jobs that will open up in the 1990s, cultural diversity in the workforce will reach an unprecedented high.<sup>19</sup> The growing globalization of organizations also contributes to increased diversity.

Cultural diversity has several implications for groups. The varying rules and customs about relationships between genders, social class, or some other different group complicate interactions between group members. Research has generally shown that groups with a substantial degree of cultural diversity are not able to solve complex problems as effectively as heterogeneous groups.<sup>20</sup> Many managers overlook the relationship between quality management and effective group interaction in a culturally diverse workplace. To interact productively in a diverse group it is necessary to respect other cultures and create new ways of integrating diverse groups and to expand the range of acceptable behaviors for accomplishing goals while maintaining quality standards.<sup>21</sup>

## ■ A MODEL OF EFFECTIVE SMALL GROUP INTERACTION

Research on group dynamics indicates that group effectiveness is best understood using a model that describes the inputs, processes, and outputs of group interaction.<sup>22</sup> *Group input* consists of group structure, group strategies, leadership, and rewards. The structure of the group includes the members' personalities and abilities plus the overall size of the group. The group structure dictates what the group can accomplish. The group strategy clarifies, among several action plans, the one that the group intends to use to achieve its goals. For example, a group that wants to increase quality may use a strategy that intentionally slows down the production process to allow workers more time to complete their

TABLE 12-3 A Model of Small Group Interaction	Inputs	Processes	Outcomes
	Group structure	Influence	Group performance
	Group strategies	Development	Quality
	Leadership	Decision making	Quantity
			Quality of group life
			Integrity of the group in the future

Source: Adapted from Marilyn E. Gist, Edwin A. Locke, and M. Susan Taylor, "Organization Behavior: Group Structure, Process, and Effectiveness," *Journal of Management* 13, no. 2 (1987), pp. 237-57.

tasks. The final inputs are leadership and rewards. The leadership of the group must support and facilitate the group's overall strategy and goals, provide resources, communicate vertically, and reward performance.

Rewards are one motivation for a group member to work in unison with the group. While extrinsic rewards such as money and promotions are important on an individual level, group rewards serve as a powerful motivating force. Group recognition may be equally important to an individual. We have all seen sporting events where a player on the winning team reports an incredible feeling of accomplishment even though her individual contribution to winning the final game was minor. And the images at NASA mission control of a successful spacecraft landing tell a similar story of pride in group membership and achieving a difficult goal. Similarly on an everyday level, work groups revel in their daily successes, knowing that their contributions made a difference. Table 12-3 presents a model of small group interaction.

The inputs define how the *group process* of the work group will unfold. Three separate processes occur in all work groups: influence, group development, and decision making. The process of *influence* is a necessary and important part of the overall well-being of the group. Particularly in autonomous work groups or self-managing work groups, mutual influence allows all members access to change other members' minds or challenge unrealistic assumptions. But not all influence is productive. "Social loafing" and "free riding" occur when one group member does less work than others, knowing full well that his contribution will be hidden in the group effort.<sup>23</sup> Mutual influence should be viewed as inevitable and healthy. *Group development* describes the process of activities, interactions, and sentiments that occur as time passes. A major part of group development is the attachment and identification to the group. For example, wearing union jackets or company clothing outside of the work environment indicate pride and group identity. Further, members quickly learn that not all groups are equal. Those groups that provide an opportunity for enjoyable and productive work are valued by members and nonmembers alike.

Quality products, reasonable quantity, and satisfied group members are all *group outputs*. From a managerial perspective, it is important to think about the human component of quality as a quite different concept than the statistical notion of quality. In an environment where groups are the primary productive unit, quality is largely a function of how well the group interacts on a continual basis. Similarly a group that has been recognized for producing high-quality products is also likely to be collectively satisfied with life at work. A final group outcome is cohesiveness. For all practical purposes, the highly effective group is one with high levels of outcomes. The Global Exchange takes a closer look at the effectiveness of teams.

## ■ IMPLEMENTING WORK TEAMS

One strong theme that runs throughout the Deming quality philosophy is the need for teams and teamwork. According to Deming, teamwork is needed throughout the company. The aim of a team is to improve the input and the output of any stage of operations.<sup>24</sup>

## GLOBAL EXCHANGE

## TO TEAM OR NOT TO TEAM: THAT IS THE QUESTION

Over the past decade the team concept has been an important component of many effective organizations. Successful use of teams requires a well-articulated plan. Redesigning the organization to house the team concept is a five-step process. First, organize the physical work setting to support group activity. Second, create organizational structures and job designs that promote skill expansion and cooperation of interdependent tasks. Third, pay people enough so that lack of money is not a constant irritant. Fourth, attract and select the best employees. Fifth, clearly communicate high expectations to new employees. But the key is to view these five steps as an integrated system that produces high-quality products with minimal resources.

With the introduction of the restyled Accord in the early 1980s, Honda Motor Company became a dominant competitor in the U.S. auto market. Over the past decade Honda's success has included being the first Japanese firm to build cars in the United States, the first Japanese automaker to enter the luxury car market (Accura), and the first Japanese automaker to produce the best-selling car in the United States (Accord). Honda's success in the U.S. market has been attributed to its reliance on Japanese management techniques used at its Marysville, Ohio, production facility. The centerpiece of the Japanese management philosophy is the team concept. The team concept was used for decision making from the shop floor to the executive offices.

Recently Honda's sales have slowed. Consumers complain that Hondas are bland, underpowered vehicles. These complaints seem somewhat ironic considering Honda's long-standing involvement in international Gran Prix auto racing. While still successful, Honda recognized that it may have outgrown the traditional Japanese management team concepts. Nobuhiko Kawamoto, Honda's president since 1990, expressed concern that Honda has gotten conservative and

sluggish. It suffers from group decision-making paralysis. Too many voices yield slow decisions. The solution appears to be more centralized decision making.

During the same time period, Hewlett-Packard (HP) experienced problems similar to Honda's. These problems were manifest in an inability to bring new products to market in a timely manner. The demon seed was a decentralized cluster of three dozen committees that oversaw the development of all new products. This formal group decision-making structure included too many different groups with too many decisions, resulting in slow new-product development. CEO John Young engineered a sweeping management reorganization to quickly get products into consumers' hands. The reorganization cut many middle management jobs. Removing two entire layers of management reduced costs and time-to-market. HP found that rather than eliminating the team concept, what it needed was more groups rather than fewer groups. But each group would be smaller, more flexible, and more responsive to market requirements. HP formed a structure of smaller groups that were much closer to the action. In this way, HP management pushed decision making to the lowest levels. Smaller design teams linked to purchasing, production, and marketing were formed to develop new products. Results include a successful new matchbox-sized Kittyhawk disk drive. Unlike Honda, HP solved its decentralization problems with more streamlined decentralization rather than less.

Source: Clay Chandler and Paul Ingrassia, "Just as U.S. Firms Try Japanese Management, Honda Is Centralizing," *The Wall Street Journal*, April 11, 1991, p. 1; Robert D. Hof, "From Dinosaur to Gazelle," *Business Week*, special edition, "Reinventing the Corporation," 1992, p. 65; and Ernesto J. Poza and M. Lynne Markus, "Success Story: The Team Approach to Work Restructuring," *Organizational Dynamics* 8 (Winter 1980), pp. 3-25.

Teams are an essential part of a lean production system in which workers are directly employed in producing products, while fewer supervisors, inspectors, and planners oversee workers. In the lean production system, smaller, "strong" teams are responsible for and able to control the entire production process. Adopting a team approach, Corning Glass eliminated one management level at its corporate computer center, substituting a team adviser for three shift supervisors. This saved \$150,000 annually and raised the quality of customer service. Corning found increases in autonomy and responsibility among workers, who experienced more meaningful and productive work.<sup>25</sup> In another instance, a change to automation led to a shift from a functional organizational design to self-managed teams in an insurance firm. This change required the company to reorganize to support organizational goals, not simply work unit goals. A 24-month follow-up report found improved work structure, flows, and outcomes.<sup>26</sup>

Three main features of self-managed teams include (1) extensive worker control over operating decisions, especially those traditionally made by supervisors, foremen, and quality inspectors; (2) high levels of feedback from the work itself (e.g., self-charting,



Texaco Inc.

Texaco workers participate in a “jungle escape” exercise to help them build team skills.

on-line computerized reports); and (3) cross-training so each worker can perform many functions (i.e., job despecialization).<sup>27</sup>

## Developing Team-Driven Companies

Consulting group McKinsey & Company has identified a plan for developing flatter, team-driven companies.<sup>28</sup> The McKinsey Plan includes the following:

- *Organize around processes rather than task.* Performance objectives should be based on customer needs such as service. The *processes* that meet those needs should be the major components of the company.
- *Flatten the hierarchy by grouping subprocesses.* Teams should be arranged in parallel, with each doing many steps in a process, not a series of teams with each doing a few steps.
- *Give leaders responsibility for processes and process performance.* Self-managed teams are responsible for multiple tasks. Team members possess a set of skills relevant to the groups’ tasks, and have discretion over the methods of work, task schedules, assignment of members to different tasks, compensation, and feedback about performance for the group as a whole.<sup>29</sup>
- *Link performance objectives and evaluation of all activities to customer satisfaction.* Everything should be driven by the customer; successful performance also means customers have been satisfied.
- *Assign performance objectives to teams, not individuals.* This makes teams the focus of organizational performance and design. Individuals cannot continuously improve quality and work flows.

## ETHICS SPOTLIGHT

## WHEN TEAMS GO TOO FAR

In the early 1990s self-managed work teams accounted for about 7 percent of the work force. Self-managed work teams bring a new voice to the decision process. But greater decision-making input isn't always required or even wise. Relatively simple or routine jobs are not likely candidates for self-managed teams. When the task is sufficiently complicated, self-managed work teams have proven highly successful. Perhaps the greatest benefit of self-managed work teams is their ability to quickly solve problems where they originate. In essence, self-managed work teams provide the group with real-time control over work decisions.

Common decisions that confront self-managed work teams include rewards, reprimands, task assignments, work scheduling, and performance evaluation. Normally group governance is achieved through a democratic process. A leader is elected from the group's membership and conflicts are resolved through unanimity. Although they have little formal training in management, team leaders are responsible for monitoring group activities and representing the group to other parts of the organization. All this sounds rather idyllic, but self-managing is still controlling other people's behavior. Rather than external control imposed by a formal management group, control is achieved through internal group consensus monitored by an internal process with a designated team leader serving as a facilitator.

Recently Peters Control Inc. organized all production workers into 20 ten-member self-managed work teams. Each team leader reviews his team's quarterly sick leave report which also includes year-to-date absences. While reviewing

the absenteeism report for the control systems group, the team leader was reminded that Jon Anders had been absent a total of 5 to 10 working days in each of the past three quarters. At the team's next quality circle meeting he discussed the issue with all team members present. All agreed that other team members had to work more or harder to compensate for Jon's absences. The team leader asked Jon what he thought about the situation. Jon responded with a statement and a question: "Isn't my work above average? At least, that's what my [team-based] performance evaluation indicated! And, have I exceeded my allowable number of sick leave days? If I haven't exceeded my allowable sick leave days, I'm just using a benefit that I'm entitled to." Jon's reply wasn't defensive but factual. Indeed, most who knew him well sensed that he really was sick.

After the meeting several team members expressed regrets about how Jon had been treated. Clearly they believed that he had done nothing to warrant a reprimand by the team. Embarrassed for being singled out for what clearly was a disciplinary action by the self-managed team, Jon kept to himself as much as possible. But he confided to a close friend that this type of situation never happened with the traditional management structure. Jon believed that self-managed teams can create as many problems as they solve.

Source: Adapted from Brian Dumaine, "Who Needs a Boss," *Fortune*, May 7, 1990, pp. 52-60; Charles Manz and Henry Sims, *Superleadership: Leading Others to Lead Themselves*. (Englewood Cliffs, N.J.: Prentice Hall, 1989), and David Barry, "Managing a Bossless Team: Lessons in Distributed Leadership," *Organizational Dynamics*.

- *Assign managerial tasks to teams as much as possible.* Workers' teams should be responsible for activities such as hiring, evaluating, and scheduling.
- *Emphasize the need for workers to develop several competencies.* In a team-driven company, only a few specialists are needed. Productivity can be increased by asking the team to take on more difficult tasks and asking team members to serve as consultants to other teams.<sup>30</sup>
- *Train team members on a just-in-time, need-to-perform basis.* Information should go directly to those who can use it in their jobs. Trained and empowered workers know how to use information.
- *Put team members in touch with customers.* Field trips and spots on problem-solving teams can bring team members closer to customers. Knowledge of customer needs are then reflected in team work.
- *Reward skill development and team performance.* Performance evaluation should focus on team achievements rather than individual achievements. It is counter-productive to talk about teamwork while evaluating and rewarding individuals.

As you can see, in a team-driven organization, work is designed around customers, not tasks. Senior managers are responsible for processes that are critical to satisfying customers. Self-directed work teams make decisions regarding hiring, scheduling, and so on. (The Ethics Spotlight examines how teams can go too far.) Fewer people are needed

between senior managers and work teams, and their job is to facilitate, not control. This, in part, explains why so many mid-level management positions are being phased out in companies today.

## Overcoming Resistance to Teamwork

The transition to teams isn't always easy. Certain environmental and technological conditions are more likely to be conducive to team development. For example, a newly built plant with a just-hired work force (a "greenfield" operation) can be more open to teams than an established plant with long-employed workers. Also a still-developing, uncertain technology may lend itself to the team concept more than a rigid, sequential technology. In either case effective leadership can help teamwork succeed.<sup>31</sup>

Many problems encountered when building teams include: confusing team building with team work; haphazard team planning; starting teams before assessing team needs; training team members individually; and not making teams accountable.<sup>32</sup> Team members have to be trained not only to get along, but also to work together as a team. A system for planning team work must be developed. First, team needs should be defined, then team members should be trained as a team. Teams must also be accountable for what they've learned in training and what they do at work.

In addition, delegating more responsibility to teams can mean fewer managers. Middle management is often the primary target for staff reduction when the team approach is implemented. A shift to teams and flatter organizations may reduce managers' opportunities for advancement. Yet an emphasis on seniority in some Japanese firms often provides managerial opportunities for a significant percentage of employees. At Kobe Steel, for instance, about 95 percent of all employees are promoted to a managerial job during the course of their career.<sup>33</sup>

Opponents of quality work teams have even gone to court to challenge their use.<sup>34</sup> The International Association of Machinists (IAM) and the United Auto Workers (UAW) have severely criticized worker involvement in teams, arguing that teams undermine labor unions' traditional role. Teams, they claim, threaten a union's very existence by posing a long-term threat to workers' job security and other union benefits. Teams resolving grievances, disciplining workers, and awarding pay raises threaten traditional labor union power and roles.

The quality management approach to teamwork can be summarized as follows: (1) empower workers to solve problems and make decisions, (2) cultivate the natural sense of pride in doing a good job, (3) view management as the process of creating an organizational system made up of self-managed teams and (4) share the financial successes resulting from the use of the team method via formal organizational recognition and rewards. Teams are a primary source of continuous improvement and a cornerstone of quality management.

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## ■ SUMMARY OF LEARNING OBJECTIVES

*Describe the various types of informal and formal groups typically found in organizations.*

Informal groups include both friendship groups and interest groups. As the name implies, we join friendship groups to interact with people with whom we share common ideas or values. Interest groups include people who share common interests or ideas but aren't necessarily friends. Political group affiliation exemplifies an interest group where members express similar beliefs and interests but might not be friends.

*Explain how the four stages of group development influence the creation of an effective group.*

The four stages of group development are forming, storming,

norming, and performing. Forming is the actual beginnings of the group, when the members get to know one another and understand each other's abilities and deficits. During storming, the group comes to grips with inherent conflicts and develops solutions that keep it focused on its work. Norming is the group process of charting out the group's long-term vision and purpose. In this stage rewards, sanctions, and rules of behavior are established. Performing is the stage where the group works like a well-oiled machine. Group members understand their role in the group and perform their job effectively.

*Discuss groups' various characteristics, including role making, group norms, and cohesiveness.*

Role making (the process of developing the various roles of group members) consists of understanding role development and role communication. Group norms define the borders of acceptable member behavior. Positive group member behavior is rewarded; negative group member behavior is sanctioned or punished. Cohesiveness connotes the group's ability to attract new members, maintain itself over time, and influence its members.

**Describe the three parts of the model of effective small group interaction.**

*Group input* consists of group structure, group strategies, and leadership. *Group processes* consist of influence, development, and decision making. *Group output* consists of group performance (quality, quantity, quality of group life, and the integrity of the group in the future).

**List the activities needed to develop team-driven companies.**

The following activities are necessary for developing team-driven

companies: organize around processes rather than tasks; flatten the hierarchy by grouping sub-processes; give leaders responsibility for processes and process performance; link performance objectives and evaluation of all activities to customer satisfaction; assign performance objectives to teams, not individuals; assign managerial tasks to teams as much as possible; emphasize the need for workers to develop several competencies; train team members on a just-in-time, need-to-perform basis; put team members in touch with customers; and reward skill development and team performance.

**Discuss some of the problems encountered when building teams.**

Problems encountered when building teams include confusing team building with team work; haphazard team planning; starting teams before assessing team needs; training team members individually; and not making teams accountable.

## KEY TERMS

cohesiveness, p. 350  
 conformity, p. 350  
 enacted role, p. 348  
 formal group, p. 342  
 forming, p. 346  
 group, p. 342  
 group norms, p. 349  
 groupthink, p. 351

informal group, p. 342  
 norming, p. 346  
 performing, p. 347  
 received role, p. 348  
 role ambiguity, p. 348

role conflict, p. 348  
 role overload, p. 349  
 sent role, p. 348  
 shared values, p. 346  
 storming, p. 346  
 work group, p. 342

## DISCUSSION AND APPLICATION QUESTIONS

### Recall

1. What are the basic differences between a group and a team?
2. Define role ambiguity, role conflict, and role overload.
3. Name ways you would avoid possible obstacles to team success.

team approach effectively reverses those assumptions. How do you explain this change of perspective on work groups or teams? Do traditional views still apply in some countries, industries, or firms?

7. The model of small group interaction could be described as a "systems" view of group interaction. Explain what it means to describe group interaction as a system.

### Understanding

1. How are the terms *conformity*, *cohesiveness*, and *norms* used in group development?
2. In *Search of Excellence* authors Peters and Waterman describe the need for each worker to feel simultaneously like an important individual and like a member of an organization. They call this a sense of "duality," wanting to experience both individuality and integration with the whole. What's your belief about this issue?
3. The traditional view of the group has been that management must control the group's tendency to restrict production and even to protect poor performers. The quality-based

### Application

4. Select a department in an organization (e.g., human resources, sales, or accounting) and describe how the model of small group interaction discussed in this chapter influences group interaction in that organization.
5. Examine your past experiences as a member of a group and discuss your experiences with role conflict, role ambiguity, and role overload.
6. Discuss how the term *storming* can apply to a specific group development situation. Be specific, and provide an example of a real organizational situation.



## ■ CASE 12-1

### IBM Rochester

In December 1990 Rochester, Minnesota-based IBM Rochester earned the Malcolm Baldrige National Quality Award. Its 8,000-plus employees develop and manufacture computer systems, including the AS/400, hard disk drives, and magnetic storage devices.

Company goals, according to IBM's H. G. Eyrich, are to be the undisputed leader in customer satisfaction, to be first with the best products, to demonstrate excellence in the execution of all processes, and to accomplish these goals with a team of enabled, empowered, excited workers. Since 1983 product reliability has increased 300 percent; the product warranty period increased from three months to one year; product development time for the new, midrange computer dropped by more than half; and the manufacturing cycle fell 60 percent.

In January 1990 IBM began its Market-Driven Quality effort, which had three components:

- Five quality initiatives: define market needs, eliminate defects, reduce cycle times, empower employees, and measure progress. This multifaceted approach to quality identified key elements that will determine the firm's success.
- Process review. Analyze the business processes to see where changes are required. Viewing quality as a process, IBM committed to making sure that each work process was world class.
- Quality assessment. Measure and compare IBM's quality against both internal and external standards. Use benchmarking to develop best-of-breed (BOB) products. Quality derives from careful measurement to ensure accountability and success. Visits to BOB firms, reviews by consultants, as well as questionnaires, telephone surveys, trade associations, and analysis of financial reports were parts of these efforts. IBM placed the emphasis on beating, not just meeting, benchmarked quality.

Market-driven quality began with work simplification, work elimination, and process improvement. Although improvements resulted, IBM saw that they weren't good enough; the competition was getting better. Looking to quality experts around the world—Xerox, Motorola, and American Express were just a few—IBM shifted its goal from incremental improvement to perfection, with goals of 10-fold defect reductions over two years, followed by another 10-fold reduction in two more years, and then defect-free products.

IBM Rochester was careful to involve suppliers at the beginning of its planning process, making sure that suppliers are trained, audited, and certified. At 5 percent of payroll IBM committed five times the national average to worker training, which wasn't only used to improve work procedures in-house. Workers then trained suppliers in SPC, continuous flow manufacturing, and the design of work experiments to improve quality. Education became an investment, not a cost. "Ownership" of the education function moved from the educational staff function to the customers—IBM managers who told the education staff what was needed, what worked, and what didn't work.

Training focused on quality information and processes as well as on specific, job-related training. With this two-pronged approach, workers received fundamental training in quality ideas, theories, and techniques plus help with improving specific concerns and processes on the job. The mix of theory and practice helped increase revenue per employee 35 percent from 1986 to 1989.

### Questions

1. How might a team be involved in the benchmarking process?
2. Recommend some things that management could do to get workers to think in terms of team success rather than individual success.
3. What are the basic training needs of a team?

Source: H. G. Eyrich, "Benchmarking to Become the Best of the Breed," *Manufacturing Systems*, April 1991, pp. 40-47; Karen Bemowski, "Big Q at Big Blue," *Quality Progress*, May 1991, pp. 17-21; Brad Stratton, "Four to Receive 1990 Baldrige Awards," *Quality Progress*, pp. 19-21; and Margaret Kaeter, "Quality Training," *Quality*, March 1991, pp. 15-25.

## ■ CASE 12-2

### IKEA

Swedish furniture retailer IKEA ("eye-key-ah") moved into the American market in 1985, bringing a unique approach to selling furniture. IKEA not only provides customers with tape measures, catalogs, pencil, and paper, it also provides them with child care and free diapers, and lends them roof racks for carrying furniture home on their car roofs. By 1989 IKEA's \$350 of sales per square foot was triple that of traditional furniture stores.

But while in some ways IKEA helps customers shop, it also cuts costs by making customers pick out their merchandise, then pull unassembled pieces off the racks in the warehouse, and finally haul the pieces to their cars. By 1989 IKEA's U.S. sales reached \$130 million, contributing to the furniture giant's \$3 billion in global sales.

Source: Janet Blamford, "Why Competitors Shop for Ideas at IKEA," *Business Week*, October 19, 1990, p. 88; Barbara Solomon, "A Swedish Company Corners the Business," *Management Review*, April 1991, pp. 10-13; and Diane Harris, "Money's Store of the Year," *Money*, December 1990, pp. 144-150.

IKEA first opened its doors in Sweden in 1953. Founder Ingvar Kamprad combined his initials with those of his farm (Elmtaryd) and parish (Agunnaryd) to form the unique name. Now with over 89 stores in 21 countries, IKEA is recognized by its bright blue-and-yellow buildings. A media blitz of catalogs and billboards gets its word out.

IKEA has a fundamental value: to offer well-styled, high-quality, reasonably priced home furnishings within the context of a comfortable—even pleasurable—shopping experience. IKEA has 1,800 suppliers in 45 countries; about 90 percent of the inventory is exclusive, conceived in Sweden by 20 in-house designers. Customers get immediate value, not family heirlooms. “You get what you pay for,” says the editor of a bargain buyer newsletter. “IKEA sells mass-market merchandise that’s good design at inexpensive prices. But it’s not going to last forever.”

IKEA’s no-nonsense, low-price approach satisfies customers with immediate gratification in a business where deliveries can often take six weeks. And salespeople don’t pressure. Instead, customers can test product samples on the floor. Not all products are in stock. IKEA’s U.S. president admits, “Not having enough merchandise in stock is our No. 1 problem. Also, Nos. 2 and 3.” And sales assistance is scarce. Yet, as one customer concludes, “It’s probably the best value for the quality it offers.”

One way IKEA cuts costs is to cut space. Buying in volume from low-cost manufacturers around the world, IKEA saves on shipping and warehouse costs by packing components in flat boxes; even pillows and comforters are compressed and vacuum-packed. This low-space packaging saves 20 to 30 percent of the cost of the product. Prices are breathtakingly low on everything every day in every location—25 to 50 percent lower than comparable quality elsewhere. Bookcases sell for \$39, sofa beds for \$149, and sets of dishes for \$13. Their global top-seller is a two-foot-by-four-foot rag rug.

IKEA follows four fundamental principles:

- *Satisfy universal customer needs*, not only with products, but also with services. Products designed to save space and services designed to help parents with young children while they shop are popular around the world.
- *Listen to customers for local concerns*. Americans like water fountains at the front of the store and ice for beverages. And larger American cars need larger parking spots and more room to maneuver through a parking lot. In America, cars come to the loading dock, while Europeans take products to their cars.
- *Start small and expand slowly*. IKEA used the New York and Los Angeles areas as its two primary U.S. markets, but began outside the big cities to test its ideas in towns like Pittsburgh and Burbank.
- *Build support systems for local stores*. The New York and Los Angeles markets have separate support systems. As one IKEA executive says, “You have to organize yourself very close to the customer. You can’t support stores in Los Angeles in the right way from the East Coast.”

## Questions

1. Identify reasons why people would and wouldn’t like to shop at IKEA.
2. Can inexpensive products be described as “quality” products? Can a company provide customers with limited services and be considered a “quality” company?
3. Do Americans perceive products differently because they’re judged to be Scandinavian in design or production? What are some features customers associate with Scandinavian products?

## ■ APPLICATION EXERCISE

### Flexible Work Schedules

In the national operations department of a large insurance firm, 120 information associates (IAs) and 5 section supervisors work in 5 sections in the department that processes customer files, written and phone inquiries, and billing checks. IAs handle customer claims from all over the United States; they read mail requests, and access and file information. Most of it is done at video display terminals. The department operates on a 40-hour schedule, from 8:30 A.M. to 5 P.M., central time, Monday through Friday, 52 weeks a year, with 9 holidays.

Of the 120 IAs, 99 are women; 42 of the women are single parents. The typical IA is 27 years old with over 2 years in the department and a high school diploma. Their average pay is \$395 per week with an above-average benefits package. (The 1994 U.S. average is about \$410 in salary plus an additional 40 percent in benefits.) In the past year 28 IAs were hired to replace workers who quit; another 8 were needed to replace fired workers who had poor performance and/or attendance records.

Daily absenteeism averages 7 percent; it is higher than 7 percent on Fridays and Mondays, but lower at midweek. Employees are allowed four days of paid absence before they are judged

to be absent without pay. Few IAs exceed this four-day limit, although over 75 percent of IAs use all four days. Four to eight IAs are late by 20 minutes or more each day; requests for discretionary time off during the day are common. A new hire costs about \$6,900 to locate (with ads in the newspaper), interview, hire, train, and bring up to speed, based on the company’s own analysis of its historic costs of hiring.

Some employees have proposed a schedule with more flexible work hours (FWH). The basic considerations for FWH include: band hours (earliest start and latest finish times for each workday; e.g., 5 A.M. and 8 P.M.); core hours (times when all IAs must be present e.g., 10 A.M. and 2 P.M.); the days and hours of the possible workweek; banking (storing up work hours in exchange for later time off); the degree of employee choice and variability in scheduling hours; and supervisors’ role in managing these features (e.g., scheduling, record keeping).

You’ve been asked to develop a proposal that satisfies the needs of the company and its employees. State your general strategy, specific priorities, and recommended plan of action to address these concerns. You may be asked to represent one side and negotiate an agreement.

CHAPTER

13

MOTIVATION

*After studying this chapter, you should be able to:*

Define *motivation*.

Explain the process of motivation.

Compare content, process, and reinforcement theories of motivation.

Describe Maslow's hierarchy of needs, Herzberg's two-factor theory, and McClelland's achievement-motivation theory.

Discuss expectancy, equity, and reinforcement theories of motivation.

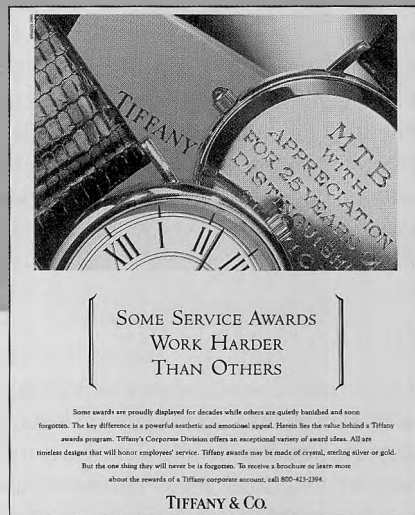
Discuss the advantages of goal setting.

Identify the attributes of effective goals.

Describe some motivational tools and techniques used in a quality management system.

## COMPENSATING FOR COMPETITIVE PERFORMANCE

At Technology Solutions (a computer systems integration firm that uses artificial intelligence, telecommunications, and imaging technology), high sales results parallel the high pay for project managers. Technology Solutions pays an annual cash compensation package of almost \$300,000, compared with about \$170,000 for the industry average. Managers can lose up to 25 percent of their base salary if their sales don't match the industry's 18 percent growth rate. But meet that rate, and stock option incentives kick in, resulting in a real "carrot and stick" compensation system. ■ A high school in Michigan awarded straight-A students with free reserved parking, concert tickets, college tuition credits, free meals, records, watches, and school jackets. Even students with C grades earned jewelry store discounts, items at local restaurants, and free tickets to sports events. One critic said, "We're basically paying kids for expected performance." Since 1981, a New York Foundation has offered to pay the college tuition for thousands of financially needy or at-risk students, contingent only upon their completing high school. ■ High turnover of women in sales positions prompted S. C. Johnson of



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Wisconsin to restructure its basic sales jobs. Johnson changed the jobs in response to complaints about boring work, slow career progress, and a sense of not fitting in with the company. Territories were changed to reduce travel time, meaning less time away from home for salespeople. Sales staff were also given more freedom to negotiate prices. "They're staying because we made the jobs more doable and more interesting," says an S. C. Johnson vice president. ■ Incentives are behind just about every effort to boost sales and productivity. The maker of Frookies cookies offers a

cash bonus to salespeople who surpass their previous year's sales, with tiers built in to reflect the market competition and to provide even higher possible bonuses. A small firm, Leegin Leather, spent \$400,000 to take its sales team, team associates, and spouses to Hawaii as a reward for getting customers to place last-quarter sales by November 30, to allow time for production during the holiday rush. National Leisure Group of Boston spent about \$1,000 on each salesperson who produced \$1 million in net sales for the firm; rewards included entertainment on the town, plaques, and recognition at company events. ■ In 1988 Portland-based Oregon Steel Mills went public. Once nearly worthless, in three years the stock made almost 100 employees into millionaires. After 17 years with the company, a bookkeeper went from raising her son alone in a mobile home to living in a half-million dollar home on a golf course and net worth of over \$1.25 million. A mill supervisor and a clerk married and retired with a nest egg of \$2.5 million. All of this came about from 100 percent employee ownership in the mill, with 20 percent of pretax profits going to profit sharing.

Source: Richard S. Teitelbaum, "Companies to Watch: Technology Solutions," *Fortune*, July 27, 1992, p. 97; Suzanne Alexander, "For Some Students, the Value of Learning Lies in Dance Tickets and Parking Passes," *The Wall Street Journal*, January 29, 1992, p. B1; "Companies Try to Stop Exodus of Women. Minorities," *Milwaukee Journal*, January 12, 1992, p. D5.1; Susan Greco, Christopher Caggiano, and Michael P. Cronin, "What Motivates a Salesperson Most?" *Inc.*, January 1992, p. 98; and Dana Milbank, "Newly Rich: Here Is One LBO Deal Where the Workers Became Millionaires," *The Wall Street Journal*, October 27, 1992, p. A1.

People work for many different reasons: to survive, to achieve personal goals, to feed their families, to be respected. They may excel at their jobs for other reasons: for pride of workmanship; because of ability; out of a sense of obligation; for personal, peer, and social recognition; or to make a customer happy. Just as there are many reasons for motivation, there are also many theories to explain **motivation**—the set of forces that initiate behavior and determine its form, direction, intensity, and duration. So what should a manager know about motivation? For one thing, most theories of work performance include motivation as a central concept. If managers are concerned with increasing productivity or quality, they must be concerned with motivation.<sup>1</sup>

#### motivation

The set of forces that initiate behavior and determine its form, direction, intensity, and duration.

## ■ THE IMPORTANCE OF MOTIVATION

Why focus on worker motivation? The American labor force grew by almost 3 percent in the 1970s; in the 1990s this growth will be less than 1 percent. In 15 years, through the early 1990s, the number of high school graduates declined over 25 percent. The once-popular view that computers and technology would make workers obsolete has been replaced by a realization that business still needs an educated work force. Rather than seeking input and a competitive edge from a small number of key, top-level workers, companies must find ways to actively elicit all employees' participation, to motivate all employees to greater levels of quality performance.<sup>2</sup>

To achieve organizational goals, managers must understand basic human nature. What motivates a person to work hard? What does a person want or need from work? Once this central question is answered, a reward system can be designed to satisfy these wants and needs. While this may sound easy, it is not.

## ■ ASSUMPTIONS ABOUT HUMAN NATURE

Before we begin our discussion of motivation, let us review several important assumptions about human nature. Managers, like most of us, have very specific attitudes and beliefs about what makes people tick. Like most other aspects of life, different people have different assumptions about human nature. To a large degree, these assumptions dictate what we expect to see and what we actually see. In essence, assumptions are a theoretic frame of reference against which we compare our daily human interactions. If we assume that most blue-collar workers are disinterested in their work, we might interpret some workers' low performance as confirmation of this lack of interest even though the correct interpretation might be that they were poorly trained. McGregor's two contrasting explanations of human nature have been widely used to understand and shape managerial practices. His sets of assumptions (called Theory X and Theory Y) describe diametrically opposed views of managerial direction and control.<sup>3</sup>

*Theory X* states that workers are passive (if not lazy) and in need of direction and control. Thus workers need external management through the use of force, persuasion, rewards, and punishment. McGregor described Theory X as the traditional view of direction and control.

*Theory Y* asserts that workers are eager to learn, responsible, and creative. McGregor believed that workers' capacities to learn are great and their abilities are underutilized. If given the autonomy, workers are quite capable of self-direction and self-control. And the reward system must be supportive of increased employee participation.

## ■ THE MOTIVATION PROCESS

According to behavioral scientists, effective worker performance requires motivation, ability, and a reward system that encourages quality work.<sup>4</sup> In a general sense Figure 13-1 describes the psychological relationship between motivation, behavior, reward, and

## REFLECTIONS BY PHILIP B. CROSBY

## MOTIVATION

The business of getting people to do something enthusiastically and of their own initiative is very complex unless we come upon the proper chord. Tom Sawyer was able to convince his peers that painting a fence was so much fun that they paid for the privilege of joining him. Life is much easier in fiction.

I have always encouraged people to write articles and books that would help others understand and progress. But getting an article out of someone who is not a dedicated writer is way on the other side of pulling teeth. It is more like pulling ribs; some people just are not tilted that way. Finding subjects for them to write about is no help. They still procrastinate.

One year I challenged myself to see if we could get 25 articles out of our organization. I announced that there would be a “writer’s weekend” held the following year. Those who had published an article, contracted for a book, or done something similar would be invited along with their spouses. Oh yes, the event would be held in Bermuda. Attendance would be limited to 25 couples (the first published), and there would be guest speakers from the writing field, including an agent.

Suddenly the writing activity began to pick up. Our marketing folks had volunteered to assist in placing articles and soon we were beginning to see some in print. By request, writing classes were held in the

evenings and workshops were conducted by experienced writers. In that 13-month period 28 articles were published, and 30 more appeared later as a result of that activity. The routine flow, some years later, is consistent. It is felt to be just something that professionals do.

The Bermuda weekend went off on schedule and everyone had a wonderful time. Ownership of the organization changed right after that so there were no more events, but that made no difference. Once people found out what writing was all about, they created their own energy.

The best motivation is one that helps people do something worthwhile that they would like to do anyway. When my children were young we had a posted rule by the swimming pool that no flotation devices were permitted. Only swimmers could enter the pool. As a result every child in the neighborhood learned to swim early in life. I taught many of them personally. It is not difficult when they choose to learn.

When we can communicate with others in a way that helps them make the choice that is best for them, we are being useful. When we aim it at something that is best for us, and not for them, we are not being useful.

The whole purpose of communication is to be useful.

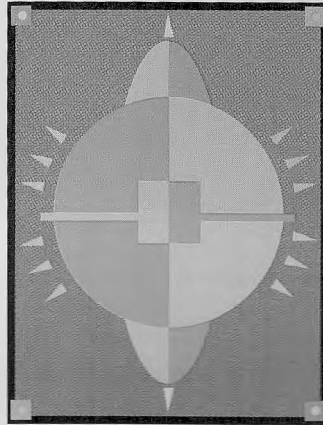
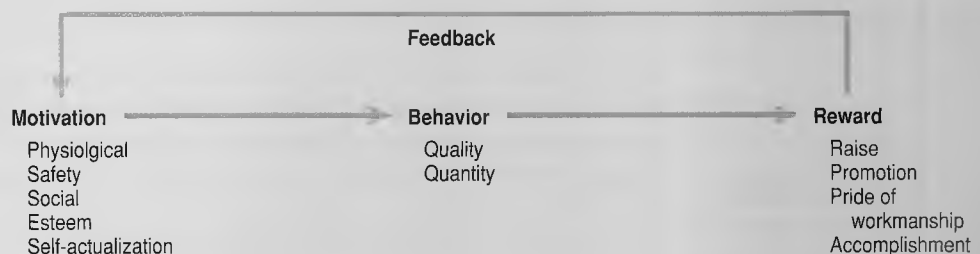


FIGURE 13-1

A Model of Motivation



feedback. A person’s motive or motivation is characterized as a need-based state of arousal. Need deprivation increases our state of arousal or search to reduce the need deficit. At work, the term *behavior* refers to the specific work or task action that results from this need-deficit-induced arousal. And finally, rewards are the direct consequence of our behavior. Feedback is knowledge produced about the cause-and-effect sequence



Lawrence Migdale/Stock, Boston

Intrinsic rewards are a natural part of a job. A task that requires a high level of education may be intrinsically rewarding.

that either stimulates or suppresses future states of arousal, depending on our level of need satisfaction.

A reward is an attractive or desired consequence. Rewards can be either intrinsic or extrinsic. **Intrinsic rewards** (the intangible psychological results of work that are controlled by the worker) are inherent in the job and occur during performance of work. A task might be intrinsically motivating because it results in a feeling of accomplishment. Intrinsic rewards can have significant, yet often underestimated, impact on job satisfaction, which, as we will see, is closely linked to motivation. **Extrinsic rewards** are administered by another party and occur apart from the actual performance of work. An example of an extrinsic reward is a paycheck.

To be motivated, workers must also be able to do the job. **Ability** is the worker's physical and mental characteristics required to perform the task successfully. Management must do everything it can to continually develop each worker's ability through training.

#### intrinsic rewards

Intangible psychological results of work that are controlled by the worker.

#### extrinsic rewards

Results of work that are externally controlled.

#### ability

A measure of a worker's skill, competence, and/or genetic characteristics.

## ■ MOTIVATION THEORIES

#### content theory

A theory of motivation defining motivation in terms of need satisfaction (also called *need theory*). The ability to satisfy a need is a motivating force that leads to a behavioral response.

#### hierarchy of needs

A motivational theory that people have five basic needs arranged in a hierarchy (physiological, safety, social, self-esteem, and self-actualization), developed by Abraham Maslow.

Over the years many people have attempted to develop theories to describe how motivation affects work behavior. Theories of worker motivation attempt to explain people's inner workings, initiatives, and aspirations. We will look at the three basic types of motivation theories in this chapter: content, process, and reinforcement.

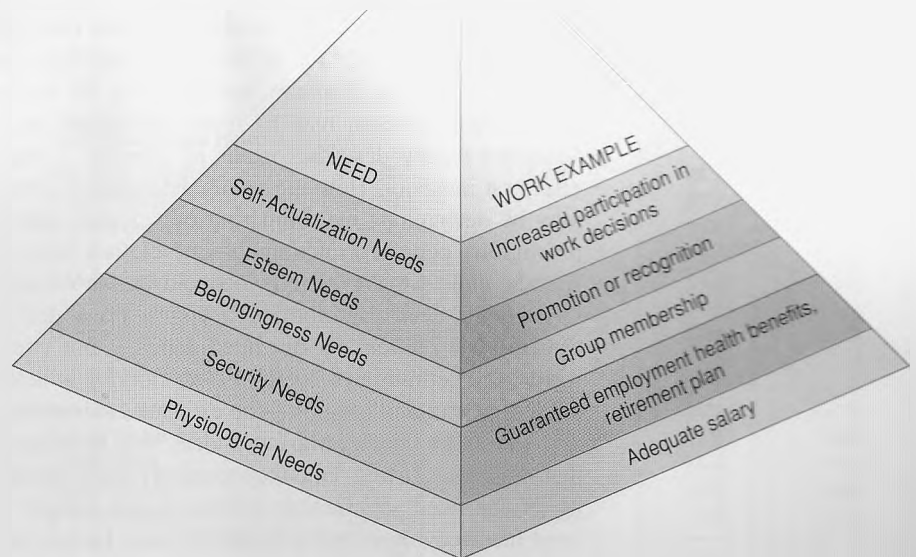
### Content Theories of Motivation

**Content theories** (also called *need theories*) are based on the idea that people are driven to meet basic needs that produce satisfaction when they're met. These theories include Maslow's hierarchy of needs, Herzberg's two-factor theory, and McClelland's achievement motivation theory.

**Maslow's Hierarchy of Needs** Abraham Maslow's motivation theory, commonly referred to as the **hierarchy of needs** (Figure 13–2), is based on two key assumptions.

FIGURE 13-2

## Maslow's Hierarchy of Needs



Source: Adapted from Abraham H. Maslow, "A Theory of Human Motivation," *Psychological Review* 50 (1943), pp. 37C-96

First, different needs are active at different times, and only needs not yet satisfied can influence behavior. Second, needs are arranged in a fixed order of importance called a *hierarchy*.

According to Maslow's theory, behavior is triggered by a need *deficit* which drives the individual to reduce the tension it creates. Tension leads to behavior that will potentially satisfy the need. For example, a new baby in the family means a greater financial burden. As a result, the worker increases work effort to ensure a promotion and raise. In Maslow's theory, the idea that a satisfied need can't influence behavior is called the *prepotency* of the need. This prepotency (urgency that the unmet need exerts) influences behavior. In our example, the as yet unmet need for a promotion and raise has high prepotency. Until the need is satisfied, the unmet need is said to influence behavior. Furthermore, as soon as a lower-order need is satisfied, a higher-order need emerges and demands satisfaction.

Maslow identified five categories of needs:

- *Physiological needs*, such as food, air, and water.
- *Safety needs*, such as freedom from fear or harm.
- *Social needs*, such as friendship, camaraderie, and teamwork.
- *Self-esteem needs*, meaning acceptance of self as having value.
- *Self-actualization needs*, the fulfillment of potential and personal growth.

The hierarchy of needs gives managers a straightforward way of understanding how various work conditions satisfy employee needs. Certain basic conditions of employment (such as pay) satisfy physiological needs. Safety needs are met by safe work conditions and job security. Social needs are satisfied by interaction and communication with fellow workers. And finally, work that is fulfilling can satisfy self-esteem and self-actualization needs.

While Maslow's ideas were a welcome relief from the emphasis on abnormal behavior that dominated the psychology of the day, they are not without some potential pitfalls. First, Maslow himself recognized that the hierarchy is not a stair-step approach. Human needs are multiple and they often occur simultaneously in modern society. It may make



more sense to think about higher-order needs (such as esteem and self-actualization) as one set and lower-order needs (such as physiological, safety, and social needs) as another set. Using just these two categories, we can see that it is certainly possible for several needs to influence our behavior at any given time. Second, we have to consider the relative level of the need that is present at a given time. Being thirsty is a relative concept. If you're in a desert and have no water, the need's prepotency will influence 100 percent of your behavior. But if you're mildly thirsty all morning but you're writing the weekly report, your behavior may be more determined by a deadline than your thirst. Third, Maslow's theory describes needs as internal; it says nothing about the environment's effect on behavior. How are needs determined? For example, the need for new clothes may be determined by comparing our clothes with those worn by friends, models, or prestigious people. Functionally our clothes may be fine but by comparison to our friends' clothing, they might look old or out of style. So what might be considered a lower-order need for clothing becomes translated into a higher-order need for self-esteem. The referent for our need deficit is not internal but rather is external. In other words, the definition of need for new clothing is determined through other people, society, education, and religion—the external environment.

To a large degree, Maslow's ideas help us understand that everyone has basic needs that must be satisfied. One way to satisfy these needs is through work. But the complexity of the need satisfaction process makes simple prescription problematic. Maslow's need hierarchy describes a model of basic human needs but offers little practical guidance for motivating workers.

**Herzberg's Two-Factor Theory** Prior to Frederick Herzberg's research, job satisfaction and dissatisfaction were often viewed as opposite ends of a single continuum. Thus many managers believed that the greater the amount of any good condition, the greater the amount of worker satisfaction. Managers further believed that eliminating bad conditions would result in job satisfaction. But Herzberg found that not being satisfied is different from being dissatisfied.

Herzberg and his colleagues were interested in identifying those factors that caused workers to be satisfied with their work. To investigate this idea, Herzberg designed a study in which data was gathered from accountants and engineers. Herzberg asked participants in the study to think of times when they felt especially good and especially bad about their jobs. Each participant was then asked to describe the conditions or events that caused those good or bad feelings. Of particular interest was the finding that the participant identified different work conditions for each of the two feelings. That is, while the presence of one condition (e.g., fulfilling work) made the participants feel good, the absence of that condition (fulfilling work) did not make them feel bad. Consequently, Herzberg postulated that motivators lead to satisfaction, but their absence does not necessarily lead to dissatisfaction.

Herzberg discovered two factors that separately explained satisfaction and dissatisfaction. Factors whose presence prevent dissatisfaction are called **hygiene factors** or maintenance factors. Hygiene or maintenance factors refer to aspects of work that are peripheral to the task itself and more related to the external environment (the **job context**). The term *hygiene factor* is linked to the finding that the absence of readily available rest rooms led to worker dissatisfaction. Hygiene factors include

- Company policy and administrative practices.
- Technical supervision by the manager.
- Interpersonal relations with the supervisor.
- Worker salary, job status, and job security.
- The worker's personal life.
- Physical conditions of the work setting (e.g., air conditioning).

#### hygiene factor

In Herzberg's two-factor theory, the aspects of work that are related to the external environment and not the work itself.

#### job context

Factors external to the job. For example, a unionized work force applies union contract rules to all jobs.

QUALITY BENCHMARK

DOES MONEY MOTIVATE CEOS TOWARD  
GREATER CORPORATE PERFORMANCE?

	Company	Total Pay (thousands)	ROE	Relative Index
<b>Best Performance Relative to Pay</b>				
Raymond J. Noorda	Novell	\$ 275	25.5%	538
William Gates	Microsoft	822	31.7	193
W. Catacosinos	Long Island Lightening	1,343	11.4	124
J. McDonnell	McDonnell- Douglas	2,114	13.4	90
M. Emmett	Tambrands	7,331	49.2	83
<b>Worst Performance Relative to Pay</b>				
Kenneth Olson	Digital Equipment	\$2,972	-20%	-132
Ronald W. Allen	Delta Air Lines	2,740	-10.3	-88.5
Donald Frites	Caterpillar	1,714	-6.4	-84.2
Robert Crandal	ARM	2,698	-7.2	-56.3
D. Chookaszian	CNA Financial	2,019	2.6	-53.5

Total pay is the sum of CEO's salary, bonus, and long-term compensation from 1990–1992.

ROE is the company's average return on common equity from 1990–92.

Relative index shows how an executive compares with industry peers in pay for company profitability.

Source: Adapted from John A. Byrne and Chuck Hawkins, "Executive Pay: The Party Ain't Over Yet," *Business Week*, April 6, 1993, pp. 56–64.

In Herzberg's two-factor theory, factors (such as decision-making autonomy) that can lead to satisfaction.

**job content**

A specific aspect of the job. For example, job variety is a content factor.

Factors whose presence lead to satisfaction are called **satisfiers** or, simply, motivational factors. These factors can produce high levels of motivation when they're present. Motivational factors relate directly to the **job content** (the specific aspects of a job). They include:

- Achievement.
- Recognition.
- Advancement.
- The task or work itself.
- The worker's potential for personal learning or growth.
- The worker's responsibility for results.<sup>6</sup>

Figure 13–3 presents Herzberg's two-factor theory.

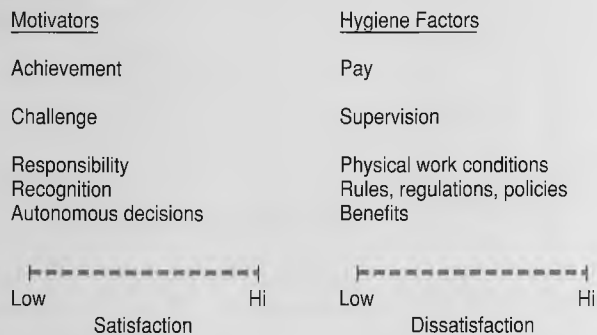
Motivational and maintenance factors are often distinguished by the fact that motivational factors are *intrinsic* while maintenance factors are *extrinsic*.

At the time of his study Herzberg's ideas were considered groundbreaking. Herzberg and his colleagues challenged traditionally accepted ideas about the causes and nature of job satisfaction. But when the two-factor theory was tested in other organizations, researchers found little support for the theory. Controversy over Herzberg's findings centers on three areas:

- *Method of data collection:* The information was collected via a potentially biased, structured interview format.
- *Individual differences:* Individual differences were discovered to affect the two factors. For example, some workers avoid advancement.

FIGURE 13-3

## Herzberg's Two-Factor Theory



- *Limited sample:* Conclusions were based primarily on studies of professionals (i.e., engineers and accountants), whose tasks differ significantly from other kinds of workers.<sup>7</sup>

Herzberg's motivational factors correspond to Maslow's higher-order needs, while his maintenance factors correspond to lower-order needs. Interestingly, Maslow and Herzberg both provide evidence that the value of the work itself can contribute to worker motivation.

**McClelland's Achievement Motivation Theory** Another psychologist, David McClelland, paid further attention to the potential of work itself to motivate.<sup>8</sup> McClelland's approach is different, however, in that he focused on the need for achievement in individuals rather than in the general population of workers. McClelland believed that a person's unconscious mind is the key to his or her particular needs. In his own words, "If you want to find out what's on a person's mind, don't ask him, because he can't always tell you. Study his fantasies and dreams. If you do this over a period of time, you will discover the themes to which his mind returns again and again. And these themes can be used to explain his actions."<sup>9</sup>

McClelland believed that by showing subjects a picture and then asking them to write a story to describe what's happening in the picture and what the probable outcome would be, the story would reveal the writer's needs and motives. McClelland identified three primary needs: need for achievement, need for affiliation, and need for power. Like Maslow's need theory, McClelland's theory suggests that people vary in the degree to which their motive for behavior is determined by any one or a combination of these needs.

The **need for achievement** is a measure of a person's desire for clear, self-set, moderately difficult goals, with feedback given based on goal achievement. High achievers are seen as self-starters, goal-oriented, or full of task initiative, all of which are typically valued by firms.

The **need for affiliation** is the desire to work with others, to interact with and support others, and to learn the lessons of life through the experiences of others. A pronounced desire for social acceptance can be a powerful motivating force in our daily lives. Work organizations are important social institutions, bringing people in contact with one another on a regular basis. The need for affiliation is Maslow's social need applied to the individual.

The **need for power** is a desire to have influence and control over others. This need can be an important determinant of behavior. People dominate one another in many socially acceptable ways. People are submissive to the dominance of police, managers, tour guides, and others. It is natural and often informative to allow other people control over an aspect of our lives. Many people seek jobs that afford them the opportunity to fulfill a basic need in a socially acceptable manner, and success at many jobs actually requires people to be forceful and capable of exerting their will over others. In these positions, people with a high need for power will outperform those with a low need for power.

**need for achievement**

A measure of a person's desire for clear, self-set, moderately difficult goals, with feedback given based on goal achievement.

**need for affiliation (n Aff)**

The desire to work with others, to interact and support others, with a concern for their growth and development. An individual version of Maslow's hierarchical social need.

**need for power (n Pow)**

A desire to have influence and control over others, to have impact.

McClelland's work fits well with Herzberg's view of achievement as a motivator and with Maslow's concept of higher-order need satisfaction as a source of motivation. In addition, McClelland's research moves beyond basic or lower-level needs as explanations for behavior. Maslow, Herzberg, and McClelland all recognize the importance of achievement and social relations as motivational factors. But only McClelland moves one step beyond by adding an additional dimension, the need for power. As we will see, the need for power can be an important explanation for human behavior.

**Managerial Application of Need Theories** McClelland's needs for achievement and affiliation and Herzberg's intrinsic motivators—responsibility, personal growth, and the work itself—are consistent with quality expert W. Edwards Deming's belief that motivation and worker commitment come from pride of workmanship and the joy of work. But managers often underestimate employees' need for achievement. A climate of achievement in the workplace can be cultivated in several ways. First, work that is challenging and gives the employee a sense of responsibility is motivational. Second, managers can identify and recognize individual employees' contributions rather than simply attributing a firm's success to managers. Need theories also form the basis for the more complex explanations of human behavior provided by process theories of motivation.

## Process Theories of Motivation

**Process theories** describe cognitive processes and decisions that help predict subsequent behavior. These theories include equity and expectancy. Whereas need theories view motivation as subconscious and instinctive, process theories view motivation in terms of workers' explicit thought processes (cognitions) and conscious decisions to select and pursue a specific alternative (choice). Thus, according to process theory, a worker is likely to consider a variety of methods, weighing each method in terms of how attractive its expected outcomes might be, before engaging in an activity. The two major process theories are expectancy theory and equity theory.

**Expectancy Theory** Victor H. Vroom developed an expectancy theory of motivation sometimes referred to as *VIE theory*. In a nutshell, expectancy theory describes the process people use to evaluate (1) the likelihood that their effort or expenditure will yield the desired outcome and (2) how much they want the outcome. In this theory, motivation is based on three factors that determine the degree of effort to put forth.<sup>10</sup>

The first factor in VIE theory is the expectancy that effort will lead to desired results or a first-order outcome. In most work situations a first-order outcome would be a personal belief that you can complete the job within some range of success. **Expectancy** is the individual's subjective assessment that effort will produce the desired results or a first-order outcome. This is the "can do" (perceived capability) component of an employee's approach to work. Expectancy is a probability assessment rated between 0 (certain to not produce results) and 1.0 (certain to produce results).

The second factor in VIE theory is the **valence** or value of the outcome to the individual (i.e., the rewards). Valence represents the outcome's desirability to the individual. Desirable rewards encourage effort; undesirable rewards discourage effort. A valence can range from negative to positive depending on whether the individual believes the outcome is personally undesirable or desirable.

A third factor in the theory is the **instrumentality** of successful task performance in leading to a second-level outcome or a desired reward. If a first-level outcome is successful completion of your job or working at an above-average level of performance, a second-level outcome might be a raise or a promotion. So the instrumentality of a task is the employee's assessment of how instrumental or likely it is that successful task performance will be rewarded with a raise. Thus instrumentality is a measure of the correlation between performance and rewards, which is scored from  $-1.0$  (performance of the behavior will definitely prevent the worker from receiving the reward)

### process theories

Theories of motivation supporting the belief that motivation is a rational cognitive process internal to the individual rather than an external process.

### expectancy

The probability that a person's effort will lead to a satisfactory level of job performance.

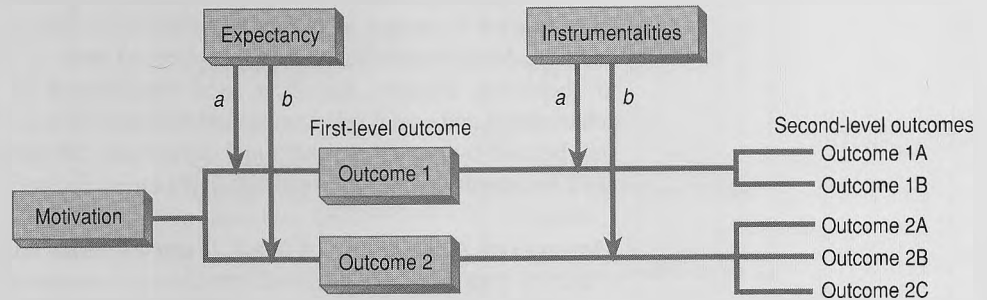
### valence

In expectancy theory, the value or importance the individual places on a second-order outcome. For example, if a person doesn't want a promotion because it would bring more responsibility, then promotion has a low valence.

### instrumentality

In expectancy theory, the subjective probability that satisfactory job performance will lead to other desired outcomes such as pay increases or promotion.

FIGURE 13-4  
Expectancy Theory



Source: Adapted from Fred Luthans, *Organizational Behavior*, 6th ed. (New York: McGraw-Hill, 1992), p. 163.

to +1.0 (performance will definitely produce the reward for the worker). Figure 13-4 presents the expectancy theory.

We can use a mathematical representation of the expectancy theory process. The valence of the potential reward, the instrumentality of the performance linked to the reward, and the expectancy of achieving the reward determine the level of effort. Then the values are multiplied to produce a force to perform for each effort. Presumably the actual level of effort will be determined by the highest VIE score.

The actual determination of the VIE score can be complicated. For example, the levels of possible effort are often infinite rather than discrete (effort versus no effort). The employee may not have an accurate idea of expectancy. (That is, she may not know if her efforts will produce the level of performance needed to earn a reward.) Also the employee may be uncertain about how performance will be rewarded. If so, the instrumentality for each level of effort cannot be determined.

For limited, discrete choices of effort (e.g., attend or not attend) and known instrumentalities (e.g., a score of 95 on an exam will guarantee the student an A grade), the calculations are simple and the research is generally supportive of expectancy theory.<sup>11</sup> Expectancy theory is, for the most part, of limited, practical daily value for managers. Nevertheless it does provide a general guide to the factors that determine the amount of effort a worker puts forth. Expectancy theory also helps explain how a worker's goals influence his efforts. The theory's utility for managers is that VIE theory suggests a complex thought process that individuals use in the process of becoming motivated.

The following pointers can be inferred from the insights offered by expectancy theory:

1. *Ask what outcomes workers desire.* Workers often prefer rewards that differ from management's assumptions. For example, for some workers in dual-career families, health care benefits may be irrelevant if the spouse's employer already provides them. Also, time off for child and elderly parent care may be preferred over bonuses, promotions, and job transfers to new locations.
2. *Break down effort-performance barriers.* Providing workers with tools, information, and an effective production support system will help translate effort into performance.
3. *Clarify and communicate instrumentalities.* Workers who know that performance will lead to rewards are more likely to work hard. For those rewards that are controlled by management (e.g., bonuses and promotions), management must let workers know the performance level required to achieve these rewards.
4. *Develop meaningful self-administered rewards.* Intrinsic rewards have a perfect instrumentality correlation (-1.0 or 1.0) and require no management action to award them. For example, developing pride of workmanship builds a self-motivated worker.

**Equity Theory** J. Stacy Adams' equity theory concerns the worker's perception of how she is being treated. In particular, equity theory is based on the *assessment process*

TABLE 13-1  
The Equity Theory Reference Ratio

## Equity Model

$$\frac{O_p}{I_p} = \frac{O_o}{I_o}$$

$O_p$  = Worker's perception of own outcome.

$I_p$  = Worker's perception of own inputs.

$O_o$  = Worker's perception of another worker's outcome.

$I_o$  = Worker's perception of another worker's input.

## Restoration of Equity

## Underreward

1. Ask for raise.
2. Lower inputs.
3. Rationalize why you get less than others.
4. Change your comparison worker.

## Overreward

1. Try to get raise for other workers.
2. Raise inputs.
3. Rationalize why you get more than others.
4. Change your comparison worker.

Source: Adapted from Ramon Aldag and T. Stearns, *Management*, 2nd ed. (Cincinnati, O.: South-Western, 1991), pp. 422–23.

workers use to evaluate the fairness or justice of organizational outcomes and the *adjustment process* used to maintain perceptions of fairness. The concepts of fairness and equilibrium (internal balance) are central to equity theory. The basic idea in equity theory is that an employee first considers her input (effort) and then her outcomes (rewards). Next the employee compares her personal ratio of effort to reward to the ratio of a referent. The referent is usually another employee doing basically the same work, some standard ratio based on a fair day's work, or another employee at approximately the same level in an organization.<sup>12</sup>

This ratio of a comparison person's input to outcome is called a **reference ratio** (Table 13–1). If the employee believes that his input-to-outcome ratio is lower than the reference ratio, he can (1) reduce his effort or (2) seek higher rewards to bring his input-to-outcome ratio in line with the reference ratio. Conversely if the employee's ratio is higher than the reference ratio, she can increase her effort or reduce her rewards. If Georgia feels that she's overrewarded for her work, she might feel guilty. To reduce this tension, she could work harder or find more work to do. Her actions would reflect the need to adjust her internal state of fairness. Likewise, John (an underrewarded worker) is off-balance in the opposite direction. He too would seek an equity adjustment. If no pay increase appeared to be forthcoming, theory suggests that he'd decrease his effort to again create an equitable outcome.

Note that a worker's inputs and outcomes need not be in exact balance to one another as long as the reference ratio imbalance matches the worker's ratio. That is, a worker may feel that she is working very hard, but may not feel unfairly treated as long as her comparison workers are also working very hard. Many workers are willing to work hard as long as the burden is shared. Equity theory helps to account for workers' feelings of mistreatment by highly paid managers. This issue is explored further in the Global Exchange on the following page.

## Reinforcement Theory

Reinforcement theories view motivation largely in terms of external factors and describe the conditions under which behavior is likely to be repeated. Reinforcement theory's view of motivation is different from content and process theories' views. Both process and content theories consider motivation to be a function of either internal needs or internal cognition. On the other hand, **operant conditioning** (also called **reinforcement theory**) views motivation as largely determined by external factors. Our experience with past

### reference ratio

In equity theory, a person compares the ratio of his job inputs to his job outcomes and then makes a similar comparison for an identical worker. The ratio for the comparison referent is called the reference ratio. For example, a person compares his job effort to his pay and then makes the same comparison for the person working next to him. In an equitable situation, the two ratios are identical.

### operant conditioning

(or reinforcement theory) Skinner's theory that behavior is a function of its consequences. Behavior is contingent upon reinforcement. Behavior that's reinforced will be repeated.

## GLOBAL EXCHANGE

MOTIVATION AND CEO COMPENSATION  
AROUND THE WORLD

The levels of pay for workers, managers, and executives vary around the world. In some countries, workers' pay is but a small fraction of top managers' salaries. In other countries, the gap between workers' and top managers' pay is much narrower. Annual total compensation for American chief executive officers (CEOs) averaged over \$3.8 million in 1992—far higher than CEOs' compensation in Japan, France, Italy, Canada, Germany, Hong Kong, and Switzerland.

Much of American CEOs' pay is in the form of benefits and long-term incentives like stock options. Stock options are not treated as an expense for the firm nor are they treated as immediate taxable income for the executive.

So are such incentives "pay"? *The Economist* concludes, "Such complexity, combined with the secrecy surrounding nearly all option and bonus schemes, makes them look more like a conjuror's slight of hand than a spur to corporate competitiveness."

As a point of comparison, Japan's top-paid CEO earned \$6.3 million while the top-paid American CEO (Thomas Frist of Hospital Corporation of America) received total compensation of \$127 million. Even more revealing, average compensation for a Japanese CEO was \$872,646 in 1991—a mere 25 percent of the average for American CEOs. Even CEOs of poorly performing American firms were compensated handsomely. For another comparison, let us examine the relationship of the CEO's salary to the average worker's salary. In Japan the CEO makes about 32 times the average worker's pay. But in the United States the gap is considerably larger. In fact, the average CEO in an American firm is compensated 157 times greater than the average worker in the company.

Presumably the rationale for increasing compensation packages to CEOs in American companies is motivation.



Arnold Carbone

Salary plus incentives can make the CEO rich. Usually compensation is tied to the firm's financial performance. The better the company's financial performance, the greater the CEO's total compensation. But critics of this motivational strategy conclude that it may motivate the CEO

toward achieving short-term gain to grab the compensation incentives but not add any sustainable wealth to the organization. In essence, as a motivational strategy, contemporary CEO compensation packages in U.S. firms may have two drawbacks. First, most CEO compensation schemes reward in the short term (most yearly but often in five years or less). Some argue that this is far too short a time horizon to adequately assess the net value of the CEO's strategic management. Second, substantial CEO compensation may motivate the CEO in the short term but may alienate workers and

stockholders. Workers see all their gains in efficiency going to CEO compensation. Stockholders worry that their return on investment may be lower than it might otherwise be because of excessive CEO compensation.

The small ice cream maker, Ben & Jerry's, limits CEO pay to a small multiple of the lowest worker's pay. Forming a link between what the CEO may earn and what the lowest-paid worker earns reduces much of workers' feeling of inequity or disenchantment. American CEOs who decry unfair trade and feisty unions sound much less credible when they earn multimillion-dollar tax-protected compensation packages. For some firms, belt-tightening and "lean production" does not seem to apply to the executives.

Source: "Paying the Boss," *The Economist*, February 1, 1992, p. 13; Carrie Dolan, "Many Companies Now Base Workers' Raises on Their Productivity," *The Wall Street Journal*, November 15, 1985; and John A. Byrne, "Executive Pay: The Party Ain't Over Yet," *Business Week*, April 26, 1993, pp. 56-64.

situations dictates or guides future behavior. Noted psychologist B. F. Skinner stated that behavior is a function of its consequences.<sup>13</sup> Behaviors that have positive consequences are likely to be repeated and those that have negative consequences are likely to be avoided in the future. According to reinforcement theory, workers are motivated by the consequences of their work behavior. In the process of experiencing rewards at work, workers often see a link between their own actions (i.e., their behaviors) and the reward (i.e., the consequences of their behavior). For example, a manager rewards workers at a plant that has reduced the number of accidents in the plant by holding a company-paid picnic for the workers and their families.

The basis or method used to distribute rewards or disincentives as well as the nature of the rewards and disincentives themselves profoundly influence behavior. Rewards may

FIGURE 13-5  
Contingencies of Reinforcement

		Behavioral response	
		Increases	Decreases
Contingencies	Apply	Positive reinforcement	Punishment
	Withdraw	Negative reinforcement	Extinction

**Contingent rewards**  
Rewards distributed based on a specific preceding behavior.

**Noncontingent rewards**  
Rewards that aren't linked to any specific behavior.

**Reinforcement**  
The process of using contingent rewards to increase future occurrences of a behavior.

**Positive reinforcement**  
The process of providing rewards contingent upon desired worker behavior.

**Negative reinforcement**  
Behavioral reinforcement occurring when an unpleasant consequence is withdrawn when the desired behavior occurs.

**Punishment**  
The process of administering an undesirable consequence for an undesirable behavior.

**Hot stove rule**  
A punishing experience reinforces future behavior. The hot stove is a good teacher—once burned, we're likely to avoid being burned in the future.

**Extinction**  
The process of nonreinforcement of a behavior. Simply by ignoring the behavior or not reinforcing it, the behavior will dissipate over time.

be made on a contingent or noncontingent basis. **Contingent rewards** are distributed based on a specific, preceding behavior. For example, a sales clerk may receive a free weekend trip for having the highest sales in her department for the preceding quarter. **Noncontingent rewards** are not linked to any specific behavior. For example, a paid holiday may be available to all staff regardless of their level of performance. A newly hired worker and a worker with 20 years of experience with the company receive the same reward.

**Increasing the Behavior Reinforcement** is the process of using contingent rewards to increase future occurrences of a specific behavior. Reinforcement occurs in one of two ways. **Positive reinforcement** occurs when a positive consequence (reward) is applied to a desired behavior. Positive reinforcement increases the frequency of the particular behavior that it follows. *Positive* refers to the nature of the consequence; *reinforcement* refers to the strengthened likelihood of the subsequent behavior. For example, a fruit picker receives \$2 for each bag of fruit she picks. **Negative reinforcement** occurs when an unpleasant consequence is withdrawn when the desired behavior occurs. For example, a manager stops criticizing an employee when he achieves the daily production quota.

**Decreasing the Behavior** Two approaches are suggested to decrease a current behavior: punishment and extinction. **Punishment** is the process of administering an undesirable consequence for an undesirable behavior. Punishment holds many negative connotations for many people. But remember that punishment is a naturally occurring phenomenon in the learning process.<sup>14</sup> For example, a child who falls off a bicycle learns quickly to maintain balance. The famous **hot stove rule** suggests that being burned by a hot stove provides an example of punishment at the most general level and in its most vivid form.<sup>15</sup> The hot stove rule suggests that nature is a good teacher. Nature teaches us that punishment should be swift, intense, impersonal, and consistent, and should provide an alternative.<sup>16</sup> Reduced to its basic components, punishment provides the recipient with useful information. As with all reinforcement, the objective is the association of the behavior with its consequence.

While the term *punishment* is often objectionable, the concept is widely applicable to work settings. At work, punishment occurs continually. A worker drops a box on his big toe and breaks the toe. In the future he'll exercise greater care or risk more physical injury. While few people would disagree about the informational content in the preceding example, it still doesn't fit our concept of punishment. We think of punishment as being yelled at or being passed over for promotion due to poor performance. Regardless of the form punishment takes, it is still the same process of applying an unpleasant consequence contingent upon the occurrence of an undesired behavior.

A second way to decrease an undesired behavior is through **extinction** (the process of nonreinforcement of a behavior). Or, more simply put, if the behavior is unrewarded, its occurrence will diminish over time. For example, an employee who tells off-color jokes at meetings could be rewarded for the behavior with laughter. But not laughing at the jokes (i.e., removing the reward) could eliminate the joke telling in the future.

Figure 13-5 shows how application and withdrawal of contingent consequences can be applied to desired and undesired behaviors to produce reinforcement.



To be effective, positive reinforcement, negative reinforcement, punishment, and extinction must be applied on a contingent basis. That is, the consequence of the behavior must be known by the worker prior to the expression of the behavior. Without this contingency, the behavior's consequence may actually reinforce a variety of behaviors, not all of them desirable. Frequently trial and error is necessary to determine if a consequence (i.e., possibly a reward) truly reinforces a target behavior.

The nature of the reward also helps to determine the reinforcement's efficacy. Not all rewards produce a reinforcing effect. Some workers prefer some rewards that other workers may want to avoid. For example, one worker may desire overtime hours because she wants the extra income, while another worker may not want the additional income, given the work required. Thus "rewarding" overtime hours only to productive workers may punish rather than reinforce productivity.<sup>17</sup> For a reward to qualify as a reinforcer, the reward must increase the frequency of the worker's behavior. Managers use rewards hoping to motivate employees, to influence them to perform better.

**Managerial Applications of Reinforcement** Several factors can influence reinforcement's effectiveness. These principles help to ensure conditions of optimum reinforcement.

- *Immediate reinforcement:* Reinforcement should coincide as closely as is practical with the completion of the target behavior.
- *Reinforcement size:* The larger the amount of reinforcer that is delivered after occurrence of a target behavior, the more effect the reinforcer will have on that behavior's future frequency.
- *Relative reinforcement deprivation:* The more deprived a person is of the reinforcer, the more effect it will have on future occurrence of the target behavior.<sup>18</sup>

## ■ GOAL SETTING: AN APPLIED MOTIVATION THEORY

### goal-setting theory

The belief that people who set goals outperform people who don't set them.

One of the most widely researched theories of human behavior is goal-setting theory. Simply put, **goal-setting theory** states that people who set goals outperform those who don't set goals.<sup>19</sup> The organizational process of goal setting deals with (1) aligning personal and organizational goals and (2) rewarding goal attainment. Goal-setting principles are evident in such popular programs as management by objective (MBO) and self-management.

### Advantages of Goal Setting

Goals help workers to translate general intentions into a specific action. *Goals*, introduced in Chapter 6, are targeted levels of performance set prior to work. Goal-setting research emphasizes the role of conscious intentions in work.<sup>20</sup> That is, people with goals perform at higher levels than people without goals. Goals can help to:

- Direct attention and action.
- Mobilize effort.
- Create persistent behavior over time.
- Lead to strategies for goal attainment.<sup>21</sup>

### Attributes of Effective Goals

In general, employees need to feel that working to achieve the goal is in their own best interest, not just the manager's interest. Employees also need support for their efforts,

including time, tools, information, and other resources needed to do the job. Finally, employees must feel confident that their work will be rewarded.

Five goal attributes enhance the potential for goal acceptance and enduring goal commitment.<sup>22</sup> **Goal acceptance** is a psychological embracing of the goal as the worker's own aspiration; **goal commitment** is a behavioral follow-through, meaning persistent work effort to achieve the goal.

Goal acceptance  
A psychological embracing of the goal as the worker's own aspiration.

Goal commitment  
Behavioral follow-through (persistent work effort to achieve the goal).

1. *Goal specificity.* Specific goals are more effective than ambiguous ("do your best") goals. Specific goals include four elements: action verb, outcome, deadline, and cost.<sup>23</sup> The verb (e.g., *increase, complete, reduce*) establishes the action to be followed. The outcome is expressed in terms of a single measurable result (e.g., quarterly sales of \$250,000, a completed report, increased hiring of minority job applicants). The deadline establishes the time (e.g., hour, day, shift) when the goal should be achieved. The cost identifies the resources to be consumed in reaching the goal.

2. *Goal difficulty.* Difficult but attainable goals lead to higher performance than easy goals. What constitutes a difficult but attainable goal is based on relevant data, knowledge, and skills. If an employee is new and her skills are untested, the manager and employee might use historical data from similar past cases to assign a goal. An operational definition of a goal's ease or difficulty will often be established by looking at the worker's or team's prior performance record. In some cases, new tasks require employees to set a difficult goal without benefit of a historical baseline. For example, in designing the first personal digital assistant (PDA), Apple had no historical records to use as a baseline. Determining a challenging goal for completing the design required original, creative thinking.

3. *Goal feedback.* Feedback can occur at three levels: (1) in setting the goal ("What should I aim for?"), (2) in ongoing feedback after the goal is set and work commences ("How am I doing?"), and (3) in evaluating the final result ("How did I do?").

In establishing an appropriate goal, the worker and manager need to exchange information on their aspirations, skills, schedules, and other work priorities. Ongoing feedback keeps the worker focused. Finally, a manager's feedback when a goal is met ("You met the goal under difficult circumstances. That's a great job you did!") maintains the worker's faith in the goal-setting process.

4. *Participating in goal setting.* Employees need to be involved in and have control over setting their own goals. Allowing workers to be involved in the goal-setting process encourages a higher degree of commitment to meeting those goals. Early research in goal setting emphasized assigned goals over worker participation.<sup>24</sup> But more recent research suggests that active employee participation in setting goals can be more effective.<sup>25</sup> Employees can be involved in the goal-setting process to a greater or lesser extent, depending on their experience and skill. For inexperienced employees, management helps clarify task expectations by assigning goals based on relevant data and knowledge. These clarified task expectations are called *assigned goals*. For more experienced employees, the manager and the employee exchange information and jointly establish goals. This process produces *interactive* or *negotiated goals*. Finally, veteran, well-trained workers can set their own goals with little or no input from the manager, resulting in *self-set goals*.

5. *Competition.* Sometimes the worker's or work group's goal is defined in terms of exceeding the performance of another worker or work group. This form of competition within the firm can increase the goal's specificity and difficulty. Finding a relevant competitive standard can be the most productive way to facilitate performance initiated by goals. Disadvantages can also arise from competition. When one team's performance depends upon the performance of another team, cooperation rather than competition is necessary.

## ■ QUALITY MANAGEMENT AND MOTIVATION

John Wallace, CEO of the 1990 Malcolm Baldrige Award–winning Wallace Company, said this about worker motivation:

*Basically, I think all of your people want to do the very best job they can. I hear a lot of people say “Well this quality movement will never work because the people don’t want to do a good job.” I disagree because I still think that once people feel like a program is real and that the organization and its leadership are serious, then you’ll get folks to buy in.<sup>26</sup>*

### Positive Assumptions about Employees’ Work Ethic

As McGregor noted some 30 years ago, worker behavior is often a product of managerial assumptions, attitudes, and behavior toward the worker. Treat a worker with respect and dignity, and you engender trust and cooperation. If you treat a worker like a dumb replaceable machine, then don’t be surprised when the worker unplugs his work brain at shift’s end regardless of the circumstances or the cost to the organization.

Comparing the Big Three U.S. auto producers (GM, Ford, and Chrysler) to the Japanese transplants (e.g., Diamond-Star Illinois and NUMMI in California) on the number of work rules contained in each contract, we find some interesting facts. Work rules limit worker autonomy and discretion. Both autonomy and discretion can be important ways of involving workers in improving quality. We find the Big Three are far more rule-bound and oriented toward Theory X management. With fewer rules and limits on employee autonomy, the transplants follow the Theory Y approach more closely. Quality can best be attained by involving all members of the organization. This is achieved only with a quality system design (which is management’s responsibility) and a highly trained and involved work force.

A firm committed to the principles of quality management frames its core question about how to motivate employees something like this: “How do we enable workers to feel a natural sense of pride in their work and to be self-motivated?” This approach to motivation is based on the assumption that employees inherently want to do a good job. In the quality management view, employees are assets, not liabilities. Negative assumptions about employees’ desire to do a good job (“If you don’t watch them every minute, they’re sure to slack off.”) are seen as counterproductive. These negative assumptions can lead to a system where employees are motivated by fear. For example, when attempts were made to unionize minimum-wage workers at a plant in Louisiana the workers were more frightened by the threat of losing their jobs than by the possibility of continuing to live in near-poverty. As one employee, a 32-year-old single parent, said, “It’s so awful there, and I do want my life to get better. But I can’t lose this job.”<sup>27</sup>

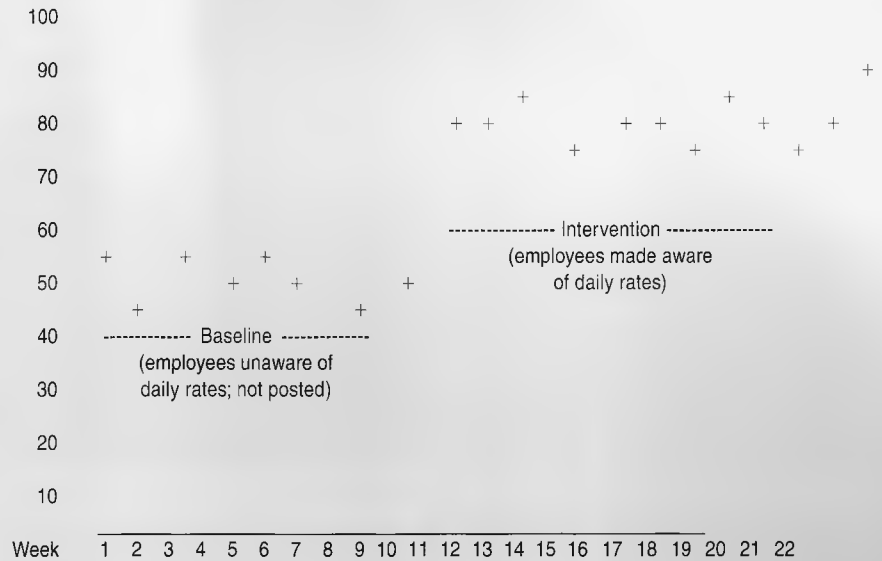
In the quality-based approach to managing employees, management’s primary responsibility in terms of employees’ performance is to create and maintain a motivation system that supports each employee’s natural ambition and pride of workmanship.<sup>28</sup> Quality expert Philip B. Crosby claims that employees who work for money alone are loyal to money, not the organization. He says that most employees also work for fulfillment, appreciation, and the social companionship provided by work.<sup>29</sup>

### Tools and Techniques

In the quality management firm, the manager’s primary role in motivating employees is (1) to stabilize the system and (2) to remove obstacles that prevent “natural,” intrinsic motivation from occurring. This role requires the use of quality tools and techniques, such as charting, pay for performance, flexible rewards, flexible working hours, self-managed work design, and job enrichment.

FIGURE 13-6  
A Chart of Phone Response  
Effectiveness

Percentage of phone  
calls answered in  
fewer than four rings



#### Charting

A technique used to measure the frequency of a worker's target behavior over time.

#### Pinpointing

The identification of quality-based target behaviors.

#### Target behaviors

Behaviors that either contribute to or detract from the organization's quality aims.

#### Baseline

The portion of a behavioral chart that measures work behavior before any effort is made to change the worker's behavior.

#### Intervention period

The portion of time posted on the behavioral record chart that follows the introduction of a change.

#### Event counting

An enumeration of a behavior (e.g., number of times that safety goggles are worn) within a given time period.

#### Time sampling

A series of observations or checks throughout the specified time period, usually to see if the behavior was occurring (or not occurring) at the time of the check.

#### Output counting

A measure of results of a targeted process.

**Charting** Before goals are set, management must identify desirable and undesirable work behaviors and then measure the frequency of these behaviors over time. One technique for accomplishing this is called **charting**. In charting, a process called **pinpointing** is used to identify **target behaviors** (behaviors that either contribute to or detract from the organization's quality aims). Goals can then be set based on data gathered in the charting process.

Charting (Figure 13-6) provides an accurate measure of behavior and a visual impression of the impact of the intervention. In the figure, the target behavior is the speed of the response to a ringing telephone. The first portion of the chart, the **baseline**, measures the behavior before any change has been implemented. After goal setting occurs, the baseline is used as a comparison to judge the success of the intended change in work behavior. The second part of the chart concerns the **intervention period** (the portion of the time or the behavioral record chart following the introduction of a change).

Target behaviors can be measured in three ways:

- **Event counting** records instances of a behavior (e.g., number of times that safety goggles are worn) within a given time period.
- **Time sampling** consists of a series of observations or checks throughout the specified time period, usually to see if the behavior was occurring (or not occurring) at the time of the check. For example, was the employee wearing safety goggles when she was observed?
- **Output counting** measures the products of the target behavior. Examples of outputs to be counted include measures of customer satisfaction, the number of orders shipped, and the number of packages delivered on time. One travel agency surveys customer reactions to gauge agents' effectiveness in serving clients.<sup>30</sup>

**Pay for Performance** Pay for performance is an application of positive reinforcement. Under this compensation plan, worker performance is measured, with higher levels of performance resulting in higher pay.

## ETHICS SPOTLIGHT

## ONE PRICE FITS ALL

Buying a car has always been a complex, nerve-racking experience. Next to the purchase of a home, the car is the most expensive purchase an individual is likely to make. Due to the pressures of price, need for technical knowledge about performance and fuel economy, and environmental issues such as environmentally friendly air conditioners and low-pollution engines, the decision to purchase a car is downright tough! But add to this complex decision process a high-pressure salesperson, and it is enough to make you get into your old car and drive away happy with what you have.

All this complexity has not gone unnoticed by automakers. In fact, market research indicates that consumer satisfaction with the entire car purchase is abysmally low. At the heart of consumer discontent is negotiating price with the salesperson. Common tactics include *low-balling* (quoting an unrealistically low price), the *slam dunk* (where you agree to pay sticker price or above-sticker, which assures a high dealer profit), and *stealing the trade-in* (where the dealer makes additional profit on your trade-in by giving you much less than it warrants). These common techniques breed suspicion and contempt for auto dealers and salespeople.

In an effort to remedy the situation, the auto industry is trying a new customer-friendly way to sell cars called *no-haggle pricing*. No-haggle pricing's origin as a sales technique is commonly attributed to the Saturn Motor Company which essentially doesn't discount from sticker price. Recently Ford followed suit by offering all three models of its

popular Escort for one price, \$9,999. But there's more to it than just putting the price in the car window and sticking to that price when the customer wants to haggle. To be successful, dealers who use this pricing strategy must redesign their compensation systems to reinforce the change. Generally, salespeople are put on salary or, if they resist, they're sometimes fired. To take the place of salespeople, greeters are hired to assist customers. When the customer is ready to purchase, she's directed to a sales manager who closes the deal.

This new approach has resulted in lower overall margins for dealers. Net profit per unit has decreased to about 7 percent. But there's a bright side to lower profit. Volume is up substantially. A dealer that was selling about 30 new cars per month now sells 90.

Accompanying the increased volume is a need for greater service. During the same period for those dealers using no-haggle pricing, profits from service operations rose 50 percent.

But does no-haggle pricing represent a shift in the ethical treatment of the auto-buying public? Some believe that it is nothing more than an attempt by dealers to reduce costs (e.g., salespeople's commission) and simultaneously increase volume and service work.



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Source: Arlena Sawyers, "No-Haggle Pricing Going Full Throttle," *Advertising Age*, March 22, 1993, p. S10; Neal Templin, "Ford Expands 'One Price' Plan for Its Escorts," *The Wall Street Journal*, March 12, 1992, p. B1; and David Woodruff, "What's This—Car Dealers with Souls?" *Business Week*, April 6, 1992.

There are many forms of pay for performance. For example, many salespeople are paid on commission: that is, the more product the salesperson sells, the more money he earns. Many firms use pay for performance only for managers. Still, a study of 172 large firms showed that 67 percent of the firms with pay for performance plans that involved all employees had significant productivity gains, while less than 40 percent of those that offered the incentives only to top managers had such productivity gains.<sup>31</sup>

With pay for performance plans, performance must be clearly measured and monitored to see that it is consistent with the firm's fundamental goals; otherwise performance is likely to be misdirected. Many factories once found output easy to measure by simply counting finished products, but they often found that paying workers only for the number of finished products resulted in poor quality. And, in some industries, such as automobile sales, pay for performance has led to high-pressure sales tactics that ultimately alienate customers, as is shown in the Ethics Spotlight.

One form of pay for performance—profit sharing—comes highly recommended by quality experts. Profit-sharing allows workers to share in the success of their efforts. Profit sharing can be as simple as a bonus based on the company's profitability (as Ford did several years ago by giving all production line workers an average bonus of about \$3,000). Profit sharing can also allow workers to buy stock in the company at a reduced price. Both approaches make quality work a form of investment. The better the quality

TABLE 13-2

## Work Rewards

## Material Rewards

Direct: Cash, wage, raise, bonus, sales commission, piece-rate pay, stock options, profit-sharing plan, retirement plan.

Fringe: Health plan, free meals, vacation, passes to sports events, retirement plan, convention trips, free company products or discounts, use of company facilities, company car, expense reimbursement, club membership.

## Symbolic Rewards

Plaques, jewelry, certificates, office art or accessories, gold watch, trophy, increased office size, corner office, promotion, new title.

## Social Rewards

Praise, recognition, compliments, acknowledgments, pat on the back.

## Task Rewards

Enriched job, preferred task assignments, job rotation, new job responsibilities, improved work conditions, flexible work hours, early release, freedom to do personal work on company time, extended breaks.

of the product, the greater the sales. The greater the sales, the greater the return to stockholders and/or the greater the rise in the stock's value, and the greater the bonus. Profit sharing provides a direct link between performance and pay. Deming<sup>32</sup> and Crosby<sup>33</sup> agree that profit sharing is the best form of merit pay. In answer to the question of whether a factory worker and the CEO receive an equal share, Deming says, "Well, why not? Certainly."

In one case, consultants worked with employees of a midsized manufacturing firm and set the following compensation incentive objectives: (1) provide extra compensation to motivate high levels of performance, (2) provide additional compensation contingent on the firm's overall profit performance, (3) avoid increased fixed compensation costs, (4) vary payout to reflect both company performance and individual contribution, (5) introduce contingent pay to all organizational levels, and (6) integrate compensation with the performance appraisal program. This new plan produced dramatic results. For instance, employees worked overtime on December 31 to meet performance standards. Almost two thirds of the employees earned a bonus of 7.5 percent of their base salary; several earned 15 percent bonuses.<sup>34</sup>

Another form of pay for performance, *skill-based pay*, is based on the range, depth, and type of an employee's particular skills, rather than on skills listed in the job description.<sup>35</sup> Skill-based pay systems allow workers to increase their base pay by learning new job skills. This generally means that the worker must become proficient in several or all jobs in her work area. Once the worker has qualified for a new job, her base pay increases. Skill-based pay schemes benefit both the employee (through greater compensation) and the organization (through greater work flexibility and depth of work knowledge).

**Flexible Rewards** Rewards can be classified as material, symbolic, social, and/or task (Table 13-2). Providing workers with flexibility in their choice of rewards can be a powerful motivation application.

**Material rewards** (e.g., cash, stock, stock options) have financial value. They're inherently flexible to some degree because they allow the employee to choose how the money is spent. **Symbolic rewards** have psychological impact and can be either tangible (a trophy) or intangible. **Social rewards** (such as praise) come from interpersonal behavior and enhance personal self-efficacy. **Task rewards** relate to the work itself. They include the nature, design, and allocation of specific work assignments, in terms of job responsibilities, autonomy, task-generated feedback, and scheduling control.

**material reward**

A reward with financial value (e.g., cash, stock, stock options).

**symbolic rewards**

Tangible and intangible rewards with psychological impact.

**social rewards**

Rewards that come from interpersonal behavior and enhance personal self-efficacy.

**task rewards**

Rewards that are related to the work itself, such as the nature, design, and allocation of specific work assignments in terms of job responsibilities, autonomy, task-generated feedback, and scheduling control.

**Flexible Working Hours** Flexible working hours is another motivation application. What constitutes a typical workweek? Eighty years ago an American worker might have been expected to work six 12-hour days. Today most American employees put in a 5-day, 40-hour week. But some firms offer 4-day, 10-hour shifts. In Japan most workers work 5½ days a week (45 hours). In Europe the typical workweek is, in some cases, only 35 hours.

Not only has the length of a typical workweek changed, the schedule for those hours has changed for many employees. Some are allowed flexibility in meeting their required number of work hours each week. In addition, some workers are allowed flexible arrangements for maternity leave, family care responsibilities, and balancing peak-load and off-peak times of the year.

For many two-income families, time can be a more powerful source of motivation than money. Aetna is one company that has responded to changing work force demands and staff's need for more accommodating work schedules.<sup>36</sup> It now allows six-week maternity leaves. In the Aetna health claims department, 40 percent of all workers are on *flextime*, which allows them to choose their own starting and ending hours of work. In just a few years the number of part-time employees rose from 700 to 1,200; and many employees *telecommute* (work out of the home using telecommunications, especially personal computers and modems) and share jobs.

**Self-Managed Work Design** Allowing employees to have input into the pace of work, scheduling, and task structure is motivational because it focuses on the outcome—quality. Too often, efficiency has been emphasized. Workers adapt by doing what they can. This may mean putting in three screws where five were required. Self-managed work design implies that the worker can best control the pace of the work.

**Job Enrichment** Job enrichment (which we discussed in Chapter 10) is the enhancement of “natural” motivation inherent in a task. In one study, engineers were more motivated by a “technical challenge than the opportunity for career advancement.”<sup>37</sup> This recent study is entirely consistent with a stream of academic research collectively known as *task design theory*. Task design theory suggests that increasing the job variety, job autonomy, job identity, and feedback from the job leads to increases in motivation and satisfaction.<sup>38</sup> These task characteristics can be naturally motivating aspects of work. Their ability to increase employee involvement and commitment should not be overlooked.

Motivated workers are a key element for continuous quality improvement. We have traced the development of the theoretic basis for a theory of work motivation. Both content and process theories of motivation are useful in understanding the basis for worker behavior. To be effective in the long run, managers must do more than memorize theory. Understanding motivation theory should help managers draw the linkage between organizational goals and individual needs. By asking the simple question “What does this worker want from the job?” the manager can use applied motivational concepts such as goal setting to meet both individual needs and organizational goals.

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## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define motivation.**

At a general level, motivation is the set of forces (e.g., needs) that initiate behavior and determine its form, direction, intensity, and duration.

### **Explain the process of motivation.**

Motivation can be defined as a process to satisfy basic human needs. For example, Maslow believed that people engage in spe-

cific behavior to satisfy lower-order as well as higher-order needs. The process model (Table 13-1) shows how needs influence behavior. Behavior leads to some level of reward. (Poor performance leads to lower levels of the reward than does high performance.) Finally, feedback is the reinforcement component of the model. If a specific need-driven behavior is reinforced with a reward, the behavior is likely to be repeated.

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What are the components of a basic model of motivation?
2. What are the differences between Theory X assumptions about human nature and Theory Y assumptions?
3. What are the factors in Herzberg's two-factor theory?
4. What are the characteristics of an effective goal?

### Understanding

5. What does it mean to say that content theories of motivation are need-based and process theories of motivation are determined by human cognition?

6. Define the terms *equity* and *inequity*. Describe a work situation that is equitable and one that is inequitable.
7. What motivates you at work? Is it pay or other factors?
8. How can fear be used as a motivator? Can fear motivate people? How do managers develop the capacity to use fear to motivate workers?
9. Why do managers look for motivated workers?

### Application

10. In describing a specific work situation, illustrate how a manager might use the principles of a content theory of motivation to motivate workers.

## CASE 13-1

### Motivating the Sales Force at Hewlett Packard

Hewlett Packard (HP), the computer firm based in Cupertino, California, uses several methods to motivate its sales force. The "must-win" program spotlights the salesperson for the best sales approach and attitude in each region every quarter. The winners receive many prizes, including a plaque engraved with their name and accomplishments and a \$500 cash award. Winners are also invited to appear with Manuel Diaz, director of sales and marketing, in an interactive telemeeting. Via HP's television studio and satellite hookup, top salespeople talk about their achievements with sales teams at over 80 sales offices.

Sales quality manager Jeff Williams says programs like this are important because "they cause sales management to turn their attention to critical sales rep behavior such as leadership, teamwork, and a positive, winning attitude." These qualities lead to a long-term competitive advantage.

HP uses several other annual recognition programs to motivate the sales force. The 100% Club recognizes members of the sales force that reach 100 percent of their sales goals. Membership in the President's Club is awarded to the top 100 employees worldwide (85 salespeople and 15 district sales managers). The

main reward of the President's Club is a three-day trip to a luxury resort for winners and their spouses. Here they interact with upper management, including CEO Lewis Platt and HP founders Dave Packard and Bill Hewlett. This demonstrates that outstanding performance is recognized by top management as well as peers.

HP also empowers salespeople to manage accounts, represent the entire company, and manage customer relationships. This results in higher quality work, personal fulfillment, and career growth.

While it is difficult to measure the effectiveness of these motivation techniques, they seem to be working. Salespeople like the trips and rewards, but most of all, they like the recognition by peers and upper management.

### Questions

1. Why is motivating the sales force important at HP?
2. What type of rewards does HP use to motivate the sales force?
3. Which particular theory or theories of motivation explains the methods used by HP to motivate its sales force?

Source: Adapted from Melissa Campanelli, "The Secrets of America's Best Sales Forces," *Sales & Marketing Management*, January 1992, pp. 93-95; and Cate Corcoran, "HP Chief Promises to Get Units Working Together," *InfoWorld*, August 31, 1992, p. 94.

## CASE 13-2

### Honda

The success of Honda is a story of a tiny upstart, first in its home country (Japan) and later in the world's largest, most competi-

tive auto market (the United States), that became the symbol of Japanese influence on the American automobile industry. In 30 years, Japanese cars went from less than 3 percent of the U.S. market to over 30 percent. In 1989, the Honda Accord was the

Sources: "Japan Spins Off," *The Economist*, April 17, 1993, pp. 61-62; "Quality: What Motivates American Workers?" *Business Week*, April 12, 1993, p. 93; Gale Eisenstodt, "Breaking Up," *Forbes*, May 24, 1993, pp. 88-89; "Competing with Tomorrow," *The Economist*, May 12, 1990, pp. 65-66; Myron Magnet, "The Truth about the American Worker," *Fortune*, May 4, 1992, pp. 48-51, 54, 58; "Culturing Change," *The Economist*, July 7, 1990, p. 62; Jerry Flint, "Honda: The Most Efficient 'American' Carmaker," *Forbes*, January 6, 1992; "Changing Gear," *The Economist*, September 19, 1992, p. 80; "Britain's Car Industry: Hai Swindon," *The Economist*, October 3, 1992, p. 70; and "On Guard, Europe," *Business Week*, December 14, 1992, p. 54.



best-selling car in America, a record held for three years. Honda achieved 10 percent of the U.S. car market by 1991. And in a market where almost one third of all "cars" are light trucks, sports utility vehicles, and vans. Honda did not even have an entry. In fact, it wasn't until 1990 that Honda even marketed a station wagon.

While the word "Honda" today is often followed by "automobile," Honda built its reputation originally in the United States with motorcycles, beginning with tiny, 50cc cycles in 1959. Their campaign, "You meet the nicest people on a Honda," helped catapult Honda into a major competitor in the motorcycle business. When Honda entered the U.S. automobile market, some skeptics envisioned a pair of motorcycles tied together. What worked in Japan and with motorcycles, they claimed, would not wash in the American auto market. The original, bubble-shaped Honda CVCC was tiny, low-powered, and prone to rust. But Honda learned fast and beefed up its product with the introduction of the Accord. For example, when Accords were found to have extensive bumper damage from crash tests, Honda quickly corrected the problem and moved from being one of the worst bumper test vehicles to being one of the best—in less than two years.

People also were skeptical when Honda announced plans to build a plant in Ohio, some claiming that Japanese automaking would not translate well into rural America. Tellingly, some fans of Japanese workmanship feared that American workers would make an inferior Honda; Japanese reputation for quality had come full circle. The Ohio facility boomed in the 1980s and late in the decade Honda doubled U.S. capacity and began shipping small numbers of cars back to Japan. In 1989 and 1992, Honda opened plants to build 200,000 engines and 100,000 cars, respectively, in England, mostly for export to Europe. Analysts projected that if European restrictions on Japanese auto sales were to be lifted, Japanese market share in Europe could swell from 12 percent to 20 percent of a 13.5 million car market—about equal to the U.S. market.

What Honda showed in America was that American workers could be motivated and work effectively under Japanese management. Studies show that American workers are often more motivated by the "big win" than in continuous improvement, that they are threatened by change imposed from the top, and that they are skeptical, perhaps afraid, of zero defects. Honda, more familiar with a host of small, quick response subcontractors in Japan, had to strike new ground in the United States. In Japan, 70 percent of manufacturing employees work in small firms, in the United States only one third do.

Honda had to train American employees to think in terms of continuous improvement and long-term development of products and people. By building in an area not previously populated by carmakers, Honda had to teach automaking from the ground up. While this required cultural and technical learning on the part of the workers, observers noted that these inexperienced workers also lacked the bad experiences that had come to characterize management-worker relationships in the United States. Honda employed a young, motivated workforce, then trained them extensively.

With benchmarking and state-of-the-art design and manufacturing skills, Honda set a relentless pace of continuous improvement through worker involvement. In 1991, when an

American firm purchased a new 1992 Honda Civic and took it apart ("reverse engineering"), the engineers marveled at the number of innovations incorporated into the product, some ideas years ahead of their likely manufacture by the American company. The same year, Honda unveiled its "lean burn" engine, with significantly higher mileage. In 1992, Honda withdrew from glamorous Formula 1 auto racing, to save \$80 million a year, to free 100 highly trained engineers to work on more environmentally clean autos.

Honda believes its culture breaks down traditional, formal, and hierarchical relationships between workers and managers. In Honda's research and development division, the culture strongly encourages innovation and an eagerness for change, with "idea contests" and seed money for promising but untested commercial applications. Honda motivates workers across its three divisions to constantly come up with new ideas.

Honda applies its positive style of motivation and management in America. All workers are dressed in spotless company uniforms and called "production associates." Workers and management share one cafeteria of long, informal tables. Workers are not shy to bring ideas to plant managers, even at lunch. One paint shop worker says, "Honda's thing is, the guy on the line is the gut professional on his job, and he knows what is best for that process at that time. He knows best how to make it better." Associates have a voice in design matters. As another associate says, "We may not be classified as management, but many of us are doing management-type jobs."

The results are readily seen with the continuing success of Honda products. Despite a sales slowdown in 1992, Honda remained persistently at the top of the prestigious J. D. Power rankings, for initial quality, customer satisfaction, vehicle performance, and vehicle dependability. The late-1980s introduction of their top-end Acura line again broke the mold, as the first Japanese entry into the luxury-car market. Acura held first place for four years running for the Power customer satisfaction score. In terms of resale value, total operating cost, mileage efficiency and overall reliability, no list was complete without a Honda product, including its gas-sipping Civic CRX.

Honda employs 14,300 Americans, assembles 450,000 cars a year and earns half its sales in the United States. Honda president Kawamoto attributes its success to three joys: "The joy to buy our products, sell our products, and produce our products." The old Packard ad used to pose: "Ask the man who owns one." For Honda, just ask the person who buys, sells, or builds one.

## Questions

1. Do American workers differ from Japanese workers in terms of motivation or is motivation determined by the management style of the organization?
2. How can a firm motivate a worker to seek out and produce continuous improvement? How must a firm train workers to do this?
3. What determines a worker's basic willingness or capacity to be motivated? Do you think that American workers in different parts of the United States differ in their basic motivation? For example, are workers raised in cities motivated by different things than are workers raised in rural settings?

## ■ APPLICATION EXERCISE

### Time for a Raise

You need to make salary decisions for the eight team leaders you manage. Each team leader currently earns about \$32,000 per year. You have \$16,000 for salary increases. Each team leader's work record and personal background are described in the following table.

	Individual Decisions		Group Decisions	
	Scale	Raise	Scale	Raise
Adamson	_____	_____	_____	_____
Berkowitz	_____	_____	_____	_____
Colombo	_____	_____	_____	_____
Dierdorff	_____	_____	_____	_____
Epplington	_____	_____	_____	_____
Forrestal	_____	_____	_____	_____
Gonzalez	_____	_____	_____	_____
Harris	_____	_____	_____	_____

Listed beneath the team leader's name are her or his years with the company (not necessarily in this job), current salary, highest degree or grade of education, and age. *Quantity* of work ranges from 0 (lowest) to 40 (highest). *Absent* counts number of sick and personal days taken in the past year. *Team* evaluates the

cohesiveness, cooperation, and spirit of the team leader's group. *Quality* reflects the defects in a team's quantity of work. Both team and quality range from poor to fair to good to very good to excellent. *Late* is the percentage of team projects (about 50 per year) completed after the agreed-upon deadline.

Employee	Quantity	Absent	Team	Quality	Late
Adamson 7/\$31,600/HS/26	38.65	10	Very good	Very good	3
Berkowitz 3/\$31,750/BS/25	34.59	4	Very good	Very good	0
Colombo 4/\$32,000/BS/26	38.74	3	Good	Good	2
Dierdorff 6/\$31,600/11th/24	37.51	0	Very good	Excellent	5
Epplington 3/\$31,700/BS/25	36.03	0	Excellent	Excellent	4
Forrestal 4/\$31,750/BS/27	38.61	6	Good	Good	3
Gonzalez 5/\$32,000/BS/26	35.23	4	Good	Very good	2
Harris 5/\$31,800/HS/24	37.94	6	Good	Good	1

### Instructions

Rate the performance (using the following point scale) and write the dollar raise you've chosen for each team leader. In your class group, discuss your individual decisions and make a group decision for each team leader's raise. Write your group's ratings and/or raises on the board, as directed.

- 4.0 Excellent (meets or exceeds all standards/expectations).
- 3.0 Very good (meets all standards/expectations).
- 2.0 Good (generally meets standards/expectations).
- 1.0 Fair (often fails to meet standards/expectations).
- 0.0 Poor (fails to meet generally accepted standards/expectations).

CHAPTER

14

LEADERSHIP

*After studying this chapter, you should be able to:*

Distinguish between leaders and managers.

■  
Explain the relationship between leadership and power.

■  
Compare the theories of trait, behavioral, and situational leadership.

■  
Describe the theory of transformational leadership.

■  
Define *self-leadership* and discuss the societal trends that contributed to its development.

■  
Describe the various behavioral and cognitive self-management strategies.

■  
Explain how a business can develop a self-leadership culture.

■

## LEADERSHIP IN TRANSITION

Successful organizations are guided by people with vision. Over time, IBM has been blessed with exactly that type of leadership. Thomas Watson, Sr., built IBM's business through the continual development of punch card technology. With this technological innovation, IBM (nicknamed Big Blue) became synonymous with successful big business. But Watson's lack of vision about the influence of the next technology—the computer—nearly cost IBM dearly. ■ Fortunately, his son, Thomas Watson, Jr., had the youthful energy and foresight to envision the potential impact of the general-purpose computer in business applications. The passing of the reins from father to son was largely an internal decision at IBM. While not totally convinced of the computer's role in general-purpose data processing, Thomas Watson, Sr., stepped aside as chairman and CEO of IBM. Thomas Watson, Jr., quickly pushed for computer development based on the firm's existing strength—punch card technology. His innovative coupling of punch card technology (a field IBM dominated) as a computer input medium gave IBM a competitive advantage in the early years of computing. One thing is sure: Thomas Watson, Jr., had a good understanding of the marketplace and the vision to inter-



Danuta Offinowski/Dot Picture Agency

Louis V. Gertsner, Jr., IBM CEO

pret the computer's role in IBM's future. ■ For the next three decades IBM dominated the direction and technical standards in the computer industry. IBM frequently used its position in the industry to ward off the threat of competitive inroads into its market share. But over the past decade IBM's position as the industry leader has eroded. Its early 1990s market position worsened with IBM reporting a \$4.97 billion loss in the last quarter of 1992. Unlike earlier years when external threats were handled internally, IBM's CEO John Akers found board members and major stockholders pushing for his resignation. Akers finally was forced by pressure from the board of directors to step down as chairman and CEO of IBM. ■ Just

as IBM's success can be attributed to leadership, so apparently can blame for failure be laid at the leader's feet. Who will lead IBM out of the dark path of loss, toward the light of profit? After Akers' pressure cooker resignation, the IBM board did the unthinkable for IBM—it went outside of IBM's executive ranks to select a new CEO. Louis V. Gertsner, Jr., former RJR Nabisco CEO, was handed the reins of Big Blue. This move suggests that no

longer can corporate executives expect to internally resolve their problems through managing better. IBM's market share declined from 30 percent in 1985 to 19 percent in 1991. Promoting from within wasn't the answer—new leadership from outside became the clarion call. ■ Leadership is visionary action. In troublesome times, it can be hard for leaders to make major changes—often because they are just too committed to the past or simply don't have any more ideas. New views of the competitive world often come from outside the corporation. Boards recognize that change requires new vision. IBM's board broke with past practices and selected an outside CEO. Only time will tell whether IBM will regain its former position in the computer industry.

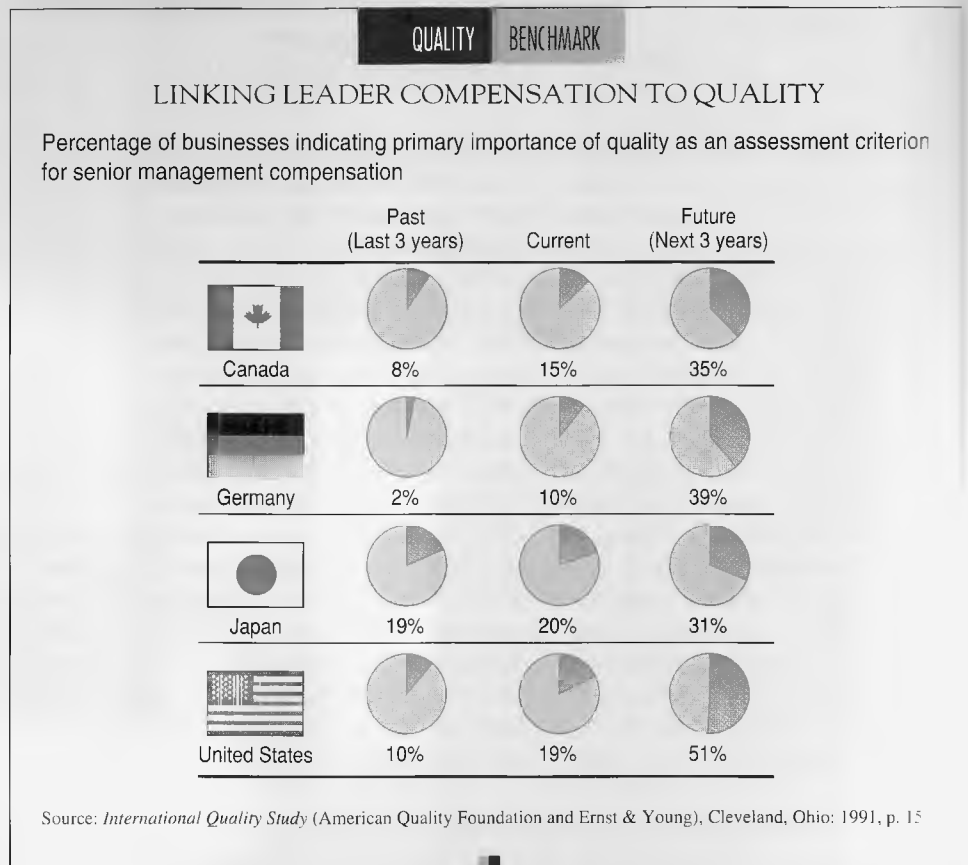
Source: Stephen Baker and Maria Mallory, "IBM after Akers," *Business Week*, February 8, 1993, pp. 22–24; "Akers Quits under Heavy Pressure; Dividend Is Slashed," *The Wall Street Journal*, January 27, 1993, A1–A3; Carole J. Loomis, "King John Wears an Uneasy Crown," *Fortune*, January 11, 1993, pp. 44–46; and George Anders, Eben Shapiro, Michael Miller, and Laurence Hooper, "IBM's Pick Is Talented But Some See Flaws in His Record at RJR," *The Wall Street Journal*, March 25, 1993, p. A1.

Advocates of total quality management such as W. Edwards Deming, Philip B. Crosby, and J. M. Juran maintain that quality improvements are the responsibility of senior-level managers. The challenges of global competitiveness and quality place a heavy emphasis on managers to provide the type of leadership for workers that yields continuous improvement and customer satisfaction. Increased worldwide competition requires innovative strategies that emphasize quality products or services. This requires leadership. Although profound changes—in training, statistical skills, and responsibility, for example—are needed among the work force, none of these are likely to occur without quality-based leadership. This chapter describes how effective leaders provide vision, direction, and meaning to organizational activities.

Our understanding of effective leadership has evolved and matured considerably over the years. One traditional vision of leadership was General Patton barking commands from a tank turret with the troops surrounding him eagerly awaiting orders. A contemporary view of leadership is Mary Kay Ash awarding a pink Cadillac to top saleswomen. Both leaders had a vision of the future, mobilized resources, and motivated people to join them in their quest.

But as society, people, and situations change, so must leaders' actions change. Gone are the days of blind obedience to leaders. Contemporary leadership is based on participation. Our review describes this journey from autocratic to more participative and democratic styles of leadership. In the end, the goal of effective leadership is the production of a high-quality product or service.

Traditional models of leadership have been tested and many doubts have been raised about their capacity to produce a competitive, quality-based work force for the 21st century. The trend in leadership styles is toward more participative and consultive leadership and away from the dogmatic, authoritative approaches of yesteryear. Since leaders have



**vision**  
A clear sense of the organization's future.

**leadership**  
The process of exerting influence over people.

always been expected to be able to both manage and anticipate change, most models of leadership require the effective leader to have a vision. A **vision** is a clear sense of the organization's future. Without vision, leaders have nowhere to lead workers. Without an understanding of the global demands of the market, leaders are not likely to be successful. With this in mind, **leadership** is defined as the process of influencing other people to attain organizational goals.<sup>1</sup>

## LEADERS AND MANAGERS

Are leaders and managers different? Noted Harvard psychologist Abraham Zaleznick thinks so.<sup>2</sup> He believes managers focus on demands and constraints of the moment rather than more far-reaching matters. Unlike leaders, managers must deal with internal daily production concerns. Often managers seem more concerned with “getting things done” than with “getting the right things done.” At the worst, managing is reduced to little more than people processing and product massaging. In the process, managers sometimes show little concern for the customer or the product's final use. Unfortunately this may translate into getting the product out the door regardless of quality. This preoccupation with what Zaleznick calls *process* orientation leads to mediocrity. For the manager, the goal becomes preserving the status quo.

Zaleznick believes that, unlike managers, leaders are bored with routine or, as Tom Peters puts it, they “thrive on chaos” and seek innovative and novel solutions. Rather than have a concern for process, the leader is concerned with *substance*. For a leader, substance is everything. The manager asks, “What is the best way to consistently maintain quality and meet production targets?” The leader asks an entirely different question: “For a particular product, what is quality and how will the definition change in the future?” The difference between managers and leaders is based upon what they do. Managers deal with the pressures of the moment. The manager is concerned with the process surrounding the work flow. The leader is concerned with providing meaning or purpose in work for employees and creating meaning in the product for customers.

Lee Iacocca's transformation of Chrysler is an example of how a leader can create vision and meaning for both workers and customers. Chrysler workers believed that they were part of the solution to problems facing the auto industry. They were creating the new Chrysler corporation. What followed is history. Certainly the firm's customers believe that Chrysler created in its minivan a new alternative to the gas-guzzling station wagon that fit the needs of the family and the environment. Iacocca's strategic vision of new products, new markets, and new ways of creating quality and value for the consumer became a reality. Workers produced a better, higher-quality product—not just because of technology, but because they believed they could. The results were dramatically increased customer demand and profitability.

Leadership is both an individual property and a process. As an individual property, leadership is a combination of personal attributes and abilities such as vision, energy, and knowledge. As a process, leadership is the individual's ability to create a shared vision of the future. Creating a shared vision requires the leader to set goals, motivate employees, and create a supportive and productive culture in the organization. Indeed, in many instances it is difficult to separate the individual from the process. This is because the leadership process is an extension of the leader's personality and ideas. Collectively then, individual leadership properties and the leadership process influence employee behavior.

## POWER AND LEADERSHIP

**power**  
The capacity to influence people.

Influencing the behavior of others is at the core of leadership. To accomplish this, leaders use their **power**, which is, simply, the ability to get people to do something they otherwise wouldn't do.<sup>3</sup> Managers usually have several sources of power at their disposal. The following section summarizes a number of sources of power within organizations.<sup>4</sup>

## ETHICS SPOTLIGHT

## THE USE OF PUNISHMENT POWER AT GENERAL ELECTRIC

When an employee is so troubled by a company's actions that he blows the whistle, will the employee be congratulated or condemned? How will society react? How will the employer react? Can a firm drive out distrust and fear by its leadership practices?

After several visible ethical scandals, including a 1985 conviction for altering time cards of engineers on a government project, General Electric made a concerted effort to increase employee awareness of ethical concerns. CEO Jack Welch became a strong advocate of voluntary disclosure of corporate wrongs. Welch, a globally admired leader of a firm with over \$60 billion in annual sales and more than a quarter-million employees, found that his emphasis on profits had interfered with ethical compliance. To improve this situation, company-produced videos and seminars created an atmosphere that encouraged employees to identify and report wrongdoing by the company. But when employee Chester Walsh detected a \$42 million fraud, GE's ethics policy came under scrutiny. On the one side, Walsh claimed that the real ethic at General Electric was to punish whistle-blowers (employees who find breaches of ethics and then report them), while on the other side, GE management pointed the finger at Walsh, saying he was motivated by a federal law that allows him (as the whistle-blower) to claim up to one-quarter of the \$70 million settlement levied against GE. GE claimed the law encouraged Mr. Walsh to allow the corruption to grow so he could profit from the size of the settlement.

General Electric, a major supplier to the government and foreign trade, was big enough to merit its own investigation unit at the U.S. Justice and Defense departments. About 20 percent of 60 investigations of GE began with whistle-blowers. GE whistle-blowers say that GE's intense effort to be profitable was at the root of the problem. GE counters with the claim that a confidential toll-free phone number for reporting ethics violations, along with forms and alternative channels for letting management know where practices are questionable, provides a leadership culture of openness and

receptiveness to whistle-blowers. Former GE employees, whistle-blowers themselves, claim otherwise. One woman, pointing out unfair billing practices to management, found herself ostracized rather than eliminated. Another employee, reporting time card fraud and overcharging on government work, claims he was dismissed for his effort.

One GE lawyer explained the pressure on GE to balance integrity with an emphasis on making its profit numbers: "To make sure that every time we give a performance message—make your number—we also give a compliance measure." In Philadelphia in 1985, in response to a threat that "heads would roll" if costs were not contained, GE managers illegally charged \$800,000 in cost overruns to a phony research account to be paid by the U.S. Dept. of Defense. U.S. attorney Ed Zittlau said, "The managers feared for their jobs. From their point of view, the mischarging looked like the lesser of two evils."

Fear and greed drive some GE managers: fear of losing their jobs for below-par performance, greed for healthy bonuses for meeting goals. A manager can double a \$200,000 annual salary if profit goals are met.

Is there any way out of this conflict of interest? General Motors attempted to drive out fear by shifting responsibility for measuring work from managers to workers, while keeping most of the other work mechanisms in place. By reducing the levels and numbers of white-collar, midlevel managers charged with inspection, and by encouraging innovation to improve work and save production jobs threatened by market failure, GM's California New United Motor Manufacturing Inc. (NUMMI) plant showed phenomenal success where once workers and management had witnessed only declining quality and profitability.

Source: Amal Kumar Naj, "Internal Suspicions: GE's Drive to Purge Fraud Is Hampered by Workers' Mistrust," *The Wall Street Journal*, July 22, 1992, pp. A1, A4; Steven Pearlstein, "Contracting: Bringing a Breach of Ethics to Light," *Washington Post*, national weekly edition, July 27–August 2, 1992, pp. 21–22; and "Manufacturing Management: Return of the Stopwatch," *The Economist*, January 23, 1993, p. 69.

**Reward Power** Reward power is the manager's ability to allocate organizational resources in exchange for cooperation. Reward power is probably the most widely used form of power. Raises and promotions are potent motivational tools.

**Coercive Power** Coercive power, sometimes referred to as *punishment power*, is the opposite of reward power. Coercive power is the manager's ability to apply penalties when an employee fails to cooperate. For example, an employee who exhibits inappropriate behavior or violates company policy might be given a "below-average" performance evaluation or even be passed over for promotion. But punishment power can generate fear and distrust among employees, as the Ethics Spotlight shows. These negative aspects of punishment must far outweigh the benefits before punishment can be successfully used to alter an employee's behavior.

**Expert Power** Expert power is based on an individual's technical or expert knowledge about a particular area. Expertise may be in the form of experience, information, or

advanced education. Special knowledge allows an individual to persuade others to do as she wishes. The advertising executive who has developed many successful campaigns is sought after for advice and so has expert power.

**Referent Power** Referent power arises from an individual's personal characteristics that are esteemed by others. Referent power stimulates imitation and loyalty. Thus people we admire have referent power. When someone we admire asks us to do something, we are more inclined to do it than if someone we don't admire makes the request. We also emulate the admired person's behavior in the hope that by doing so, we will be as successful as he or she is.

**Legitimate Power** Legitimate power is correlated to the individual's position within an organization. The use of legitimate power to direct, reward, discipline, and control workers is called authority. Authority is the leader's formal power granted by membership in the organization.

## MODELS AND THEORIES OF LEADERSHIP

Leadership is one of the most studied aspects of management. A tremendous variety of research, terms, and values underlie leadership definitions, theories, and findings. Three widely accepted historical models have evolved through the 20th century. Trait theory, the first attempt to describe effective leaders in a systematic fashion, focuses on a **trait** such as a physical or personality attribute of the leader. Studies of trait theory led to the behavioral model. Behavioral models focus on (1) the work itself and (2) worker attitudes. Behavioral models, in turn, led to contingency models of leadership. **Contingency leadership models** state that the leader's behavioral style must be contingent on the situation if the leader is to be effective. Contingency models emerged as two different approaches: (1) fit the leader to the situation and (2) fit the decision to the situation. Subsequent leadership theorists have sought alternative explanations for effective leadership, including visionary leadership and substitutes for leadership.

**contingency leadership models**  
Leadership theories that assert that the specific leadership behavioral style must be contingent on the situation if the leader is to be effective.

### Trait Theory of Leadership

Today we tend to notice effective leaders—Herb Kelleher of Southwest Airlines, Robert Goizueta of Coca-Cola, the late Sam Walton of Wal-Mart—and ask what personal characteristics make them effective. This question is at the root of the **trait theory of leadership**, which identifies effective leaders in terms of certain physical and psychological attributes (e.g., intelligence, height, articulateness). Trait-based leadership approaches focus on traits of those who emerged or assumed power as the leader and on traits of those leaders considered to be effective.

**trait theory of leadership**  
An early attempt to describe effective leaders in a systematic fashion that focuses on the leader's physical and personality attributes.

One review of 12 leadership studies revealed conflicting results. Nine studies supported the idea that leaders were taller than followers, although two studies found the reverse to be true. The same study concluded that leadership ability is associated with the person's judgment and verbal skills.<sup>5</sup> Edwin Ghiselli notes that, within a certain range, intelligence is an accurate predictor of leadership effectiveness.<sup>6</sup> But leaders who are much more intelligent or much less intelligent than their followers will not be effective. Also Ghiselli's findings suggest that leader initiative, self-assurance, decisiveness, and maturity, among other traits, are important for leader success. A 1992 survey of 750 leading American companies identified the most preferred skills or characteristics of an ideal MBA. These qualities were oral and written communication skills (preferred by 83.5 percent of respondents), leadership (79.7 percent), analytical skills (75.3 percent), the ability to work in teams (71.4 percent), and the ability to manage rapid change (65.9 percent).<sup>7</sup>

A study of 21 less effective leaders established that leaders who failed to be promoted (or were fired or forced to retire) were more insensitive, abrasive, arrogant.



intimidating, excessively ambitious, and unable to delegate, staff effectively, or adapt to bosses with different styles. By contrast, the more effective leaders were more direct yet diplomatic, and were flexible at dealing with others.<sup>8</sup> Another study found that specific technical skills or knowledge of the work group's task were related to leader success.<sup>9</sup> Flexibility is also a valuable leader trait. With modern flexible manufacturing systems, firms stress a greater variety of superior product features, factories that can produce a range of products, and rapid product innovation to meet changing customer tastes. This is a broader definition of *quality* than reliable products, conformance, and just-in-time delivery.<sup>10</sup>

Trait theory constitutes an important yet incomplete approach to leadership. Not all effective leaders are tall or exceptionally smart. Serious cultural differences exist; some attributes seen as positive in some cultures are seen as negative in others. For example, American leadership practices have tended to endorse direct, forceful leaders. Not all successful leaders are dominating, extroverted, or self-confident. The trait approach is a simple—perhaps too simple—method for trying to identify or predict effective leadership. Yet at the same time it presents an appealing potential explanation for the effectiveness of people like Sam Walton and Lee Iacocca.

But trait theory generally ignores the workers. Lists of traits also fail to give weight to the relative importance of the many possible traits. (For example, is decisiveness more important than intelligence?) Many trait studies were of small numbers of leaders, which limited the studies' ability to generalize, especially across cultures and countries. Most of all, trait theory studies were inconsistent in their findings and in their value to management. Trait theory does suggest that some value can be found in attention to both the task and the workers. Trait theory's deficiency in explaining significant variance in leadership effectiveness, as well as some of its useful findings, has led to the behavioral style models of the leader.

## Behavioral Models of Leadership

As research shifted away from the idea that leaders are endowed with certain characteristics, it moved toward the notion that different leaders have or could develop different leadership styles. This approach, known as the behavioral style, defines leader effectiveness in terms of *leader behaviors*—what the leader *does*—rather than in terms of traits the leader *possesses*.

**Task-Oriented and People-Oriented Styles** In the **behavioral style model**, effective leaders focus both on the work and on workers' attitudes and expectations. A **task-oriented behavioral style** consists of behaviors such as setting goals, giving directions, supervising worker performance, and applauding good work. Since Frederick Taylor's time, there has been regular attention to the leader as a task-driven manager. Yet attention to task alone was insufficient. Thus there evolved a **people-oriented behavioral style**. It consists of behaviors such as showing empathy for worker needs and feelings, being supportive of group needs, establishing trusting relationships with workers, and allowing workers to participate in work-related decisions. According to Philip Crosby, "The future executive can go all the way through undergraduate business school and graduate business school without receiving a course on how to help the employee. It's always 'systems and programs analysis,' not how do we help the person do the job, how do we help people."<sup>11</sup>

**Job-Centered and Employee-Centered Leader Behaviors** Studies conducted at the University of Michigan focused on job-centered and employee-centered leader behaviors.<sup>12</sup> These two categories of leader behaviors represent an emphasis toward either a task-orientation or a people-orientation. At first, an employee-centered leader was found to be effective, but the original study did not separate cause and effect. Did an employee-centered leader produce good work, or did good work produce an employee-centered leader? More careful subsequent research found that while employee-centered leaders did

### behavioral style model

The leadership theory that focuses on (1) the work and (2) workers' attitudes and expectations.

### task-oriented behavioral style

Leadership behaviors such as setting goals, giving directions, supervising worker performance, and applauding good work.

### people-oriented behavioral style

The aspect of leadership theory consisting of behaviors such as showing empathy for worker needs and feelings, being supportive of group needs, establishing trusting relationships with workers, and allowing workers to participate in work-related decisions.



© Alan Levenson

Wal-mart earned a reputation for its people-oriented management.

FIGURE 14-1

### Leader Behavioral Styles

	<u>Task-oriented</u>	<u>People-oriented</u>
Ohio State studies	Initiating structure	Consideration
Michigan studies	Job-centered Authoritarian	Employee-centered Democratic

create more positive worker attitudes, job-centered leaders achieved higher worker productivity.<sup>13</sup> Figure 14-1 summarizes leader behavioral styles.

***Initiating Structure and Consideration*** The Ohio State studies, conducted at the university beginning about 50 years ago, identified initiating structure and consideration as task- and people-oriented behavioral styles, respectively.<sup>14</sup> Leaders emphasizing initiating structure usually follow a behavioral pattern: they insist that workers follow rigid work methods, insist on being informed of worker behavior, push workers for greater efforts, and make detailed decisions for the workers, concerning what work is to be done and how it is to be done. Leaders emphasizing consideration appreciate a job well done, stress high morale, treat workers as their equals, and are friendly and approachable. Subsequent studies generally found that leaders who score high on both behaviors are more effective than leaders scoring low on these behavioral styles.

Leaders were not found to be consistently effective despite a consistent, well-trained, and focused set of task- or people-oriented behaviors. Some workers did not respond well to task-oriented leaders. There were times when people-orientation helped task performance and times when it detracted from task performance. Dissatisfaction with behavioral style theories' ability to explain effective leadership led to the third phase in traditional

leadership approaches, namely contingency or situation-based leadership effectiveness models, which we'll discuss shortly.

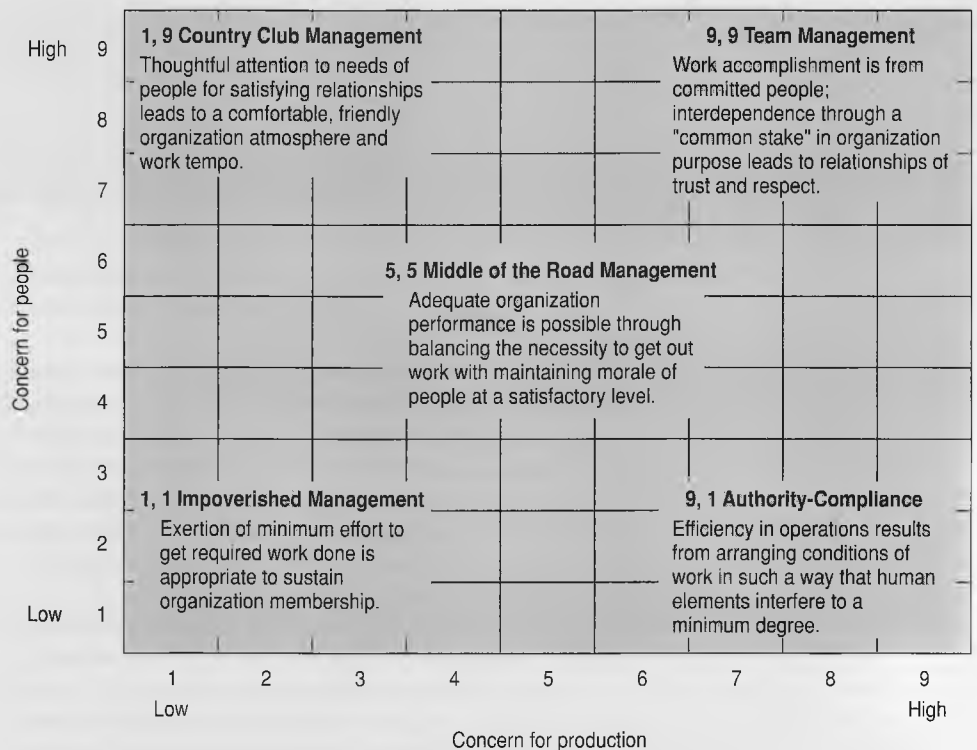
At Wal-Mart, managers employ a combination of people-oriented management with task skills and modern technology. Visiting senior managers ask employees, "Is there anything we can do for you?" as they simultaneously track task performance via a computer terminal that provides sales figures by store and department, measures labor hours and inventory losses, and compares these numbers with data for previous time periods, other stores or sales districts, as well as the national standards for Wal-Mart.<sup>15</sup>

**Leadership Grid®** Robert R. Blake and Anne Adams McCaense developed the Leadership Grid® as a vehicle for leader behavior assessment and development. Using a series of questionnaires and structured seminars, the Leadership Grid technique assesses leadership orientation. The Leadership Grid incorporates both task-orientation (concern for production) and people-orientation (concern for people) into a two-dimensional matrix grid (Figure 14-2). Concern for people and concern for production are each arrayed along a nine-point continuum. A person with a high concern for people and low concern for production would be represented by the (1,9) cell of the matrix.

In the reverse situation, a person with a high degree of concern for production and a low concern for people would rate the (9,1) cell. In the midrange position is the person who is moderate on both dimensions, represented by the (5,5) cell. An individual rated at the top on both dimensions would be in the (9,9) cell. This technique demonstrates that it is likely that both orientations are more or less present in all managers rather than there being distinct or different leader behaviors. Leaders must be able to demonstrate concern for both people and production.

Further, Blake and McCaense believe that the (9,9) cell, which represents high people-orientation and high task-orientation, is the preferred style. The rationale for their belief is that a leader not only must support the worker but also must structure the work

FIGURE 14-2  
The Leadership Grid®



Source: The Leadership Grid® Figure from *Leadership Dilemmas—Grid Solutions*, by Robert R. Blake and Anne Adams McCaense (Houston: Grid Publishing Company), p. 29. Copyright © 1991, by Scientific Methods, Inc. Reproduced by permission of the owners.

setting toward task achievement. Finally, a series of seminars are used to guide the leader more toward the (9,9) orientation. A positive feature of the Leadership Grid is the recognition that both types of leader behaviors are important and that people have different orientations or predispositions that they bring to the management process. A negative feature of this approach is the assumption that leader behaviors can be readily changed through seminar participation. As we will see, this is not a common assumption among management scholars.

## Contingency Models of Leadership

**situational theories of leadership**  
Theories in which the appropriate leader behavior is the one that best fits the constraints of a specific situation.

According to **situational theories of leadership**, the appropriate leader behavior is the one that best fits the constraints of a specific situation. An effective leader exhibits the leader behavior that matches the situation's demands. Leader effectiveness is contingent on displaying behavior appropriate to the situation's demands. In this context, situational leadership theories (1) identify important leadership situations and (2) suggest various leadership behaviors that increase worker satisfaction and productivity.

Two contrasting explanations of leadership situational effectiveness have emerged. One fits the leader to the situation; the other fits the leader's behavior to the situation. The first approach assumes the leader's behavioral style is relatively fixed or not easily changed. In this approach the best advice is to find the situation where the leader is most effective and avoid those situations where the leader is least effective. Is this always possible? Probably not! But the idea has merit. If we can find the situation where a manager's dominant leadership style is most effective, both leader and follower are best served. An example of this approach to situational leadership is Fiedler's LPC theory, which will be discussed below.

The second approach makes the assumption that both the leader's decisions and the work situation are relatively fluid and subject to change. This perspective removes the assumption of a rigid leadership style that nothing can change. This approach views managers as adaptive and able to respond effectively to different people and different situations. An example of this approach is the Vroom-Jago model, which we will explain later.

Both approaches to situational leadership hold merit and have research support. But the second approach of fitting the decision to the situation appears to offer a more realistic view of human nature. Leaders face people with different personalities, abilities, and motivations. To assume that a leader would treat them all alike is simplistic at best.

### Fiedler's LPC theory

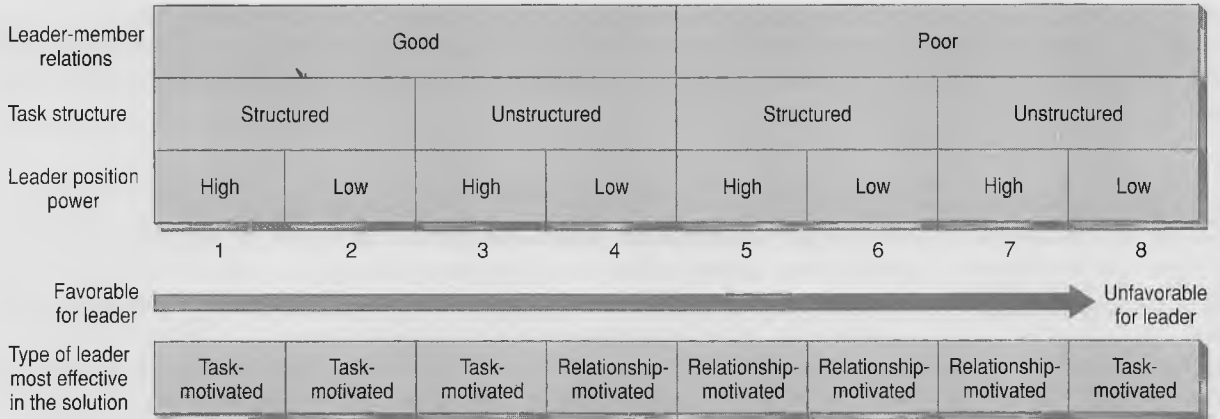
A two-step theory in which the leader is adjusted to the situation. The first step is to measure and determine the leader's behavioral style. The second step is to find or create a situation that would be conducive to the leader's fixed style.

**Fiedler's LPC Theory** Fiedler's fit-the-leader-to-the-situation approach (known as **Fiedler's LPC Theory**) was one of the first widely embraced situational leadership theories.<sup>16</sup> In this theory, the leader's behavioral style first had to be measured and determined. Next, a situation had to be found or created that would be conducive to the leader's fixed style. Fiedler found that for particularly difficult work conditions (poor relationships with workers, little power over workers, and an unstructured task) or relatively undemanding work situations (good relationships with workers, high power over workers, and a clearly structured task), the effective leader needed to be task-oriented. In mixed (not easy, not difficult) situations, a people-oriented style worked best (Figure 14-3).

Fiedler measured a leader's style using an instrument that identified the leader's least preferred coworker (LPC). The LPC measures the leader's behavioral style in terms of task-orientation and people-orientation. With this measure, a leader who identified his LPC in terms critical of the worker's task initiative and accomplishment was described as task-oriented. If the leader identified the LPC in relatively positive terms (that is, the leader preferred not to work with this person but found little to criticize), the leader was described as people-oriented. This relatively unique method of assessing a leader's style has been questioned, although Fiedler's research showed an improvement over noncontingent approaches to leadership.

FIGURE 14-3

Fiedler's Analysis of Situations in Which the Task- or Relationship-Motivated Leader Is More Effective



Source: D. Organ and T. Bateman, *Organizational Behavior*, 4th ed. (Homewood, Ill.: Richard D. Irwin, 1990), p. 558.

#### path-goal leadership theory

Theory based on the expectancy theory of motivation. The leader's role is to help the worker engage in organizational activities that lead to rewards that the worker values.

**Path-Goal Theory of Leadership** House and Mitchell's **path-goal leadership theory** is based on the expectancy theory of motivation. The role of the leader is twofold: (1) clarify for the follower the path by which an individual can achieve personal goals (salary increases and promotions) and organizational outcomes (increased productivity and profitability) and (2) increase rewards that are valued by the follower. In a sense, the leader facilitates the organizational learning process. To do this, the leader engages in behaviors that help followers better understand how their actions are linked to organizational rewards. Effective leaders help workers engage in behaviors that lead to rewards they value. In essence, the leader motivates the follower toward outcomes valued by the individual and the organization.

Path-goal theory identifies four types of leader behaviors:

1. **Directive behavior.** The leader makes clear task expectations by setting goals, structuring work flow, and providing feedback through regular performance feedback. This leader behavior is similar to the traditional leader behavior known as initiating structure.
2. **Supportive behavior.** The leader demonstrates concern for the follower and, when problems occur, is ready and willing to offer advice or just listen. Supportive behavior is the same as the traditional leader behavior known as consideration.
3. **Participative behavior.** The participative leader actively seeks ideas and information from workers. Participative behavior implies that followers actually participate in making decisions that affect them. For participative style to be effective, workers must perceive that their participation is meaningful and will be used by management.
4. **Achievement behavior.** Achievement leadership translates into setting expectations and task goals at a high level. This involves making the job challenging but not impossible to accomplish.

These four behaviors form a repertoire of meaningful actions that a leader might exhibit under different work situations. The theory also suggests that leaders have the ability to increase rewards that are valued by the follower. Leaders are effective to the extent that they can motivate followers, influence their ability to perform, and increase their job satisfaction. The model specifies that a follower's attitudes and behaviors are influenced by two factors: leader behaviors and situational factors. Followers' attitudes and behaviors include their level of job satisfaction and their ability to perform their task. Situational factors (sometimes referred to as environmental factors) include task requirements, the work group, and the formal authority structure. Personal characteristics of the follower include locus of control and perceived ability.

Path-goal theory prescribes which leader behaviors are likely to be effective with different situational constraints. Leaders are expected to change their behavior toward the follower when situational changes occur. From the workers' perspective the leader behaviors must be seen as facilitating or enabling workers to accomplish both immediate task goals and their own personal goals.

The theory suggests that the following match between leader behaviors and the situation results in effective leadership. For example, the directive behavior is suggested for situations that require more task structuring, monitoring, and feedback. Directive behavior may be particularly appropriate for a new employee with limited job experience. The supportive style might be suitable in a situation where workers know the job well and are experiencing delays or "client conflict" and just need to know that they're doing the right thing. Participative behavior is appropriate for workers who know their jobs well enough to make meaningful contributions to decisions that affect themselves and their department.

Finally, achievement behavior is suitable in situations where high performance is in the best interest of both the employee and the organization. A sales department compensated on a commission basis would provide an opportunity for achievement-oriented leader behavior. Here achievement-oriented leader behavior sets high sales expectations that, when they're met, yield the sales department greater financial rewards. Achievement-oriented leadership works best when the followers have a high need for achievement.

In summary, path-goal leadership theory views the leader as the vital link between the organization and the individual. Leaders need to motivate workers to understand how their work efforts are tied to valued salary increases, promotions, praise, recognition, and respect. Figure 14-4 presents the path-goal theory.

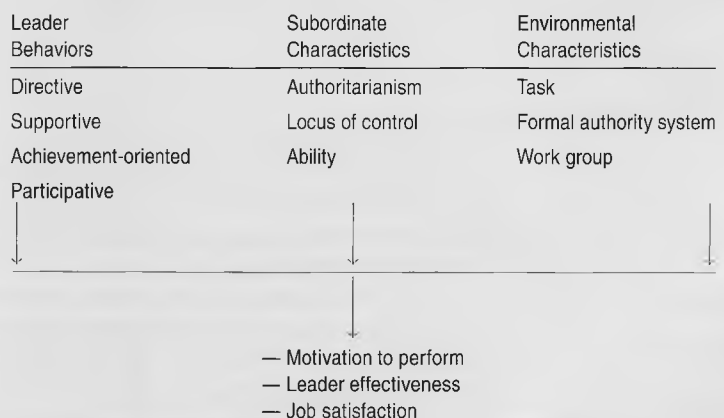
**Vroom-Jago Model** Victor Vroom and Arthur Jago enhanced the widely respected Vroom and Yetton situational leadership theory.<sup>17</sup> In the **Vroom-Jago model**, the ever-changing nature of work situations requires the leader to develop a variety of behavioral responses or decisions and apply them to the different situations as they occur. Leadership is a series of assessments of the situation by the leader. Vroom and Jago believe the results of these assessments guide the leader toward the appropriate leadership style for the situation. The leadership style ranges from autocratic to consultative to group-centered (Figure 14-5 on the next page). Figure 14-6 illustrates questions and decision rules used to determine which leadership style is appropriate for a given situation. As in path-goal theory, the assumption is that people are flexible and can adapt to different situational constraints.

The autocratic decision is task-oriented and should be used when work conditions are simple or favorable to the leader. For example, when the information needed to make

#### Vroom-Jago model

A theory in which the ever-changing nature of work situations requires the leader to develop a variety of behavioral responses or decisions and apply them to the different situations as they occur.

FIGURE 14-4  
Path-Goal Theory



Source: Robert J. House and Terrence Mitchell, "Path-Goal Theory of Leadership," *Journal of Contemporary Business*, Autumn 1974, pp. 81-97.

FIGURE 14-5

Vroom and Jago's Fit the Leader Decision to the Situation: Alternative Leadership Styles

Style	Explanation
AI	<i>Autocratic.</i> Solve the problem yourself using the information you have.
AII	<i>Less autocratic.</i> Obtain the needed information from workers; then solve the problem yourself. Workers provide information but not alternatives.
CI	<i>Consultative.</i> Share the problem with workers individually (but not as a group), seeking suggestions and possible alternatives. Solve the problem yourself.
CII	<i>More consultative.</i> Share the problem with workers as a group, seeking suggestions and possible alternatives. Solve the problem yourself.
GII	<i>Group decision.</i> Share the problem with workers as a group, seeking suggestions and possible alternatives. Attempt to reach a consensus and be willing to accept and implement the workers' solution.

FIGURE 14-6

Vroom and Jago's Fit the Leader Decision to the Situation: The Questions and Decision Rules (Styles refer to Figure 14-5.)

Question	Decision Rule
A	<i>Is there a quality standard that makes one alternative superior to another?</i> If yes, go to B; if no, go to D.
B	<i>Do I have enough information to make a good decision?</i> If yes, go to D; if no, go to C.
C	<i>Is the problem structured?</i> If yes, go to D; if no, go to D.
D	<i>Must workers accept my decision if they are to implement it effectively?</i> If A and D are no, choose Style AI. If A is no and D is yes, go to E. If A and B are yes, and D is no, choose Style AI. If A, B, and D are yes, go to E. If A is yes, B is no, C is yes, and D is no, choose Style AII. If A is yes, B is no, C is yes, and D is yes, go to E. If A is yes, B is no, C is no, and D is no, choose Style CII. If A is yes, B is no, C is no, and D is yes, go to E.
E	<i>If you make the decision alone, are workers likely to accept your decision?</i> If A is no and D and E are yes, choose Style AI. If A is no, D is yes, and E is no, choose Style GII. If A, B, D, and E are yes, choose Style AI. If A, B, and D are yes and E is no, go to F. If A is yes, B is no, C and D are yes, and E is no, go to F. If A is yes, B is no, C and D are yes, and E is yes, choose Style AII. If A is yes, B and C are no, and D and E are yes, choose Style CII. If A is yes, B and C are no, D is yes, and E is no, go to F.
F	<i>Do workers share the firm's goals?</i> If yes, choose Style GII. If A is yes, B is no, C is yes, D is yes, and E and F are no, go to G. If A is yes, B is no, C is no, D is yes, and E and F are no, choose Style CII.
G	<i>Is conflict among workers likely among preferred solutions?</i> If yes, choose Style CII. If no, choose Style CI.

a decision is known to the leader, the workers are sure to support the leader's decision, and the decision's time frame is short, then the leader could be autocratic. In some cases, the leader might have more time to make and implement the decision. Then the leader might invest time in consulting with workers and developing their capacity to make later decisions themselves.

But if the leader lacks important information, doubts the work group's likelihood of accepting an autocratic decision, and needs time to develop group commitment, a group-centered decision is required. Here the leader acts in a people-oriented fashion. When the conditions are unclear but not difficult, a consultative decision style is appropriate.

Both of these approaches showed significant evidence and garnered support from other researchers, but weaknesses and inconsistencies led other researchers to seek alter-

native explanations of effective leadership. By this stage in the development of leadership research, it was clear that simple models of behavior or the situation were insufficient in capturing the nature of effective leadership. Attempts to identify additional external, task structural, or personal characteristics, including environmental uncertainty, well-structured tasks and charismatic leadership models, have produced limited success in explaining effective leadership.

The traditional phases or developments were marked by (1) attempts to remedy shortcomings in previous and current models of leadership with (2) increasingly more sophisticated models that better predicted or explained leadership effectiveness, and (3) a model of the leader as a dominant, essential force in actively directing individual workers or groups or teams of workers.

## Substitutes for Leadership

In many work situations traditional approaches to leadership are ineffective or sometimes just not possible. Kerr and Jermier believe that situational characteristics can reduce the need for traditional leadership.<sup>18</sup> They identify three situational characteristics that include characteristics of the subordinate, the task, and the organization. These characteristics can act as either neutralizers or substitutes for leadership.

In certain situations, leader behavior can be neutralized by an organizational characteristic. A **neutralizer** is any situation that prevents the leader from acting in a specified way.<sup>19</sup> For example, a union contract may require that all union members in the organization receive the same raise regardless of job performance. This situation neutralizes the leader's ability to reward or reinforce positive behavior as well as to sanction negative behavior. In essence, the leader can't reward top performers at a higher rate than low performers.

In other situations, **substitutes for leadership** replace the need for traditional leadership. New employees often require more direct, task-oriented leader behaviors. But training and education can reduce the need for task-oriented leader behaviors. In this manner, training and education serve as substitutes for leadership. Figure 14-7 gives examples of other neutralizers and substitutes for leadership.

### neutralizer

Any situation that prevents the leader from acting in a specified way.

### substitutes for leadership

Illustrates the idea that other factors in the work environment can and do cause workers to behave in a certain manner. The leader can use these factors to guide work behavior when direct leadership is neither desirable nor possible.

FIGURE 14-7

Substitutes for Leadership and for Task-Oriented and Consideration Leader Behaviors

Substitute or Neutralizer	Consideration	Initiating Structure
Subordinate Characteristics		
1. Experience, ability, training		Substitute
2. Professional orientation	Substitute	Substitute
3. Indifference toward rewards offered by the organization	Neutralizer	Neutralizer
Task Characteristics		
1. Structure, routine task		Substitute
2. Feedback provided by task		Substitute
3. Intrinsically satisfying task	Substitute	
Organization Characteristics		
1. Cohesive work group	Substitute	Substitute
2. Low position power (leader lacks control over organizational rewards)	Neutralizer	Neutralizer
3. Formalization (explicit plans, goals, areas of control)		Substitute
4. Inflexibility (rigid, unyielding rules and procedures)		Neutralizer
5. Leader located apart from subordinates with only limited communication possible	Neutralizer	Neutralizer

Source: Gary A. Yukl, *Leadership in Organizations* (Englewood Cliffs, N.J.: Prentice Hall, 1989), pp. 108-12.



## ■ TRANSFORMATIONAL LEADERSHIP

### transformational leadership

An approach to leadership based on changing workers' basic values and attitudes about their jobs. The transformational leader encourages worker participation in decisions and challenges workers to help the leader create the future organization one day at a time.

### transactional leadership

A leadership approach in which leaders appeal to the workers' rational exchange motive.

Early in the chapter we distinguished between leaders and managers. We also discussed trait theory—an early theory suggesting leaders have certain characteristics that could be identified or maybe developed for those deficient in the trait. Today most management scholars use the terms *managing* and *leading* to refer to two different processes. But for many years trait theory took a back seat to behavioral and situational explanations of leadership.

Several theorists use the term **transformational leadership** to describe an inspirational form of leader behavior based on modifying followers' beliefs, values, and ultimately their behavior. Bass refers to this process as leadership that creates “performance beyond expectations.”<sup>20</sup> Lee Iacocca transformed Chrysler not just by changing products but also by changing the attitudes of both workers and customers. Similarly Larry Quadraacci's inspirational leadership transformed a small midwestern printer, Quad Graphics, into a highly profitable national corporation.

In contrast, **transactional leadership** is more closely related to both behavioral and situational leader behaviors. Transactional leaders appeal to workers' rational exchange motive. Workers exchange labor for wages. Leaders help clarify the path from effort to reward. For the worker, this is a form of self-interested exchange—do this and you get rewarded. For the leader, it is a process of keeping workers riveted to organizational goals. Both transactional and transformational leadership are valid approaches to leadership.

Transformational leadership helps us to realize that leaders who transform organizations are unique and individually different. As you recall, early trait theorists were unsuccessful in identifying physical attributes and personality types needed for effective leadership. But transformational leadership research holds the promise that individual qualities are a critical element in transforming an organization. Successful companies often have bold, dominant leaders who guide, inspire, and create a vision of the future. Roberto Goizueta of Coca-Cola, Steve Jobs in the early years of Apple Computer, and Lee Iacocca of Chrysler are examples of people who made the leadership difference.

Do leadership traits exist? Sure they do! But can we teach people these traits and expect them to go out and transform organizations? Certainly not! But neither are real leaders born. Leadership needs certainly more than a common set of traits. And don't assume that leaders just pop up periodically. Leadership is personal and situational, and it requires an investment and, undoubtedly, some luck.

## ■ SELF-LEADERSHIP

Two societal trends will greatly impact future leadership approaches.<sup>21</sup> First, a highly educated work force in a democratic society will seek greater decision-making participation and other forms of power sharing.<sup>22</sup> Second, a highly competitive world economy has led to the necessity for increased cost-cutting measures. The United States uses more middle managers than foreign competitors do. The result has been a permanent reduction in the white-collar work force. Both trends make a shift toward greater worker control more likely in the future.

Shifting societal trends requires new leadership strategies. For effective leadership in the future, two things must occur. First, leaders must engage in behaviors that actively encourage workers to gain control over their work destiny. This means power sharing and requires a confident, secure leader as well as willing, able workers. Second, workers need to develop the requisite self-control strategies such as self-management and self-leadership. New leadership approaches to managing increasingly competitive markets will, of necessity, increase worker participation in the decision-making process. As we noted earlier, this means more democratic rather than authoritarian leaders.

Thanks to innovative leadership, Lincoln Electric, in Cleveland, Ohio, has earned a reputation for product quality. Lincoln's leadership system assumes workers are self-



© Rob Crandall/Stock, Boston

The pressures of global competition have led some firms to cut their levels of middle management. White-collar workers now line up for jobs the way only blue-collar workers once did.

## GLOBAL EXCHANGE

### LEADERSHIP CHANGES AROUND THE WORLD

"I wanted employees who would fly like geese. What I had was a company that wallowed like a herd of buffalo," says Ralph Stayer, CEO of Johnsonville Foods in Wisconsin.

Ralph Stayer was surprised to learn of the difference between what he expected or desired and what he found to be the case. One lesson he learned from his careful study of his leadership style and its impact was that his strong entrepreneurial style and track record in building Johnsonville to be a success in the sausage and other meat market had become an obstacle to his desire for employees to take charge of decisions. Then he compounded his problem at one point by ordering change. He took charge of employees' taking charge of themselves—a false start toward a new leadership style. Stayer learned that to get workers to make decisions, he had to assure them that the decisions were theirs to make. He had to change his leadership style.

In 1993 the most admired American corporations were often identified with an admirable leadership style. At Wal-Mart, David Glass (successor to the legendary Sam Walton) had earned the respect of his peers and competitors, despite some clear changes from Walton's folksy style. Roy Vagelos at Merck, Stanley Gault at Goodyear, Wayne Calloway at PepsiCo, and Red Poling of Ford were a few of the most admired leaders in their respective industries.

The merging of the European market into a more integrated whole caused some observers of leadership style to seek a "Euro-manager" style. While American leaders were

characterized by their financial and marketing skills, and Japanese leaders by their emphasis on quality and just-in-time production, European managers emphasized "soft" people skills, underscoring the multicultural underpinnings of the European market.

An American survey of important leadership style considerations for the 21st century focused on the vision needed to move the country ahead. While experts called for health care reform, tax incentives, improved infrastructure, and a lower budget deficit, the common focus was on the primary, secondary, vocational, university, and on-the-job education and training of the work force to prepare workers and leaders to be ready for the needed leadership style of the future. Small countries like South Korea, Singapore, and Taiwan showed that physical resources are not the critical ingredient in global quality and competitiveness. Harvard professor Michael Porter emphasized the need for educating the work force about the need for innovation, productivity, and competitiveness to be part of the global economy. Leadership styles for the future require unceasing attention to change—and that has driven firms to view workers, not traditional leaders, as the key to corporate success.

Source: Bill Saporito, "David Glass Won't Crack Under Fire," *Fortune*, February 8, 1993, pp. 75, 78, 80; "A Leadership Poll: America Prepares for the 21st Century," *Management Review*, January 1993, pp. 24–29; "The Elusive Euro-manager," *The Economist*, November 7, 1992, p. 83; and Ralph Stayer, "How I Learned to Let My Workers Lead," *Harvard Business Review*, November–December 1990, pp. 66–83.

## REFLECTIONS BY PHILIP B. CROSBY

## LEADERSHIP AND QUALITY

When I was running my first production operation, I wanted very much to be a good leader. For this reason I read everything I could on the subject and watched closely how others handled their responsibilities. It wasn't long before I was certain that I knew a great deal about being a leader. We were running a three-shift operation six days a week, and I made certain that I was up to date on all data and personnel changes. I met with my staff each morning and spent a great deal of time with all the people.

One of my children became ill at this time and was forced to spend a few days in the hospital. We wanted to make certain that she was not alone, so the family divided the 24-hour day into segments. I came over during the day but my assigned segment was 8 P.M. to midnight. This let me do my office work while she dozed or watched TV, and I could still get some sleep before going to work.

The second night, when my uncle relieved me, I decided to drop by the plant on the way home to check in on our third shift. As I walked into the normally bustling plant I realized that things were different during that time period. It had been a long time since I worked that shift.

The people were delighted to see me, and I spent 30 minutes or so just wandering around seeing what was happening. One of the operators motioned me over to her workstation and pointed out that they were out of components "again." The stockroom was locked on the third shift and not enough parts had been left.

"It happens all the time," she noted.

The superintendent grabbed me to have a cup of coffee with the members of the quality team who were

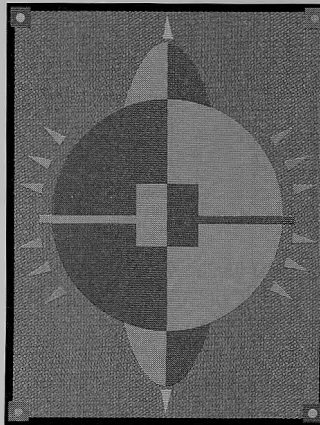
having a 15-minute stand-up meeting. They were having a hard time obtaining customer information concerning new products that were being delivered. Requests to the quality engineering department were not gaining any response.

Before I left, I had picked up six different problems that were not being properly addressed by the rest of the operation. The next morning I brought these to the attention of my staff and asked them for action. No one knew anything about the problems I had brought them, but they agreed to respond more promptly. The quality engineering manager and the production control supervisor thought that the complaints were overstated. However, at my urging they agreed to get into the situation.

Two nights later I repeated my visit and found that a few things had been fixed, but that the people had no feeling that they were receiving much support. They also gave me five more assignments.

At the next morning's staff meeting I stated that I was tired of being an errand boy and that we needed to make the third shift, and the second one too, equal in all respects to the first. I handed them a schedule in which we would all take turns visiting these activities. I also brought the shift superintendents in so they could voice their discomfort. I told the quality engineering manager privately that he was going to wind up running the third shift if things did not improve quickly.

It all worked out for the best. Our output rose while our problems dropped to almost nothing. I heard later that they thought I was a great leader. But it was thanks to a sick child, not to proper leadership thinking. I never let my people get lonely again.



motivated. Workers can rearrange tasks, and any improvement in quality of output earns the worker more money, so both the employee and the company benefit from such an approach. Teamwork and reliability are rewarded, with some employees doubling their base pay with incentive compensation. There are about 100 employees for each manager: employees are graded on their ability to work without a supervisor.<sup>23</sup> The Global Exchange on the next page provides a broader look at how corporate leadership styles are changing in response to a changing environment.

**Self-leadership** is a management philosophy that encompasses a systematic set of behavioral and cognitive strategies that lead to improved performance and effective-

#### self-leadership

The philosophy and a systematic set of behavioral and cognitive strategies for workers leading themselves to higher performance and effectiveness.

FIGURE 14-8  
Comparing Traditional and Self-  
Managing Leader Behaviors

Traditional Leader Behaviors	Self-Managing Leader Behaviors
Organization: Structures own and subordinates' work	Encourages self-reward
Domination: Restricts or limits the discretion of individuals or groups	Encourages self-observation
Production: Sets standards for task performance	Encourages self-goal setting
Recognition: Expresses approval or disapproval of behavior	Encourages self-criticism
Integration: Promotes group cohesion and reduces group conflict	Encourages self-rehearsal
Communication: Provides, seeks, and exchanges information with group members	Acts as a role model by exhibiting appropriate behavior Fosters the development of a culture that nourishes and supports self-leadership

Source: Adapted from Charles C. Manz and Henry P. Sims, *Superleadership: Leading Others to Lead Themselves* (Englewood Cliffs, N.J.: Prentice Hall, 1989); Chester A. Schriesheim, Robert House, and Steven Kerr, "Leader Initiating Structure: A Reconciliation of Discrepant Research Results and Some Empirical Tests," *Organizational Behavior and Human Performance* 15 (1976), pp. 297-321; and Robert Lord, R. J. Foti, and C. L. DeVader, "A Test of Leadership Categorization Theory: Internal Structure, Information Processing, and Leader Perceptions," *Organizational Behavior and Human Performance* 34 (1984), pp. 343-78.

ness.<sup>24</sup> This philosophy encourages individual employees to develop their own work priorities that are consistent with organizational goals. What happens to the manager in the self-leadership process? Interestingly, rather than abdicating control, the manager must actively encourage the development of self-leadership capabilities in subordinates.

But this may not be as easy as it sounds. While many believe that workers would jump at the chance for more control, some actually resent it. Why would this be? Mainly fear of the unknown. For a long time workers have been encouraged to complete their work according to procedures and standards designed by their managers or specialists. With the self-leadership approach, workers are asked to assume new responsibilities. Often workers believe they are untrained or unable to accomplish this new role successfully. One way to increase worker self-control is to use empowerment to overcome worker resistance or fear. As noted in Chapter 9, *empowerment* is the process of providing workers with the skills, tools, information, and, above all, the authority and responsibility for their work. Worker empowerment gives workers direct control over many aspects of their work. Self-leadership transfers control of directing individual work behavior from the manager to the worker. Leadership becomes an internal process. Real empowerment involves the worker's commitment to **self-management**, which is the use of work strategies that help to control daily activities in order to achieve organizational goals.

The manager's role in the self-leadership organization is to encourage workers to develop self-control skills. By self-control, we mean their ability to control their own work destiny in both the short term and long term. Self-leadership deemphasizes external forms of control. The primary vehicle leaders use to encourage self-leadership is **role modeling**, a process by which leaders exhibit behaviors that they expect other employees to follow. For example, leaders need to set goals for themselves in a manner that their employees can observe. Although the idea of role modeling seems simple, in reality it seldom happens. For role modeling to be successful, it must be apparent to the worker that the manager is demonstrating a work behavior that she'd like the employee to emulate. Second, the worker needs to see some connection between adopting the behavior and achieving positive outcomes. Research also suggests that workers are most likely to emulate the behavior of successful managers.<sup>25</sup> Figure 14-8 compares behaviors of traditional and self-managing leaders.

#### self-management

An individual's capacity to arrange and control personal activities and resources, including goals and rewards, without an external force.

#### role modeling

Leader's primary vehicle for encouraging self-leadership.

## APPLICATIONS OF SELF-LEADERSHIP

Self-leadership involves the use of behavioral and cognitive self-management strategies designed to improve performance and effectiveness. First, we'll look at some behavioral self-management strategies—employees' observable, measurable self-initiated methods

FIGURE 14-9  
Strategies for Two Types of  
Self-Management

Behavioral Self-Management	Cognitive Self-Management
Self-set goals	Opportunity Building
Self-observation	Positive Self-talk
Self-rewards	
Self-cueing	
Self-designed jobs	

Source: Adapted from Charles C. Manz, *Mastering Self-Leadership: Empowering Yourself for Personal Excellence* (Englewood Cliffs, N.J.: Prentice Hall, 1992).

FIGURE 14-10  
Are You a Self-Leader?

Score yourself on how often you would do the following. 10 = 100%, 0 = 0%.

- \_\_\_\_\_ 1. Propose specific goals for your activities.
- \_\_\_\_\_ 2. Reward yourself for doing a good job.
- \_\_\_\_\_ 3. Refuse to reward/punish yourself for a poor job.
- \_\_\_\_\_ 4. Make lists of things to do that day, week or month.
- \_\_\_\_\_ 5. Check off complete items on the daily or weekly list.
- \_\_\_\_\_ 6. Keep an after-the-fact record of your daily activities.
- \_\_\_\_\_ 7. Organize your day or week in your head while doing some other activity.
- \_\_\_\_\_ 8. Rehearse the steps and sequence of an activity before you do it.
- \_\_\_\_\_ 9. Ask people you work with to set goals for themselves.
- \_\_\_\_\_ 10. Find great pleasure simply in knowing you've done a good job.
- \_\_\_\_\_ Your average score

Calculate your average score and compare your score with those of other people in your class.

to improve their work performance. Then we'll examine two cognitive self-management strategies. Figure 14-9 lists various strategies.

Some of these methods may sound familiar. In fact, maybe you already practice some or all of these self-management strategies. Complete Figure 14-10's questionnaire to find out.

## Behavioral Self-Management

**behavioral self-management**  
The process of managing overt, measurable physical activities.

**self-set goals**  
Goals that result when both the initiative for setting a goal and the level of the goal itself come from the worker, not the manager.

**self-observation**  
The process where a worker monitors her own behavior, noting actions, events, or outcomes.

**self-reward**  
The process of a worker monitoring, evaluating, and applying a reward or disincentive for her own performance.

**Behavioral self-management** is a set of strategies that help people gain greater control over their lives. Common behavioral self-management strategies include self-set goals, self-observation, self-reward, self-cueing, self-administered rewards, and self-designed jobs.

With **self-set goals**, the initiative for setting the goal and the level of the goal itself comes from the worker, not the manager. Self-set goals are consistent with the firm's overall goals and are based on the worker's commitment to the firm's goals. Self-set goals free the manager from a traditional supervisory duty and empower workers with a greater sense of personal control. This autonomous approach to goal setting is recommended as a matter of ethics, not just effectiveness.<sup>26</sup>

**Self-observation** is a process in which a worker monitors his own behavior and notes actions, events, or outcomes. The self-leadership philosophy assumes that workers can monitor their own behavior. Self-observation includes keeping performance records. For example, a package delivery worker might keep a notebook recording the time of each deliver. Self-observation increases worker empowerment and autonomy.

Deming and other quality experts emphasize the need to eliminate piecework incentive systems, inspectors, time clocks, and exhaustive audits or observations of worker behavior. Self-observation enables a person to answer the question "How am I doing?" without having to ask a supervisor.

With **self-rewards** (also called *self-administered rewards*), a worker monitors, evaluates, and applies a reward or disincentive for her own performance. Self-awards enable



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Federal Express put a team of workers to propose and design work process changes, reducing costs while building worker involvement and commitment.

the individual to personally recognize that a performance milestone has been surpassed. An example is rewarding yourself with a break only after completing a major portion of the assigned task. Another type of self-reward is recognizing the naturally rewarding aspect of the work itself—for example, reminding yourself that it feels good to do your best or that it is intrinsically rewarding to clear your desk of pending cases each day. While these ideas have a simplistic edge, they get back to basics and are powerful motivators. The worker decides the measure and worth of an activity rather than adhering to a universal definition. Self-administered rewards add meaning and purpose to work. In essence, the worker knows what she is supposed to do, does it, and then pats herself on the back or rewards herself with a break.

When a mechanic lays out the necessary tools prior to commencing work, he is practicing **self-cueing** (the process of planning or making arrangements for an activity prior to its performance). This practice helps to prevent defects from occurring during the execution stage. One type of self-cueing, **behavioral rehearsal**, involves practicing an activity under simulated or controlled conditions. For example, the night before a meeting with a customer, a sales team might conduct a role play in which some members of the sales team play the role of the customers and ask appropriate questions, giving the sales team a chance to rehearse their answers.

**Self-designed jobs** allow workers to propose and design work process changes, rather than simply imposing external constraints on them. This can result in a personal sense of competence, self-control, and purpose. At the Federal Express facility in Memphis, Tennessee, in response to the problem of late-arriving and mislabeled packages, management implemented a system called minisort. But the minisort process was inefficient and unpopular among workers. One worker observed, “If you got on someone’s nerves, they sent you to minisort.” So a team of 12 workers was appointed to solve the problem. The team cut minisort staff from 150 to 80 workers (saving \$30,000), clarified

#### self-cueing behavior

The process of planning or making arrangements for an activity prior to its performance.

#### behavioral rehearsal

The practice of an activity under simulated or controlled conditions.

#### self-designed jobs

Jobs in which workers are allowed to propose and design work process changes.

minisort tasks, and implemented prevention measures which cut the number of packages sent to minisort in the first place from 10,000 to 4,000 per night. In four months the number of late packages dropped from 4,300 to 432. The team's work actually cut their own wages, yet as one worker said, "For management to listen to me, that's important."<sup>27</sup>

## Cognitive Self-Management

Not all self-management strategies are observable and measurable. In **cognitive self-management**, the individual worker creates mental images and thought patterns that are consistent with the firm's goals. Two cognitive self-management strategies are opportunity building and positive self-talk.

**Opportunity building** is the process of seeking out and/or developing new possibilities for success. An oft-told marketing story involves two shoe salespeople sent to sell shoes in a foreign country. The negative thinker told the firm's headquarters, "Opportunities nonexistent. Nobody here wears shoes." The positive thinker said, "Opportunities unlimited. Nobody here wears shoes." Thus an obstacle may be converted to an opportunity by the way we perceive and define the problem.

**Positive self-talk** is the process of creating mental imagery that reinforces a worker's sense of self-esteem and enhances efficacy.<sup>28</sup> For example, a customer service agent, upon dealing with an angry customer, reminds herself that she has been successful in calming and satisfying angry customers in the past by listening for important words or phrases used by the customer. By maintaining her self-confidence, the agent is using positive self-talk to help her manage a difficult situation.

### cognitive self-management

A mental process that includes the creation of images and thought patterns consistent with the firm's goals and behaviors.

### opportunity building

The process of seeking out and/or developing new possibilities for success.

### positive self-talk

The process of creating mental imagery that reinforces a worker's sense of self-esteem and enhances efficacy.

## ■ DEVELOPING A SELF-LEADERSHIP CULTURE

The development of an effective self-leadership culture begins with a commitment from the top levels of management. One extensive study found that pessimism, stagnation, and barriers to the use of basic total quality methods were due to the lack of a leadership style consistent with statistical process control.<sup>29</sup> In this case, the leadership emphasis was on quick fixes and crisis management, rather than on continuous improvement methods. Three keys to developing a self-leadership culture are sharing information, training, and reinforcement.

**Sharing Information** Self-managed workers need a great deal of information. Many traditional management secrets must become part of their information base. Workers need information concerning costs and profits if they are to set goals and commit to certain actions. When they're informed, workers become more willing to accept responsibility for their actions. In addition, open communication sends a message to employees that they are respected and trusted.

**Training** Training in the use of self-management strategies might focus on improving communication skills, team building, or developing the various self-management strategies discussed in this chapter. Training helps to reinforce managerial policy statements at all levels of an organization. Managers may feel threatened by the idea of a self-managed work force so in addition to training, they also need assurance that they will continue to have an important role in organizational success.

**Reinforcement** In addition to sharing information and conducting training programs, the administration of performance rewards can help to reinforce the use of self-management behaviors. For instance, a "team player" or "star performer" award might be issued to an employee who demonstrates outstanding self-leadership ability.

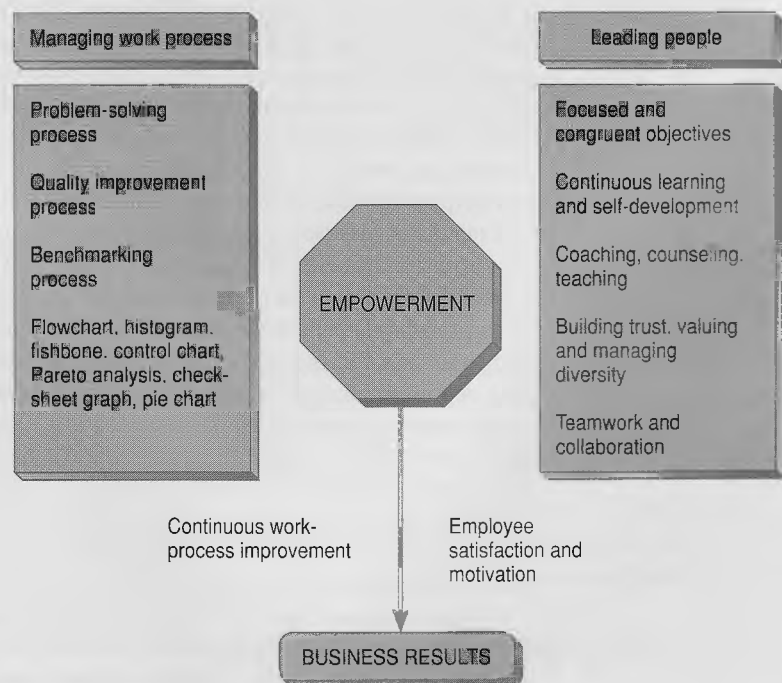
## Leadership Challenges

Critical global issues confront the economy and firms as we face the 21st century.<sup>30</sup> The most effective managers will be those who understand leadership as a broad, empowering tool, and who have a special capability to develop self-managed leadership in others. Figure 14–11 shows a model of the quality management approach to leadership.

The quest for quality implies a new kind of business leadership. Effective leadership in the future will more likely than not mean leading others to lead themselves. Workers will have to develop skills in self-management. Workers who develop self-management skills are better able to control the pace and flow of their work. To facilitate this process, effective leadership in the future must encourage employees to develop self-leadership skills. A summary of some challenges future leaders will face follows:

- Increasing global competition.
- Emphasis on speed, service, and information.
- Lean and flexible work demands for more value-added labor and reduced indirect labor costs.
- Need to employ untrained, unskilled, and disenfranchised employees.
- Fewer low-skilled jobs available as more low-skilled workers enter the market.
- Increasing gaps (1) between elite, skilled employees with lifetime employment and a working underclass with limited skills and few employment options and (2) between knowledge-intensive, highly educated employees and labor-intensive, unskilled employees.
- Employee demands for greater participation. Shift to teams, skill-based pay, and cooperation with the firm.
- Further expansion of information technologies. Flatter, decentralized organizations with greater employee need for self-management.

FIGURE 14–11  
Quality Management Leadership  
Model





Empowering workers through self-leadership is a good start but may not be enough when competitive position has eroded. Visionary transformational leadership may be required to resuscitate a poorly performing organization. IBM's new chairman, Louis Gertsner, Jr., faces tremendous challenges in the coming years. For IBM to regain competitive ground in the computer industry, he must communicate his vision for IBM to employees, customers, and competitors. Gertsner must transform how IBM thinks about itself and how consumers view IBM. Thomas Watson, Jr.'s transformational leadership of the 1950s was the cornerstone of IBM's success for the next three decades. If IBM is to reconstitute the Big Blue of yesteryear, Louis Gertsner, Jr., must craft a new vision for IBM in the year 2000 and beyond.

## Managing Cultural Diversity

Another major challenge facing leaders today is managing a diverse workforce. In 1987, the Hudson Institute published *Workforce 2000: Work and Workers for the 21st Century*.<sup>31</sup> This landmark study opened the eyes of corporate America to the reality that dramatic changes are taking place in the workforce. The study projected that 25 million people would join the American workforce between 1987 and the year 2000; only 15 percent of these new workers would be white males, almost 61 percent would be women, and 29 percent would be minorities (minority women were counted twice).

As a result, employers will have to train, manage, and motivate a workforce composed of individuals with widely varying backgrounds and perspectives.<sup>32</sup> In the past, managers had to decide how to manage a predominantly white, male workforce. Managing diversity requires various activities related to recruiting, hiring, and effective use of people from different cultural backgrounds.<sup>33</sup> Programs must be developed to promote both the awareness of cultural differences and positive attitudes toward these differences. Human resource managers must develop bias-free systems to recruit, train, and promote individuals from diverse backgrounds. Work itself will also have to be restructured since it has been structured in terms of men in the past.<sup>34</sup> For instance, this will include more flextime so women can bear children and still advance their professions; about half the workforce is comprised of women.

Any leader that sincerely values cultural diversity must make it safe for everyone in the organization to talk about differences. This means a change for those organizations that have been denying differences exist while meeting EEO or affirmative action guidelines. Valuing diversity looks at the multicultural workforce from a positive perspective rather than from a defensive position. Valuing diversity views people as having equal rights while being different, and encourages the open discussion of these differences of gender, age, ethnicity, physical ability, and so on.<sup>35</sup> Diversity awareness training programs can help bring these differences out into the open, and identify the unique characteristics and talents of diverse individuals that are a resource for the organization.

Both total quality management (TQM) and managing diversity offer potential for increasing an organization's competitiveness, and both face challenges when managers attempt to implement them. But when used in combination, the two are better managed and their benefits increase.<sup>36</sup> Both stress empowerment or involvement of employees, both represent changes in the normal way of doing things, and both require long-term commitment on the part of the organization. When managing cultural diversity is integrated with TQM, some of the significant challenges that organizations face when implementing TQM are successfully addressed. For instance, one of the major challenges managers face when implementing TQM programs is changing the culture of the organization. When TQM and managing diversity are used in tandem, managers are more likely to succeed in changing the culture of the organization.

While cultural diversity brings stimulation, challenge, and energy, it does not always lead to harmony.<sup>37</sup> A mix of genders, cultures, and alternative lifestyles can lead to conflict and misunderstanding. The job of the manager is to create an environment where

differences are appreciated and where a group of diverse individuals work productively together. This is a formidable challenge, but organizations who meet this challenge face a brighter future.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Distinguish between leaders and managers.*

Managers are concerned with the pressures of the moment. For the manager, efficient use of resources may be of more immediate concern than quality. Leaders are concerned with long-term visionary concepts: What is quality today and what will consumers want tomorrow?

### *Explain the relationship between leadership and power.*

Leadership requires the exercise of power. Every leader has a base of power, but for any two leaders, the power base may be quite different. This chapter identified five bases of power: (1) power based on the ability to reward others for compliance, (2) power based on the ability to punish others for noncompliance (coercive power), (3) power based on expertise in a particular functional area such as engineering, (4) power based on personal characteristics (referent power), and (5) power based on the position in the organization (legitimate power).

### *Compare the theories of trait, behavioral, and situational leadership.*

The trait theory of leadership seeks to identify traits and skills effective leaders should possess. Behavioral theorists identified behaviors that effective leaders should exhibit. Early research identified two types of behaviors: task-centered leader behaviors and people-centered leader behaviors. Situational leadership theory emphasizes that situational constraints can influence leader effectiveness. For example, situational influences in path-goal theory include characteristics of the subordinate and characteristics of the task.

### *Describe the theory of transformational leadership.*

Transformational leadership describes an inspirational form of leader behavior based on modifying followers' beliefs, values, and ultimately their behavior. Lee Iacocca at Chrysler Corporation is an example of a transformational leader.

### *Define self-leadership and discuss the societal trends that contributed to its development.*

Self-leadership is a management philosophy that encompasses a systematic set of behavioral and cognitive strategies that lead to improved performance and effectiveness. In essence, self-leadership gives people more control over their work. Two societal trends have made self-leadership possible in work settings. First, today's workers are better educated than workers of previous generations. They bring better skills to the workplace. Second, a more competitive marketplace requires greater efficiency. Efficiency can be improved by giving workers more control over their work.

### *Describe the various behavioral and cognitive self-management strategies.*

Behavioral self-management includes self-set goals, self-observation, self-rewards, self-cueing, and self-designed jobs. Behavioral self-management conditions workers to use environmental information and work control strategies to help pace and control their work. Cognitive self-management includes two strategies: opportunity building and positive self-talk. Cognitive self-management strategies foster mental self-images and thought patterns aimed at goal attainment.

### *Explain how a business can develop a self-leadership culture.*

Top management commitment is necessary to build a strong self-management culture. In addition, to encourage the growth of self-management throughout the organization, management must develop a management system that shares information and ideas, continually trains workers, and reinforces or rewards the positive gains derived from self-management.

## ■ KEY TERMS

- |                                       |  |  |
|---------------------------------------|--|--|
| behavioral rehearsal, p. 405          | people-oriented behavioral style, p. 392 | self-set goals, p. 404                     |
| behavioral self-management, p. 404    | positive self-talk, p. 406               | situational theories of leadership, p. 395 |
| behavioral style model, p. 392        | power, p. 389                            | substitutes for leadership, p. 399         |
| cognitive self-management, p. 406     | role modeling, p. 403                    | task-oriented behavioral style, p. 392     |
| contingency leadership models, p. 391 | self-cueing, p. 405                      | trait theory of leadership, p. 391         |
| Fiedler's LPC theory, p. 395          | self-designed jobs, p. 405               | transactional leadership, p. 400           |
| leadership, p. 389                    | self-leadership, p. 400                  | transformational leadership, p. 400        |
| neutralizer, p. 399                   | self-management, p. 403                  | vision, p. 389                             |
| opportunity building, p. 406          | self-observation, p. 404                 | Vroom-Jago model, p. 397                   |
| path-goal leadership theory, p. 396   | self-reward, p. 404                      |  |

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is the difference between a leader and a manager?
2. Identify several bases of power. What do you believe is the most common basis of power for a manager?
3. What are the two most common types of leader behaviors?

### Understanding

4. What general purpose underlies the path-goal theory of leadership?
5. Can an individual be both leader and manager? If so, describe the process by which both activities can emerge in the same person.
6. Identify a managerial situation that illustrates a neutralizer

and another situation that illustrates a substitute for leadership.

7. What actions should managers take to develop self-leadership skills in their subordinates?

### Application

8. Assume that you work as manager of a customer service department in a large retail store. Describe three naturally occurring rewards that are likely to be inherent in that type of job.
9. Describe two situations that would call for two very different leadership behaviors.
10. In your own words, describe three challenges that leaders of large corporations will face in the coming decade.

## CASE 14-1

### Xerox: Copying One Success after Another

In 1992 Xerox had sales of \$18 billion based on assets of over \$31 billion. Providing business products and systems around the world, Xerox grew from its invention of the first plain-paper copier in 1959 to a dominant global firm in less than 15 years. Yet the early 1970s saw the end of Xerox's patent control of its primary copying product and the introduction of low-cost products from Japanese suppliers. By 1980 Xerox's market share fell below 50 percent, and Japanese companies were selling copiers for less than it cost Xerox to make the copier.


Xerox's Japanese arm, Fuji Xerox, had felt this pressure first. Its response earned it the Deming Award in 1980. Chairman David Kearns used this lesson and success as a model for a quality strategy for Xerox, featuring five primary mechanisms: management, measures, training, recognition and reward, and communications.

The strategy Kearns used was termed "Leadership through Quality." In 1983 Xerox stated:

*Xerox is a quality company. Quality is the basic business principle for Xerox. Quality means providing our external and internal customers with innovative products and services that fully satisfy their requirements. Quality improvement is the job of every Xerox employee.*

Leadership through Quality pushed for progress in benchmarking, employee involvement, and quality skills and tools, with a focus on prevention. Xerox laid out a six-step problem-solving process and a nine-step quality-improvement process.

The primary goal was to satisfy the customer, to meet the customer's needs completely, and to measure those needs and successes. For its benchmarking, Xerox selected such diverse



companies as IBM, L.L. Bean, American Express, and Cummins for comparisons. From 14 benchmark measures in 1984, Xerox increased its benchmarking to over 240 comparisons, covering products and practices within Xerox. Using benchmarking, its 1993 targets were to benchmark the product development cycle, a 50 percent reduction in unit manufacturing costs, and a 400 percent increase in reliability. Xerox surveyed about 55,000 customers monthly to track their reactions. Customers reported increased satisfaction with the product, with service and administration, and with billing quality. Service response time dropped 27 percent; returns of supply order forms declined 38 percent.

Training became almost 3 percent of the budget, with managers chosen to serve as role models for subsequent change. Lessons were passed on to other workers through a process called LUIT (learn, use, inspect, teach). Relationships with the union were targeted and improved, building a partnership between workers and management. A union-management contract read, "Every employee shall support the concept of continuous quality improvement while reducing quality costs through teamwork and the tools and process of Leadership Through Quality." In the late 1980s Xerox product quality improved 78 percent, product reliability went up 40 percent, and production defects fell 73 percent.

Teams grew. Quality improvement teams (QIT) increased from 31 in 1981 to a point less than 10 years later where 75 percent of employees worked on at least one of 7,000 QITs. Suppliers were also drawn into the team, and they were trained and certified in the use of SPC, just-in-time delivery, and other TQM techniques. Inspections were reduced from 85 percent to 15 percent; market share increased from 25 percent in 1984 to 10 percent in 1988.

Customer satisfaction increased, while manufacturing costs and overhead declined. Cycle time was cut. Revenues grew from \$8.7 billion in 1984 to \$12.4 billion in 1989. In 1988 Kearns and his eventual successor, Paul Allaire, decided to apply for the Baldrige Award. By early 1989 Xerox had assembled a plan for its pursuit. In 1990 Xerox earned the Baldrige Award for manufacturing excellence.

## Discussion Questions

1. What role did David Kearns play in articulating a vision of quality at Xerox?
2. How did Xerox measure quality improvement?
3. What tangible benefits did Xerox realize from its quality improvements?

## ■ CASE 14-2

### SAS: Business Class Means Quality

Jan Carlzon built SAS, the Scandinavian-based airline, into a world-class airline favored among business people. Yet, as the world evolved, SAS found itself in an awkward position. Once it was protected by a generous government subsidy and fare protection in the highly regulated Western European market. In the early 1990s Western Europe was uniting, privatizing, and facing new competition from the United States. The same business pressures that bankrupted Pan American, TWA, and Eastern (once the most recognized American carriers around the world) brought American, Delta, and United into Europe. And SAS could easily see itself next in line.

In the price-regulated era, SAS had carved itself a solid niche among the favored business travelers, where price was less an object than service, meals, and scheduling. And SAS employees earned a unique status as well, leading to high labor costs. For example, although wages among technical people were competitive at \$18 to \$22 per worker, SAS could only count on 1,300 to 1,400 hours of work from its mechanics each year (20 percent less on the night shift) versus almost 2,000 hours for the typical American airline, a 30-percent plus cost advantage for the American carriers.

SAS provided first-line workers with an unusually high level of freedom to make decisions, all driven by the need to serve customers best. Carlzon often described SAS as an inverted pyramid, where customers were on top, followed by front-line workers, with Carlzon working for all of them at the bottom of the upside-down chart. But changing airline competition, with new players and reduced regulations, called for a new response to keep its market share.

SAS responded with a twofold strategy. First, SAS continued to focus on the business traveler, while second, it built bridges by developing partnerships with similar carriers around the world, to beat the Americans at their own game. The American game also meant the “hub and spoke” strategy. (The U.S. domestic market had grown by use of a system where fliers are sent to hubs—massive centers for transferring passengers—and then sent out again through one of the spokes.) SAS found it necessary to use the hub-and-spoke method on a global basis. Previously cut off from the U.S. domestic market by an absence of connections through New York’s JFK International Airport, SAS worked around that blockage with a partnership with Continen-

tal, only to see that carrier declare bankruptcy. Nonetheless Carlzon defended the partnership on the basis of increased revenues and reduced costs for SAS. “The Continental deal is worth \$20 million a year net. What would have been the downside if we didn’t do it?”

Partnerships also meant turning cost centers such as mechanical services into profit centers, where partners could pool services, personnel, and other costs, while providing opportunities for both partners to benefit from increased customer service and scheduling. The European Quality Alliance (EQA) included SAS, Finnair, and Austrian. Links followed with Nippon (Japan), a British carrier, Canadian Airlines International, and Spanair (a Spanish charter carrier).

SAS also employed sophisticated monitoring systems to alert pilots to developing problems. Pilots could then radio ahead to alert mechanics, who could begin the repair process by assembling parts before the plane even hit the shop. As a result, morning readiness for all fleets was over 99 percent and the availability of planes after unscheduled maintenance exceeded SAS’s goal of 95 percent by 1.5 percentage points. At most cities, flight regularity reached 100 percent, meaning no canceled revenue-generating flights.

SAS also achieved efficiency with the mechanical staff. The number of technical employees per plane was reduced from 42 to 32, with a target of 30, while flight hours per employee (a measure of productivity) increased from 57 to 71 in the late 1980s, with a target of 75 flight hours per employee.

Carlzon believes firmly in doing 100 things 1 percent better, as compared to 1 thing 100 percent better, meaning continuous improvement. To do this, SAS leaders were expected to share information and then responsibility with each worker. According to Carlzon, this makes an empowered worker. “An employee without information can’t take responsibility. With information, he cannot avoid taking it.”

## Discussion Questions

1. What is Jan Carlzon’s vision or strategy for SAS?
2. Why is cost cutting such a big part of SAS’s strategy?
3. In what ways has SAS used self-leadership concepts to empower workers?

## ■ APPLICATION EXERCISE

### Personnel and Production

You have been manager of the Galesburg plant, Consumer Products Division, of the Dallinc Corporation for the past three years. During your tenure, despite an aging physical plant, you've shown a profit increase each year that exceeded the corporate average.

One technique you brought to Galesburg from your previous job is self-managed goal setting. It has worked—you believe—to your advantage at Galesburg. Although it took time to develop this system throughout the plant, the effort appears to have been worth it. Despite initial resistance from some managers (especially senior, autocratic types), you've found first a begrudging acceptance and, for most managers, by now a general acceptance.

Carole Samson was hired as your personnel director three months ago, moving from another city and another corporation. As a matter of courtesy and practice, you delayed asking Carole for formal goals for herself and her department until she had time to learn more about the job and to perhaps hear about your self-managed goal system. Last week in a brief note to Carole, you suggested that she think about setting goals for the coming six-month budget period. Carole wrote back:

*While I will be at corporate headquarters this week, I want to respond to your request for goals for myself and my department. While I see a need for goals in production and sales, I do not see how they apply to a cost center like personnel. Last week, for instance, my staff was busy studying the new OSHA regulations and also collecting an attitude survey of team leaders. There seems to be a strong interest in a day care center and more training in computer software, so I'll have to attend to these issues shortly. And next week we begin work with the controller's office preparing for the upcoming contract negotiations; the new high-performing team concept has greatly complicated our negotiating strategy, especially since no one fully understands how it fits into our bargaining agreement. We have to schedule a meeting to explain the new fringe benefits to the exempt (nonunion) staff. And the monthly safety inspection keeps things hectic, especially with the new OSHA requirements.*

*So you see, I think we are too busy putting out fires and coping with the new "diverse" work force to consider setting goals. The old rules of union and management, of traditional personnel practices have all changed. We have a tough enough time getting*

*things done without spending more time setting goals. Take a close look at our department and I think you'll agree.*

*If you check the personnel department, you'll probably also agree with my request for two new staff assistants at the C-II level to help us keep up with these new demands. My goal is to staff the department adequately and increase our budget to respond to the changing demands on personnel. I'd be happy to discuss these goals when I return. I hope you find my response to be helpful, given the unique problems facing the department.*

In the same batch of mail, you had a note from Ann Rodwick, your production manager. The note was attached to a goal-setting statement from one of her team leaders, Paul Aguilar. Paul's goal statement said simply:

*For the six-month period, produce 80,000 finished units within budgeted costs of \$1,525,000.*

Ann's note said:

*Paul is ambitious (he has reduced costs 3 percent, but unless he gets a handle on quality control, he'll be in trouble on this one. And he has been having a tough time with the new computerized recordkeeping system. Worse, unless he has the new Pace line installed by the third month of the six-month period, he'll never make this goal. And his turnover is getting worse; maybe he's been pushing his team too hard to meet these goals. But, bottom line, this is the level of output we are pushing Paul to achieve. Any ideas?*

You have meetings with Carole and Ann scheduled for tomorrow morning.

### Questions

1. What do you plan to say to them?
2. Do you have any specific constructive advice?
3. Prepare some notes to outline your thinking. Then be ready to discuss this thinking with your class team for 20 minutes. Specifically discuss the following issues: (1) Are goal-setting concepts applicable to all departments? (2) What specific direction do you intend to set for the Personnel Department and the Production Department?

CHAPTER

15

INTERPERSONAL AND  
ORGANIZATIONAL  
COMMUNICATION

*After studying this chapter, you should be able to:*

Define *communication*.

Describe the communication process.

Discuss communication's role in organizations.

Contrast the different types of interpersonal communication.

Identify the three formal channels of organizational communication.

Explain the significance of informal communication.

List the barriers to organizational communication.

Discuss how organizations can facilitate communication.

## INSPIRING WORKER INVOLVEMENT

As we have said many times throughout the text, total quality management is changing American business. Companies are devoting themselves to customer satisfaction and continual improvement in their products and processes. In many cases, achieving total quality involves a major shift in how workers think about their jobs. In the most extreme case, workers who once viewed their job as pleasing the boss must shift 180 degrees to view their job as pleasing the customer. Communication is a key to a successful shift in the way workers think about their jobs. ■ According to Charlotte Scroggins, vice president for communications for the American Productivity and Quality Center in Houston, companies with successful quality processes all emphasize communication. "They always include communication as a critical link to employees, suppliers, customers, shareholders, and the media. Communication is one of the things that must be present in order to achieve a successful quality process." In short, quality cannot be achieved without communication. Un-



Globe Metallurgical Inc./George Hill Company

Globe Metallurgical employees.

der scientific management, managers and supervisors told workers what to do; total quality management necessitates an open dialogue between workers and managers. ■ Globe Metallurgical, Inc., manufacturer of silicon metal and ferrosilicon products for the auto industry, began a TQM program in 1985. The program's purpose was to shift the firm's emphasis from inspecting each shipment to making sure the firm met customer specifications, to an emphasis on con-

tinual improvement of each step in the process. ■ Before hourly workers were never included in the decision-making process. Instead they were told what was going to be done. This time Globe decided a dynamic communication process was needed to build understanding between management and workers. To get workers to buy into the quality improvement effort, committees and teams were formed to examine how the company works.

Plant committees and quality circles met daily to search for ways to improve quality and cut cost. The company attempted to implement each idea that came out of a quality circle or committee. ■ The process has paid off for Globe Metallurgical, which won the Malcolm Baldrige National Quality Award in 1988. CEO Arden Sims attributes much of Globe's recent success to improved communication and the respect of employees, which enabled the firm to transform successfully. Today Globe leads the industry in terms of sales growth, profit growth, quality, productivity, and costs.

Source: Adopted from Jane Easter Bahls, "Managing for Total Quality," *Public Relations Journal*, April 1992, pp. 16-20; Bruce Rayner, "Trial-by-Fire Transformation: An Interview with Globe Metallurgical's Arden C. Sims," *Harvard Business Review*, May-June 1992, pp. 116-29; and Teri Lammens, Alessandra Biancini, and Susan Greco, "The Calendar Method," *Inc.*, February 1991, p. 78.

Communication is perhaps the single most important factor in establishing quality in an organization.<sup>1</sup> The view that communication is critical to organizational excellence dates back at least to 1938, when Chester Barnard wrote his famous book, *The Functions of the Executive*.<sup>2</sup> In it, Barnard described one of executives' major responsibilities as developing and maintaining a system of communication. Organization members must solve increasingly complex problems. Through effective communication, individuals can overcome barriers, work through problems, and achieve the organization's goals.

While a father relaxed on the couch listening to a tape, his four-year old son and two-year old daughter asked him if they could wash their fire truck in the family room. He answered, "Sure, just put a towel under the truck and be sure to keep the water on the towel," and put the head phones back on. But when he got up to change the tape, the laughter from the other room—and what he thought was splashing water, was overwhelming. Checking on the kids, he found the carpet completely drenched with water. His question: "What do you think you're doing?" Their answer: "You said to keep the water on the towel and we did." Unfortunately they had poured dozens of buckets of water on the towel. It took a week to dry the carpet, the floor, and the room beneath the floor.

Whether we're in the role of parent, child, student, worker, or whatever, each of us has had a similar experience. While we often recover—the carpet dried out and everyone survived—communication breakdowns can have negative consequences. Problems between spouses, families, and even nations can often be traced to communication failures. Likewise many problems in organizations can be attributed to poor communication.

Communication is an important part of the leadership function; managers cannot be effective leaders if they cannot communicate. Successful leaders have visions of greatness. Leaders don't create budgets, they set direction.<sup>3</sup> That is, they have a clear picture of what they want the organization to be, and they communicate that vision to other



John F. Kennedy Library, Boston

Successful leaders like John F. Kennedy have visions of greatness, and can clearly communicate their visions to others.



## ETHICS SPOTLIGHT

## THE WRONG MESSAGE AT SEARS

When Sears, Roebuck & Co. Chairman Edward A. Brennan pressured auto repair centers to boost profits, he apparently didn't realize the message he was sending. But on June 11, 1992, Brennan found out that perhaps the wrong message was communicated. On that day the California Dept. of Consumer Affairs accused Sears of systematically overcharging auto repair customers at its 72 Sears Tire & Auto Centers in that state and proposed revoking the company's license to operate the centers.

A growing number of consumer complaints had spurred the consumer affairs department to conduct a year-long undercover investigation. It found that its agents were overcharged nearly 90 percent of the time, by an average of \$223. "This is a flagrant breach of trust and confidence the people of California have placed in Sears for generations," said Jim Conran, the department's director. "Sears has used trust as a marketing tool, and we don't believe they've lived up to that trust." He was referring to one of the company's advertising slogans, "You can count on Sears."

On June 15, four days after California's charges, New Jersey accused six Sears auto centers, along with five unrelated repair shops, of doing unneeded work. Other states, including Florida, Illinois, New York, and Alabama, also began studying California's action.

What caused one of the nation's most respected retailers to wind up in such a mess? Critics believe the trouble started in 1990 when Sears had a 40 percent drop in earnings and a 60 percent drop in net income for its merchandise group (including the auto centers and appliances). Brennan started a shake-up, slashing costs by \$600 million, renovating the company's 868 stores, and pushing new everyday low prices. In 1990, Sears standardized compensation of auto service employees nationwide, introducing commissions and by-the-job pay rates in some areas. Conran, of the California consumer affairs department, said complaints began soon after Sears established a quota of parts and repair sales for every eight-hour shift. Crew members who failed to meet the quotas had work hours reduced or were transferred. Attorneys for

former Sears auto employees, government investigators, and law enforcement officials feel that these policies add up to a system of fraud. According to Ray Liebman, a deputy attorney general in California, "There was a deliberate decision by Sears management to set up a structure that made it totally inevitable that the consumer would be oversold."

Sears emphatically denied any wrongdoing and said it would appeal California's delicensing action before an administrative judge and in the courts if necessary. The attorney representing Sears in the California case, Dirk Schenkkan, accused the consumer affairs department of beating up on Sears to boost its own standing at a time when its funding was threatened by California budget cuts. A statement by Sears said the California investigation was "very seriously flawed and simply does not support the allegations. The service we recommend and the work we perform are in accordance with the highest industry standards."

Nonetheless on June 21, 1992, Sears settled charges with New Jersey by agreeing to pay \$200,000 for a study of auto-repair standards and an additional \$3,000 in penalties. But the big blow came a few months later on September 2, when Sears agreed to pay an estimated \$15 million to settle charges in California and 41 other states, as well as settlement of 19 related class action lawsuits. The California settlement alone will cost the firm \$8 million. Denying any charges, Sears agreed to refund \$50 to affected consumers for up to five repair services. Sears also agreed to pay the state of California \$1.3 million for reimbursement of legal fees and \$1.5 million to establish an auto repair training program. Sears could potentially pay over \$46 million, but officials don't expect all eligible customers to apply for refunds. The damage to Sears' reputation and loss of goodwill is impossible to measure.

Source: Adapted from Julia Flynn, Christina Del Valle, and Russell Mitchell, "Did Sears Take Other Customers for a Ride?" *Business Week*, August 3, 1992, pp. 24-25; Gregory A. Patterson, "Sears Will Pay \$15 Million Settling Cases," *The Wall Street Journal*, September 3, 1992, p. A4; Kevin Kelly and Eric Schine, "How Did Sears Blow This Gasket?" *Business Week*, June 29, 1992, p. 38; and Tung Yin, "Sears Is Accused of Billing Fraud at Auto Centers," *The Wall Street Journal*, June 12, 1992, pp. B1, B6.

members of the organization. When President John F. Kennedy said, "We will put a man on the moon before the end of the decade," Americans clearly understood his vision, and thousands of individuals devoted themselves to making his vision a reality.

This chapter's topic is interpersonal and organizational communication. First, we discuss the nature and scope of communication. Then we examine various types of interpersonal and organizational communication. Finally we look at barriers to organizational communication and strategies for facilitating communication.

## ■ THE NATURE AND SCOPE OF COMMUNICATION

The term *communication* is fairly common. Most of us have used it in one way or another to describe our interactions with others. Historical figures are often compared by their ability to communicate. TV, radio, and newspapers are referred to as

*communication media* (the plural of *medium*); the telephone and computer are called communication devices. Unfortunately communication is often taken for granted, though in fact it is a complex activity.<sup>4</sup> Failure to understand this complexity often leads to problems with communication.

**Communication** is defined as the exchange of information between a sender (source) and a receiver (audience). If meaning is not shared, communication has not taken place. A production worker stopped her machine to fix it because it was making defective products. The foreman came by and ordered her “Run it,” so she turned the machine back on. When asked to explain her behavior, the worker replied, “He ordered me to make defectives.”<sup>5</sup> The foreman surely didn’t mean to order the worker to make defective products, but that’s the message that was communicated. The Ethics Spotlight on page 417 illustrates how one such communication breakdown resulted in a crisis for Sears.

As companies throughout the United States and other parts of the world move toward total quality management (TQM), they are wrestling with an important aspect of TQM: communicating quality in the organization. Many TQM efforts are unsuccessful because organizations do not understand how to communicate quality.<sup>6</sup> Effective communication is the cornerstone of quality management. The way we perceive and talk to each other at work—about quality, job tasks, changes taking place, or other issues—is a major determinant of the organization’s success. Communication also sets the tone for success of individuals and teams.<sup>7</sup> Poor communication, on the other hand, reduces quality, weakens productivity, and leads to anger, lack of trust, and cynicism.<sup>8</sup> Despite communication’s importance, most CEOs of top U.S. companies acknowledge that they are not spending enough time on employee communication.<sup>9</sup>

## The Communication Process

Communication can be described as a process in which a message is encoded and transmitted through some medium to a receiver who decodes the message and then transmits some sort of response back to the sender. It is through the communication process that the sharing of a common meaning takes place. As Figure 15–1 shows, communication begins with a **sender**, a person, group, or organization that has a message to share with another person or group of persons.

In organizations, executives, managers, workers, departments, and even the organization itself can be the source of a message. Executives must communicate with the board of directors, top-level managers, as well as groups and individuals outside of the organization such as stockholders, regulators, and customers. Managers must communicate with managers in other departments, superiors, subordinates, customers, and suppliers. Workers must communicate with superiors, customers, and each other. Clearly we could go on and on. The point is that every organization member is a source with a message to communicate to internal and external parties.

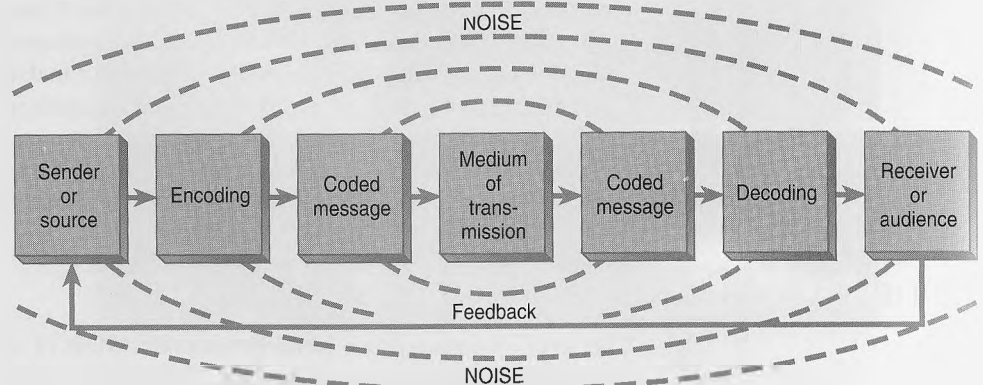
### communication

The exchange of information between a sender (source) and a receiver (audience).

### sender

A person, group, or organization that has a message to share with another person or group of persons.

FIGURE 15–1  
The Communication Process



**Message**  
An idea or experience that a sender wants to communicate.

**Encoding**  
To convert a message into groups of symbols that represent ideas or concepts.

**Medium of transmission**  
A means of carrying an encoded message from the source to the receiver.

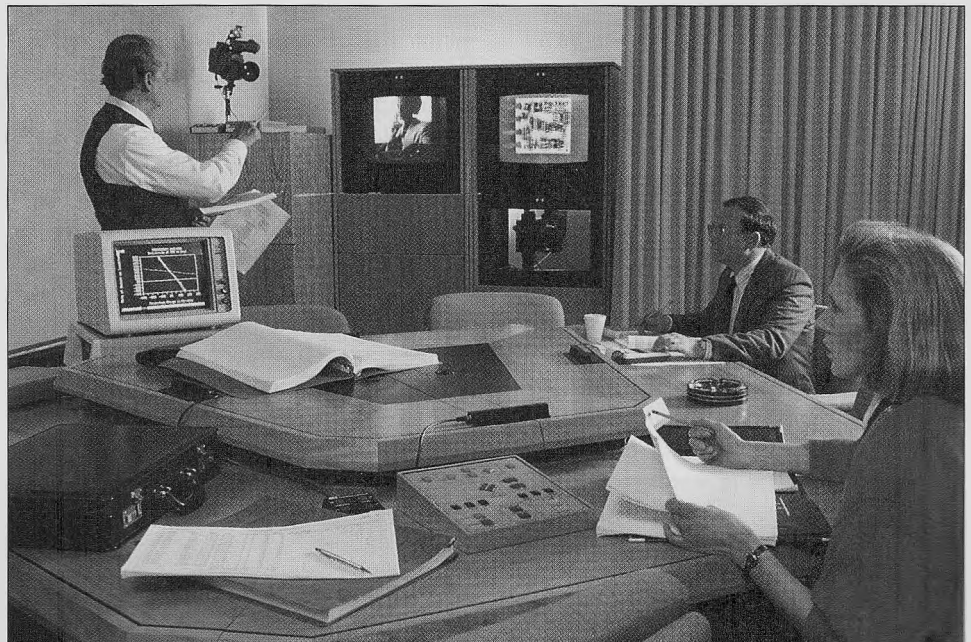
**Decoding**  
The process by which the receiver interprets the symbols (coded message) sent by the source by converting them into concepts and ideas.

A **message** is an idea or experience that a sender wants to communicate. Messages can be communicated both verbally and nonverbally. For instance, a manager may want to communicate a process to a worker. This can be done in many ways: explaining the process, illustrating it, or providing a written explanation. The critical issue is that the message is presented in a way that the intended meaning will be conveyed by the manager.

To convey meaning, the sender must **encode** the message by converting it into groups of symbols that represent ideas or concepts. Encoding translates ideas or concepts into the coded message that will be communicated. We use symbols (languages, words, or gestures) to encode ideas into messages that others can understand. When encoding a message, the sender must use symbols that are familiar to the intended receiver. A person with a message to communicate should know the audience and present the message in language that the audience can grasp. A computer company developing a sales presentation targeted at a nontechnical audience should ensure that its presentation is written and delivered using words and graphics familiar to that audience. In referring to concepts, the sender should use the same symbols that the receiver uses to refer to those concepts, and should avoid using symbols that can have more than one meaning.

To relay the message, the sender must select and use a **medium of transmission** (a means of carrying an encoded message from the source to the receiver). Ink on paper, vibrations of air produced by vocal cords, and electronically produced airwaves such as radio and TV signals are examples of transmission media. If a sender relays a message through an inappropriate medium of transmission, its message may not reach the right receivers. Organizations use memos, meetings, reward systems, policy statements, production schedules, and many other mediums to communicate with members. Some may not always be appropriate. Deming, for instance, thinks some reward systems such as individual ratings send an inappropriate message; they emphasize individual competition and place artificial limits on performance.<sup>10</sup>

**Decoding** is the process by which the receiver interprets the symbols (coded message) sent by the source by converting them into concepts and ideas. Seldom does the receiver decode exactly the same meaning that a sender encoded. When the receiver



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Through video conferencing, individuals or groups can communicate orally even though they may be miles apart.

**noise**

Interference that affects any or all stages of the communication process.

**feedback**

The receiver's response to the sender's message.

**channel capacity**

The limit on the volume of information that a channel can handle effectively.

interprets the message differently from what the sender intended, the cause may be **noise** (interference that affects any or all stages of the communication process). Noise has many sources, such as competing messages, misinterpretation, radio static, faulty printing, or use of ambiguous or unfamiliar symbols. Yelling at a subordinate may result in noise, even though the manager uses familiar words to convey the message. Noise may be present at any point of the communication process.

**Feedback** is the receiver's response to the sender's message. During feedback, the receiver becomes the source of a message that is directed back to the original source, who then becomes a receiver. Thus communication can be viewed as a circular process, as Figure 15–1 shows. But feedback may not take place immediately. For instance, a consumer products manufacturer may advertise the benefits of a product (the message), but the consumer may not actually purchase the product (feedback) until some time after receiving the source's message. In organizations, feedback is necessary for two-way communication. Quality can best be achieved when people in organizations communicate with each other and work cooperatively. It is often nonmanagers who are closest to production problems, suppliers, and customers. If they do not have the capacity to provide feedback, managers will miss out on valuable information.

The communication process has a **channel capacity**, a limit on the volume of information that it can handle effectively. Channel capacity is determined by the least efficient component of the communication process. With verbal communications, there is a limit to how fast a source can speak and how much a receiver can decode. If a manager transmits more than one message, the communication process may not be totally effective because the audience (receivers) may not be able to decode all the messages at the same time, especially if they are inconsistent. For instance, a manager at a branch bank tells all new tellers that customers are important, and also tells them to close their windows early so they can balance their windows and get out of the bank on time. The result is longer lines at closing times, and the new tellers don't get the message that customers are important.

## Selecting a Communication Medium

Media selection is a critical aspect of effective communication. A *communication medium* is a conduit or channel through which data and meaning are conveyed.<sup>11</sup> Communications media include face-to-face, telephone, and written communication. Managers must determine which media to use in sending and in receiving information. Suppose, for instance, a sales manager wants to communicate a new compensation plan to the selling force. How should the new plan be communicated? What media should be used? Would letters, memos, oral presentations, telephone calls, or some other medium work best? The answers to these questions will likely affect the success of the new compensation program. Table 15–1 lists assorted media choices.

One factor that has been stressed in choosing media is the **media richness** (media's capacity to convey data).<sup>12</sup> One medium may be richer than another; that is, one medium may have a greater capacity to carry data than another. Data-carrying capacity refers to the degree to which a medium can effectively and efficiently convey data.<sup>13</sup> Thus the best media can be determined by the richness or effectiveness of the media.

**media richness**

Media's capacity to convey data.

Oral	Written	Nonverbal
Face-to-face	Letters	Touch
Telephone	Computer printouts	Eye contact
Speeches	Electronic mail	Body language
Video conferencing	Memos	Time
Intercom	Bulletin boards	Space

Several criteria are used to evaluate a medium's richness: the medium's capacity for timely feedback; its capacity for multiple uses, such as audio and visual; the extent to which the message can be personalized; and the variety of language that can be used, such as natural and body language.<sup>14</sup> Face-to-face is the richest medium because feedback is the fastest, both audio and visual cues can be used, the message is personal, and a variety of languages can be used. Conversely formal numeric media such as computer printouts are the least rich because feedback is very slow and data-carrying capacity is limited to visual information.

Suppose the sales manager decides the most effective way to inform the selling force about the new compensation plan is through face-to-face communication. The meaning of the spoken word, the rate, pitch, and force of the verbal message, and facial expressions can all combine to give a single, powerful message. Each salesperson will have the opportunity to see the manager, hear the message, interpret it, and give and receive feedback. This seems to be the best way to ensure the new plan's success. Unfortunately there are thousands of salespeople in several countries throughout the world. Face-to-face communication is simply not possible.

In addition to richness, several other factors must be considered in selecting a communication medium. First, cost must be weighed against the medium's speed of transmission and its overall effectiveness. A telephone call, for instance, may be the fastest and most effective medium when speed is critical in communication, even though a letter would be much less expensive. Some messages have a greater impact when delivered in person. Communicating a promotion personally, or both in-person and by letter, may convey the maximum impact. Second, the purpose of the communication influences the media choice. To communicate technical or quantitative information, a written report may be most effective. Third, the extent to which interaction is necessary should be considered when selecting a medium. A performance review could be in writing, but a face-to-face meeting would allow for questions, feedback, and understanding. Finally, the receiver's capabilities also influence which medium is selected. A receiver that tends to forget oral communication may need written reminders providing documentation for the future.

In summary, media choice depends on the situation's requirements. Some situations may call for oral communication, some for written, and others for a combination. Always select a communication medium that conveys the intended message to the target audience.

## The Role of Communication in Organizations

Throughout this book we have discussed several functions of management, including planning, organizing, and leading. Controlling will be discussed in the next part of the book. We have also emphasized the importance of quality. Management is largely a profession that functions through the vehicle of communicating with people—most good managers are good communicators. Indeed, managers need technical, analytical, and conceptual skills (see Chapter 1) to perform their functions and develop a culture that is conducive to quality. But communication is an essential part of all other management functions and processes. Put another way, "The job of the manager is, ultimately, communication, regardless of how varied or specialized the activity of the moment might be."<sup>15</sup>

Many managers stress *open* communication as a means of improving organization effectiveness and quality. The goal of constantly improving quality can only be achieved if it supersedes differences, jealousies, competition between individuals and departments, and turf battles.<sup>16</sup> Open communication requires more than maintaining open offices. It also involves managers' accessibility to workers, day-to-day interaction with employees, and breaking down barriers and resistance to change. If an organization decides to implement quality teams, communication is essential. Resistance to the change should be expected. Here communication helps people deal with change, work through

## REFLECTIONS BY PHILIP B. CROSBY

## INTERPERSONAL AND ORGANIZATIONAL COMMUNICATION

One Monday morning, while taking a break at a conference, I wandered over to the golf practice range. I realized that the man hitting balls out of the practice sand trap was one of the world's premier golfers. He had just won the previous PGA tournament, in fact. I edged over and stood watching in awe as he pounded ball after ball up near the pin.

Then he decided to rest for a few moments and climbed out of the bunker. He walked over to me and we shook hands and chatted. He asked about my game.

"Inconsistent is the word," I said. "I get six or seven pars in a round and the rest are not worth mentioning. Do you have any suggestions?"

"Hit a thousand balls a day," he said. "I haven't found any other way."

"Don't you have something you could sell me?" I asked. "How about some new clubs, or a pair of pants, or a ball warmer, or a magic glove?"

He laughed and patted me on the shoulder.

"You left out motivation classes for the caddies," he said. "You know as well as I do that you are responsible for your own game. If you can par six or seven holes, you can par them all." He went back to work.

The truest form of communication is participation. I have noticed that many managers try to tell their people something without being an example of it themselves. This is particularly true of quality. Executives in particular think that they can spend some money and buy what is called TQM. This consists of a bunch of techniques, tools and classes intended to change the way people work. But the communication is not real.

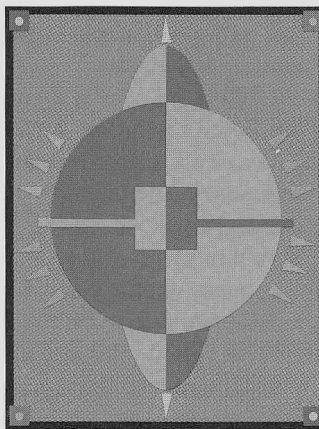
Management commitment cannot be demonstrated by anything else except the management being committed, in person.

I decided to take the advice of this obviously dedicated professional. Hitting a thousand balls a day is a little past my activity level, but I did take some lessons and began to work on what I was taught. I began to take the game more seriously, to make certain that I was lined up and set up properly. I thought about things. All of this didn't take any more time, but it certainly had its effect on my game. My handicap now is the lowest

it has been for 25 years.

Communication is getting the message to the areas that need it in a way that will be accepted and implemented. That requires both credibility of presentation and integrity of content.

Don't try to sell something you don't believe.



it, and adapt to the new way of doing things, whether it be quality teams or some other change. In short, communication pervades every aspect of the organization, every individual, team, or department, and each external relationship with customers, suppliers, and competitors. The organization cannot achieve its goals without open, two-way communication.

## ■ INTERPERSONAL COMMUNICATION

*interpersonal communication*  
Communication between two people, usually face-to-face.

Individuals spend a great deal of time in organizations interacting with each other. **Interpersonal communication** is communication between two people, usually face-to-face.<sup>17</sup> Other communication media (such as the telephone or the computer) can also be used to communicate interpersonally. Through interpersonal communication we develop and maintain human relationships—the basic social units of any organization. Thus interpersonal communication is the fundamental building block of organizational communication.

It is extremely difficult for one individual to accomplish much within an organization.<sup>18</sup> This was the basic message President Bush sent the American public during his

1992 Republican Party presidential nomination acceptance speech. He attributed much of his administration's ineffectiveness to the Democrat-controlled Congress. Critics replied that the problem wasn't Congress, it was the president's inability to communicate with Congress. They added that President Reagan, the "great communicator," had his way with the same Democratic Congress for eight years. Only through successful interpersonal communication can anything be accomplished in an organization. This can be upsetting to a powerful organizational member such as President Bush or the CEO of a large corporation. Individuals must eventually realize that power is based on the ability to influence others, and communication enables one individual to influence the behavior of others.

## Oral Communication

oral communication  
Communication using the spoken word to transmit a message.

**Oral communication** takes place when the spoken word is used to transmit a message. Conversations can take place in person, via telephone, or through some other mechanism that allows individuals to speak to one another. Oral communication enables prompt, two-way interaction between parties. Many meetings and conferences that involve people from different locations, even different parts of the world, are conducted using TV hook-ups so participants can interact personally. Perhaps the major benefit of this type of communication is that ideas can be interchanged and prompt feedback can be provided. Questions can be addressed, positions and issues debated, and a plan for action or resolution established. Oral communication that takes place in person also allows the use of gestures, facial expressions, and other emotions such as tone or voice.

Oral communication, because of its immediacy, can result in poor communication. If, for instance, a person becomes angry, noise enters the communication process. Messages that are not clearly encoded may also fail to communicate the intended idea. A hurried manager may give an oral instruction or initiative without thinking about the outcome. (Recall what happened when the foreman instructed the factory worker to turn the machine on.) While feedback is immediate, it may also be without thought, reducing the communication's quality. Individuals often feel the need to respond immediately in a face-to-face meeting, when in fact they should take some time to prepare a well-thought-out response.

## Written Communication

written communication  
Transmitting a message through the written word.

Transmitting a message through the written word is called **written communication**. This type of communication can help eliminate the problem we just discussed. Written messages allow a manager to think about the message, reread it several times, and perhaps get others to review the message before it's transmitted. The receiver can take time to read the message carefully and accurately. Written messages are also more permanent than oral, providing a record of the communication. Whether it's a long report or a short memo, written communication can be referred to in the future as needed. Managers often find it necessary to document their decisions for legal reasons.

Despite the advantages of written communication, managers generally prefer to communicate orally. Written communication takes more time to prepare and does not allow interaction or immediate feedback. Managers rely on two-way communication to resolve problems quickly. It takes much longer to get ideas on paper, to distribute them to others, and to receive written responses; a telephone call or meeting is quicker. Written communication, by its formal nature, may also discourage open communication.

## Nonverbal Communication

nonverbal communication  
Intentional or unintentional messages that are neither written nor spoken.

All intentional or unintentional messages that are neither written nor spoken are referred to as **nonverbal communication**.<sup>19</sup> Examples include vocal cues, body movements.

facial expressions, personal appearance, and distance or space. A certain look or glance, seating arrangements at a meeting, or a sudden change in voice tone can communicate a strong message. Nonverbal messages can be powerful, depending on the situation. Silence, for example, has been described as a tremendous communication device.

The difficulty with nonverbal communication is that the receiver must know the source's specific background or frame of reference to accurately decode the message. For example, on her first day of work a new employee witnesses her boss screaming at a coworker. She's shocked, and asks the coworker if this happens often. He explains that the boss is a great guy and a great manager, will do anything for you, and happens to yell all the time. Now she has a different perspective. On the other hand, imagine if a manager who is known to be cool and calm and rarely changes expressions glares at someone in a meeting.

Managers must recognize that nonverbal communication can occur unintentionally. After being on the job for about three months, a computer programmer had come to the conclusion that his supervisor didn't like him. He was so concerned he decided to look for another job, but he decided to talk to his supervisor before he quit. He told the supervisor, "Obviously I did something to upset you." The manager looked at him without emotion, told the programmer he was doing a great job and could expect a nice raise at his six-month review, and offered no other explanation. Managers have to understand the potential of nonverbal communication and realize that unintentionally they may be sending the wrong message.

Nonverbal communication is important to multinational companies (MNCs) operating in a foreign country. People in different countries and cultures have different sets of nonverbal symbols and meanings. Nonverbal cues such as touch, body language, and personal distance are used differently across cultures. For instance, a study of how often couples in coffee shops touched reported that couples in San Juan, Puerto Rico, touched 180 times an hour; couples in Paris, France, 110 times; in Gainesville, Florida, twice per hour; and in London, England, once.<sup>20</sup> Managers encounter difficulty interpreting nonverbal communication while working in foreign countries. Likewise they are uncertain what nonverbal messages they may be transmitting. A business deal in Japan can fall through if a foreign executive refuses a cup of green tea during a visit to a Japanese firm.<sup>21</sup> Representatives working in a foreign country should be given adequate training in the nonverbal customs of the country. The Global Exchange looks at this issue.

## Empathic Listening

You have been reading this book that we have written for some time. Reading and writing are both forms of interpersonal communication, but they are not the only ones. Speaking and listening are other forms. We all have a lot of experience speaking, but perhaps listening is the one form of communication that we have the least experience with. In his best-selling book, *The 7 Habits of Highly Effective People*, Stephen Covey suggests that the key to effective listening is to seek first to understand, then to be understood.<sup>22</sup> Covey describes *empathic listening* as listening with the intent to understand. This is not easy—it requires looking at an issue from another person's point of view. It requires listening not only with your ears, but with your eyes and your heart as well.

Studies have found that 70 to 80 percent of our waking life is spent communicating on some level. Of this time, 45 percent is spent listening.<sup>23</sup> Unless someone listens, communication cannot take place. Fortunately listening is a skill that can be learned and improved. By avoiding barriers to effective listening and by developing listening skills, we can all become empathic listeners.

Distractions such as interruptions, telephone calls, and unfinished work are a major barrier to effective listening. Selecting an environment free of such distractions will improve listening. Many listeners also take detours during a communication. For instance, if someone mentions a word that brings out certain emotions, we become distracted and



## GLOBAL EXCHANGE

## NONVERBAL COMMUNICATION IN THE GLOBAL ENVIRONMENT

When American firms conduct business in foreign countries, they often find they underestimate the significance of nonverbal communication. In some cultures, the verbal message is not as important as the nonverbal message. Managers accustomed to communicating through reports, contracts, and other written and verbal communication may be at a disadvantage in a foreign country. In Japan, for instance, true intentions are often disguised by an agreeable smile. Japanese people realize when they are being taken in, but foreigners may not.

Time has different meanings in different countries. In the United States a delay in responding to a communication is generally taken to mean that the issue is not important to the other party. The amount of time a person is kept waiting for a meeting indicates the importance of the person or subject. For instance, a salesperson kept waiting for several hours may get discouraged because this suggests the purchasing manager isn't interested in the product. In some foreign countries this is viewed much differently. In Latin America the time a person is kept waiting means very little. In Japan a lengthy delay of weeks or months doesn't mean the party has lost interest. Americans must have patience or risk a breakdown in communication. Giving a person a deadline in the Middle East is viewed as rude and demanding.

The connotations associated with greetings and body motions vary across countries. While it is traditional to shake hands in America, the palms of hands touch and the head is nodded for greeting in India. It is also considered rude to shake hands with a woman in India. The traditional form of

greeting in Japan is bowing; in Latin America it's a hearty embrace and friendly slap on the back. Arm gestures are used for emphasis in Latin America, the raised eyebrow means "yes" in the Middle East, and a forefinger to the nose means "me" in Japan. Kissing is considered offensive in India and is not seen on TV, in movies, or in public places.

Space also has different meanings throughout the world. In the United States office size indicates an individual's relative status. Executives tend to have the largest corner office. As stature in the organization decreases, so does office size. The French locate offices according to activities and interests; the supervisor is usually found in the middle of subordinates to improve communication. What is considered crowded in America is seen as spacious in Arab and Spanish cultures.

Shapes, sizes, and colors also convey different meanings. In Japan, pine, bamboo, or plum patterns are positive, as are muted shades. Cultural shapes such as Buddha and combinations of black, dark gray, and white have negative overtones. Round or square shapes are acceptable in the Middle East, while symbols such as the six-pointed star or raised thumb are avoided. Europeans favor white and blue, while black generally has negative overtones. These differences have implications for dress, product and package design, and various forms of communication such as advertising.

Source: Adapted from James C. Simmons, "A Matter of Interpretation," *American Way*, April 1983, pp. 106-11; E. T. Hall, "The Silent Language in Overseas Business," *Harvard Business Review*, May-June 1960; and "The Art of Lying," *World Press Review*, November 1985, p. 10.

tune out the message. Many receivers also begin to debate a point, thinking ahead and planning a response. You're likely to miss the message in this case.

It is not easy to listen, but we can all start by taking time to listen. Relax, try to close out other distractions, and give both your mental and physical attention to the other person. Help the other person relax by assuming a nonthreatening listening posture, maintaining eye contact and a warm facial expression. This demonstrates that the listener is interested in what is being said.

Communication can also be improved by giving and requesting constructive feedback. If people say what they think others want to hear, feedback is of limited value. Honest feedback can be used to determine if the listener understood the intended message. Effective listeners focus on the message's meaning, postpone judgments until the communication is complete, actively respond to the speaker, and avoid focusing on emotionally charged words.<sup>24</sup>

Effective and empathic listening takes time and practice. Listening with empathy puts you on the same level with another person. It's difficult to listen when you don't understand the other person. Effective listening is not a passive exercise; it is an active skill that requires full participation. Good listeners take notes, ask questions, and are totally attentive to what is being said.<sup>25</sup> While listening may not come naturally to all of us, with practice we can become better listeners and reap the benefits of effective communication.

## ■ ORGANIZATIONAL COMMUNICATION

We noted earlier that individuals and groups must communicate effectively for organizations to be successful. This section examines formal and informal channels of organizational communication and their impact on the communication process. It is the manager's job to ensure that effective, efficient channels are available to facilitate communication. Figure 15-2 illustrates the forms of organizational communication, both formal and informal. Managers must understand these forms as well as barriers to organizational communication and how to remove them.

### Formal Channels of Communication

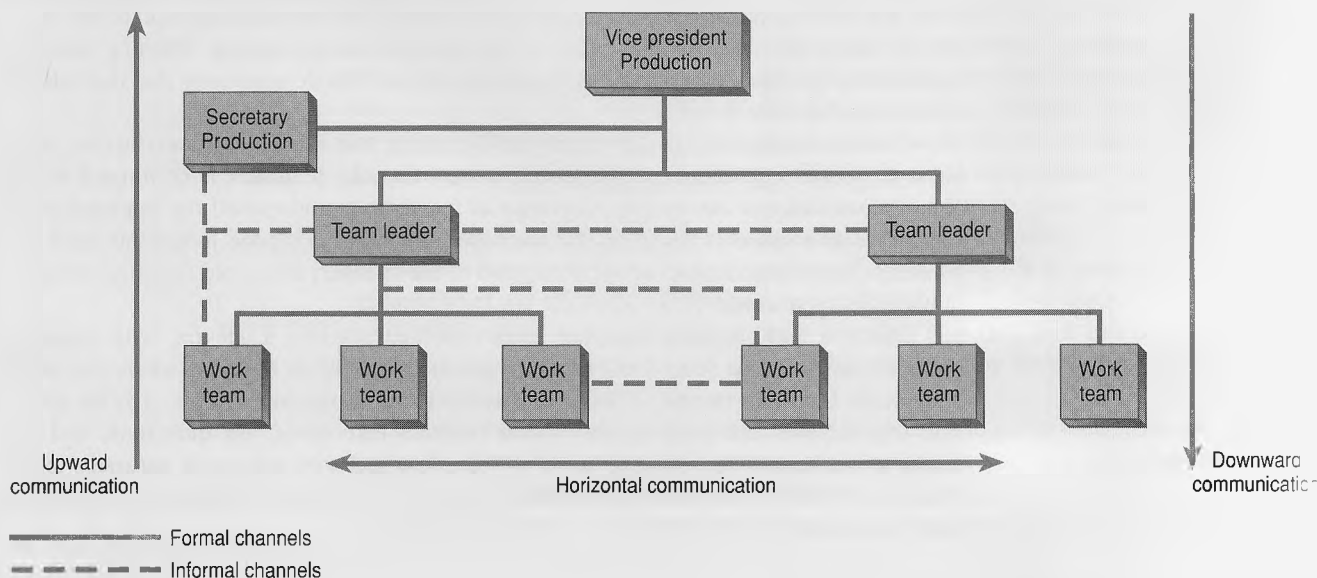
Formal channels of communication are the official paths prescribed by management. These formal channels generally follow the organization's chain of command. Information can be communicated downward, upward, or horizontally, and can be oral, written, or nonverbal.

**Downward communication**  
Information that flows down the organizational hierarchy from managers and supervisors to subordinates.

**Downward Communication** Information flows down the organizational hierarchy from managers and supervisors to subordinates through **downward communication**. As Figure 15-2 shows, this communication follows the formal lines of authority prescribed by the chain of command. Downward communication generally involves job instructions, manuals, policy statements, memos, motivational appeals, and other forms of formal instruction or feedback. Downward communication is not always adequate because workers need more information than just job instructions. They also need to know, for instance, what other members of the organization are doing. Nevertheless downward communication is important because lack of communication from superiors can leave workers misinformed, feeling disconnected, and less satisfied with their jobs.

One problem managers face is deciding which and how much information to communicate to subordinates. Too much information, especially if it is irrelevant, is eventually ignored. Every Friday some salespeople find dozens of reports and summaries in their mail boxes—much of it useless—and begin to ignore the material. Unfortunately some of it may be valuable. Managers who wish to empower workers must provide

FIGURE 15-2  
Formal and Informal Channels of Communication



quality information that can enable workers to improve. This may also require communicating information that was once considered only for managers, such as financial and performance data.

**upward communication**  
Information that flows up the organization from subordinates to supervisors and managers.

**Upward Communication** Information that flows up the organization from subordinates to supervisors and managers is called **upward communication**. This type of communication is necessary for managers to evaluate the effectiveness of downward communication. It also enables workers to feel they are a meaningful part of the organization. Many types of messages are communicated upward, including suggestions for improvements, feelings about the job or the organization, problems or grievances, requests, and responses to downward communication. Many workers face a dilemma concerning what they should communicate to superiors. In any event, upward communication should be encouraged, as it is a means of driving fear out of the organization (one of Deming's 14 points for quality). A factory worker must not be afraid to tell the supervisor that the machine is making defective product.

Obviously information is not effective unless it is accurate. Upward communication is often distorted in one way or another to be made more acceptable to managers. Workers may be reluctant to report problems if they think managers will blame them. Managers should create an environment in which workers feel comfortable reporting good news and bad. Empowered workers are more likely to report accurate information than less powerful or fearful employees. Managers can demonstrate that upward communication is valued by replying or acting promptly and positively.

Robert W. Galvin, former CEO of Motorola, emphasized the need for both downward and upward communication in developing a total quality management program.<sup>26</sup> The goal of Motorola (and many other firms) is *total customer satisfaction*. This requires (1) a good information flow in the company and (2) quality information available to everyone involved in making decisions. At Motorola workers aren't fearful of communicating problems upward. Galvin's philosophy is that problems and mistakes are part of innovation and constant improvement; they just shouldn't be made before the customer's eyes.

**Horizontal Communication** Messages flow between persons at the same level of the organization through **horizontal communication**. This includes staff meetings, face-to-face interactions, and sharing of information through memos and reports. Horizontal communication is needed to coordinate the activities of diverse but independent units or departments. For instance, the manager of marketing and sales needs to communicate with the manager of production to avoid understocking or overstocking the product.

Traditionally, horizontal communication took place more among managers than non-managers. But as organizations have begun to utilize work teams and quality circles, workers from different units or departments are often called together to work on a project or problem. Many organizations are placing increasing emphasis on horizontal communication. In their book *Re-inventing the Corporation*, John Naisbitt and Patricia Aburdene observe, "The top-down authoritarian management style is yielding to a networking style of management, where people learn from one another horizontally, where everyone is a resource for everyone else, and where each person gets support and assistance from many different directions."<sup>27</sup>

**horizontal communication**  
Messages that flow between persons at the same level of an organization.

## Informal Channels of Communication

Not all organizational communication follows the official chain of command. One informal channel of communication is the grapevine. The **grapevine** cuts across formal channels of communication and carries a variety of facts, opinions, rumors, and other information. All organizations, large or small, have grapevines; it is futile for managers to try to eliminate this informal channel.

**grapevine**  
An informal communication channel that cuts across formal channels of communication and carries a variety of facts, opinions, rumors, and other information.

While grapevines don't always have negative consequences, they are frequently troublesome to managers. A middle manager once learned of an impending transfer when she received a telephone call from a real estate agent in another part of the country. She eventually found that the real estate agent's contact at corporate headquarters learned about the transfer and passed it on to the realtor. Unfortunately the woman's supervisor had yet to tell her about the transfer. The grapevine can also be the source of harmful rumors and gossip. Managers can control this to some extent by communicating accurate, timely information, by maintaining and cultivating open channels of communication in all directions, and by moving quickly to dispel rumors and correct inaccurate information.

## Communicating Quality in Organizations

Effective communication is vital to the success of total quality programs, especially when directed to audiences inside the organization.<sup>28</sup> Communication is often the least understood and most poorly managed aspect of TQM efforts. Whether we're talking about participative management, empowerment, or team work, today's decentralized organizations require effective communication.<sup>29</sup> The main elements of total quality efforts are process, people, customers, and leadership. To do the right things right the first time, individuals and teams must have clear, measurable data to make sound decisions.<sup>30</sup>

How do you communicate quality? The leader's vision must be clearly articulated and communicated to workers. Organizational change cannot work unless effective communication influences individual behavior change, but in such a way that the organization enjoys maximum benefit from the change. Communication should be aligned horizontally with the organization's product-making and service-delivery processes, and vertically with the company's objectives. In this way, members of the organization see how their actions are related to each other and how they are progressing toward achieving the objectives.<sup>31</sup> Managers can communicate total quality in the organization by following these guidelines:

- Make involvement the goal.
- Provide a plan of action.
- Develop a document with guidelines.
- Provide an example of TQM in action.
- Use existing internal communication channels.
- Arm management to deliver the total quality message.
- Report process achievements as well as results.
- Celebrate.<sup>32</sup>

The principles embodied in the seven Malcolm Baldrige National Quality Award categories are directly applicable to communication. These guidelines help define communication's critical role in a high-quality, customer-oriented organization. A study of Baldrige Award winners and members of the Baldrige Board of Examiners reported that communicators' most important duties in a total quality environment are encouraging employee involvement and empowerment; encouraging proactive management of customer relationships; determining customer requirements; and benchmarking company-wide and function-by-function performance against competitive and best-in-field performance measures.<sup>33</sup>

Open and frequent communication is necessary for a successful quality program.<sup>34</sup> Communication is at the heart of both Crosby's and Deming's 14 points. In Crosby's case, management commitment, quality improvement teams, quality awareness, employee education, goal setting, and recognition all require effective communication. As for Deming's points, constancy of purpose, constant improvement, institute training and leadership, driving out fear, and breaking down barriers between departments can't be

accomplished without effective communication. Still, perhaps more than anything, sharing information and feedback are the nucleus of total quality efforts—and both require effective communication.

## ■ BARRIERS TO ORGANIZATIONAL COMMUNICATION

Communication isn't always effective. Breakdowns occur for many reasons. Some can simply be attributed to poor habits—lack of preparation or vague directions. Barriers such as these can be overcome without too much difficulty if the communicator is willing to work at it. Other barriers can be much more difficult to overcome. For instance, a survey conducted at General Motors' Saginaw Division found that lack of trust between management and labor was resulting in poor communication throughout the division. General Motors started a new two-way communication program to share information and rebuild trust. The program was a huge success, but took several years to get results.<sup>35</sup> This section examines common barriers to organizational communication.

### Personal Characteristics

One major barrier to organizational communication is the personal makeup of the parties involved. People have attitudes about work-related matters, conditions in the world, their personal life, and communication in general. Some individuals have defensive attitudes and interpret messages as an order or threat. Some people simply have incompatible personalities. Others feel inferior or threatened, become defensive in an attempt to cover up their feelings, and respond aggressively. Constantly being on the offensive is an obstacle to communication.

Another problem involves the parties' credibility. **Source credibility** refers to the receiver's confidence and trust in the source of the message. If the receiver has little or no faith in the source, it will be difficult for the two parties to communicate. Individuals lose credibility when they pass along inaccurate information or fail to follow through with directives or initiatives. New leaders are often greeted with a sense of excitement and hope by other members of the organization. But if they make promises they don't keep—pay raises, new offices, lower taxes, and so on—they lose their credibility and their ability to communicate effectively.

Several other personal characteristics can inhibit communication. Some individuals tend to be disorganized, which carries over to their communication efforts. Poor listening habits on the part of the receiver are also a communication barrier. Some people, rather than listening, are thinking ahead to how they will respond and do not receive the message. Receivers may also have certain predispositions and tune out the communicator because the message is not consistent with their beliefs. Finally individuals may be biased based on age, gender, looks, or some other factor, and these biases inhibit the communication process. Such biases are especially alarming as the workforce becomes more diverse.

### Frame of Reference

Individuals have different backgrounds and have had many different experiences that shape the meanings they assign to words. There is a great deal of difference between you or I saying, "I'm starved," as we head to a restaurant, and a child who hasn't eaten in 10 days uttering the same words. We have a different *frame of reference* so we may have difficulty achieving common understanding. When a parent tells a child, "I never had so many toys when I was a kid," the child may find it difficult to understand because the parent and the child have different frames of reference. Likewise if a supervisor and a subordinate or two coworkers have different backgrounds and experiences, organizational communication may suffer.

#### source credibility

The receiver's confidence and trust in the source of the message.

**selective perception**

People screening out information that isn't consistent with their beliefs or background.

A related problem in communication concerns people blocking out information they aren't comfortable with. **Selective perception** occurs when people screen out information that is not consistent with their beliefs or background. When people receive information that conflicts with what they believe, they tend to ignore it or distort it to make it conform to their beliefs. Managers, for instance, generally analyze problems based on their frame of reference. In other words, a sales manager analyzes a problem from the sales point of view, while an environmentalist analyzes problems based on a different set of beliefs.

Conflicting frames of reference and selective perception can hamper organizational communication in various ways. As individuals move up the organizational hierarchy, for instance, they may develop different frames of reference. A salesperson, who is concerned with closing the deal, may attach different meanings to words than a sales manager, who must be concerned with cost control and other management issues. Likewise an individual in the production department may have a different frame of reference from a marketing staffer. This can reduce the effectiveness of upward, downward, or horizontal communication.

One challenge faced by organizations implementing total quality management programs is breaking down barriers between individuals and departments. Because traditional organization structure encourages competition among individuals, units, departments, or divisions, these entities develop their own frames of reference.<sup>36</sup> This makes it difficult for people to communicate and work together toward the same goal. In the worst scenario, individuals only care about their own job and their own department's performance. A worker is rewarded for reaching a production quota, while quality control and customer satisfaction are somebody else's problem. Under these circumstances, effective communication is difficult, and the organization's overall performance is likely to suffer.

## Resistance to Change

All organizations go through change, whether it be a new TQM program, new leadership, or new owners. Change is a constant in today's organizations. Yet there is a human tendency to resist change. Change triggers rational and irrational emotional reactions because it involves uncertainty. People resist change for several reasons: They fear the loss of something they value; they mistrust management; they view the change differently than those initiating it; or they have low tolerance for change.<sup>37</sup> Whatever the reason, resistance to change is a significant barrier to communication.

A major bank's CEO felt that change was needed because of branch managers' lack of interest in doing anything other than making loans and administration; the managers had little interest in other management issues confronting the bank. The CEO decided to schedule monthly meetings with all bank officers, including branch managers, to discuss broad issues like the bank's overall goals, personnel policy, productivity, strategies, and compensation programs. But the meetings were disappointing—nothing more than a forum for one-way communication from the CEO to those present at the meeting. The number of meetings was increased, and the CEO asked for individual reports on how to deal with management problems and issues. This approach's results were even more disappointing. The reports demonstrated a clear lack of communication between the CEO and the branch managers.

## ■ FACILITATING ORGANIZATIONAL COMMUNICATION

Although some barriers to communication cannot be completely removed, organizational communication can be facilitated in several ways. By understanding the barriers and striving to be better communicators, individuals can improve the communication process.

In some cases this may be relatively simple, perhaps breaking a few bad habits. In other ways this can be a long, ongoing, demanding process.

## Developing Communication Skills

Perhaps the best way to facilitate communication is to develop the skills needed to be a better communicator. Both managers and nonmanagers need to develop communication skills. Managers must improve their ability to understand workers and to be understood. With more individual responsibility, workers must also be able to communicate effectively.<sup>38</sup> Individuals can acquire these skills through managerial training programs in communication.

We have already discussed the importance of *listening* to effective communication. A good communicator listens with *empathy*. By understanding the feelings of others, the communicator can anticipate how a message will be decoded. And by encouraging *feedback*, the communicator can determine whether the message was properly decoded. The use of *simple language* can also facilitate communication. Complex language and the use of confusing or misleading terms introduces noise into the communication process. Good communicators also *question* others, asking for ideas and suggestions, thus encouraging participation. They *initiate* new ideas and calls for action, and *evaluate* ideas of others, offering insightful summaries.

## Minimizing Resistance to Change

As we said, many workers resist change, which is a major barrier to communication. By minimizing resistance to change, managers can help facilitate the communication process. Otherwise change will be poorly implemented and result in no change at all or a very short-term, superficial change. In some instances organizations are worse off after the change effort fails because of the resulting miscommunication and lack of trust.

Managers have several methods to minimize resistance to change.<sup>39</sup> One way is to deal with change before it occurs through education and communication. Preparing people for change helps cut down on resistance. Also, having people affected by the change participate in it will increase their commitment to the change. Being supportive when change is being implemented is critical. Support can be shown by being understanding, being a good listener, and going to bat for subordinates on important issues. Reducing resistance to change can also be accomplished through negotiation and agreement. Regardless of which method is used, managers responsible for implementing change must overcome resistance to change to facilitate effective communication and a successful change effort.

## Communicating with a Diverse Work Force

Managers increasingly face the prospect of communicating with a diverse work force, which makes communicating more difficult. To facilitate communication in such an environment, managers must be aware of diversity and understand its value.<sup>40</sup> Differences in gender, race, culture, and the like can influence how people interpret (decode) messages. A good communicator should be aware of an individual's background and experiences, and anticipate the meaning that will be attached to different messages.

Communicating with an increasingly diverse work force is critical to an organization's viability.<sup>41</sup> This isn't a question of civil rights or affirmative action, which are something different. It concerns the demands a diverse work force places on the communication skills of managers and coworkers. This requires the skills in listening, empathy, feedback, and language already discussed. It also requires skills in understanding other cultures plus the ability to overcome hidden biases and stereotypes about other people.



© Sims/Boynton Photography

Communicating with a diverse workforce is critical to the viability of an organization. Here the Honeywell Diversity Council in Phoenix works to create a workplace that values individual differences and strengths.

## Communication Audit

The communication audit is a useful tool for managers to use in understanding and improving organizational communication. A **communication audit** is a systematic method for collecting and evaluating information about an organization's communication efforts. Such an audit can:

- Provide information about communication behavior in the organization.
- Provide a means for diagnosing discontent or revealing problems in communication.
- Provide a clear picture of current communication patterns and determine those aspects that may be most affected by change.
- Provide a before-and-after picture of organizational communication in relation to change.<sup>42</sup>

There are no black-and-white guidelines for conducting a communication audit. Information can be collected from both managers and workers via surveys, interviews, observing operations, and reviews of formal and informal reports and procedures used in communicating. Organizations use many different formats when conducting a communication audit. The Baldrige Award guidelines offer one set of standards for measuring the quality of communication.<sup>43</sup> These guidelines can be used to conduct an audit of all communication activities of the organization. (Appendix 1 reviews the guidelines.) An organization can use such information to compare its communication activities with those of the best managed companies in America.

A total quality communication audit can be used to assess communications activities in a total quality context. The process begins by identifying policies that relate to the communication area being studied. Then the objectives of the communication activities must be identified as well as the channels or media used to reach these objectives. Finally the overall quality communication system must be evaluated. The main benefit of the audit is comparing communication objectives to actual performance.<sup>44</sup>

A systematic method for collecting and evaluating information about an organization's communication efforts.



## QUALITY BENCHMARK

## A COMMUNICATOR'S ROLE IN A TOTAL QUALITY CULTURE

1. Encouraging employee involvement and empowerment.
2. Proactive management of customer relationships.
3. Determining customer requirements.
4. Benchmarking companywide and function-by-function performance against competitive and best-in-field measures.
5. Providing counsel and support to executive management.
6. Counseling management and developing public responsibility plans.
7. Recognizing employees for their quality contributions.
8. Promoting and supporting the quality education process.
9. Establishing and promoting companywide quality values.
10. Facilitating the total quality planning process.

Source: Karl J. Skutski, "Conducting a Total Quality Communication Audit," *Public Relation Journal*, September 10, 1992, pp. 29–32.

As firms in the next decade struggle with such issues as global competition, downsizing, reorganization, and so on, communication in organizations is taking on increased significance. Effective communication characterizes successful organizations, while poor communication leads to such problems as lower quality and productivity, anger, and mistrust. Through effective communication, individuals can solve complex problems and achieve the goals of the organization.

## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define communication.**

Communication is the exchange of information between a sender and a receiver. If meaning isn't shared, communication hasn't taken place.

### **Describe the communication process.**

Communication is a process in which a message is encoded by a sender and transmitted to a receiver through some medium. The receiver decodes and interprets the coded message. Because of interference or noise in the communication process, the receiver seldom decodes the exact meaning that the sender intended.

### **Discuss communication's role in organizations.**

Communication is an essential part of all management functions. Managers largely function by communicating with people. Most managers stress open communication to improve the organization's quality and effectiveness.

### **Contrast the different types of interpersonal communication.**

Interpersonal communication is communication between two people. It can be oral, written, or nonverbal. Oral communication makes use of the spoken word and enables prompt, two-way interaction between parties. Transmitting a message via written word allows the manager to think about the message before it is sent, and gives the receiver a chance to read the message carefully. Written messages also provide a permanent record. Non-

verbal communication includes vocal cues and body movements. Nonverbal messages can be powerful, but are often difficult to interpret.

### **Identify the three formal channels of organizational communication.**

Information flows down the organization from managers and supervisors to subordinates through downward communication. Information flows up the organization from subordinates to supervisors and managers through upward communication. Messages flow between persons at the same level of the organization through horizontal communication.

### **Explain the significance of informal communication.**

Informal communication does not follow the organization's official chain of command. Informal channels such as the grapevine communicate facts, opinions, rumors, and other information. Although they do not always have negative consequences, they can be the source of misinformation and harmful gossip.

### **List the barriers to organizational communication.**

Barriers include the personal characteristics of the parties involved; conflicting frames of reference and selective perception (screening out information that people are not comfortable with); and rational and irrational reactions triggered by change.

### Discuss how organizations can facilitate communication.

An organization can facilitate communication by helping members develop important communication skills, including listening, empathy, feedback, and the use of simple language. Resistance to change can be minimized by preparing individuals for change,

thereby reducing another barrier to communication. Managers must also learn to communicate with a diverse work force. Finally, a communication audit can identify problems with and improve the communication process.

## KEY TERMS

channel capacity, p. 420

communication, p. 418

communication audit, p. 432

decoding, p. 419

downward communication, p. 426

encode, p. 419

feedback, p. 420

grapevine, p. 427

horizontal communication, p. 427

interpersonal communication, p. 422

media richness, p. 420

medium of transmission, p. 419

message, p. 419

noise, p. 420

nonverbal communication, p. 423

oral communication, p. 423

selective perception, p. 430

sender, p. 418

source credibility, p. 429

upward communication, p. 427

written communication, p. 423

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is the meaning of the term *communication*?
2. What are the advantages and disadvantages of oral, written, and nonverbal communication?
3. What is the grapevine? How can managers control this channel of communication?
4. Why does communication sometimes break down? What are some common barriers to communication?
5. What skills are necessary for effective communication?
6. How can managers minimize resistance to change?

7. Why is communication critical to organizations implementing total quality management programs?
8. Why are all three formal channels of communication important in organizations?

### Application

1. Select an ad that you're familiar with. Discuss it in relation to the communication process. Who is the source? What is the message? What is the medium of transmission? How did you decode the message? What was your response or feedback to the message? Was there any noise present in the communication process?

### Understanding

1. Describe the communication process, providing an example of each component.

## CASE 15-1

### Communication Challenges at Georgia Power

In 1989 employee morale was at an all-time low at Georgia Power. Industry deregulation and increasing competition threatened to slash profits. The CEO's retirement left many employees uncertain about the firm's future leadership. A survey showed that only 4 percent of the employees could name the firm's two major goals (to increase return on equity and keep electricity costs down). Georgia Power was also under investigation by the Internal Revenue Service. To make matters worse, a corporate jet carrying the just-terminated vice president of a sister company crashed due to an on-board fire. Weather and mechanical failure were ruled out as causes of the fire; the news media suggested sabotage or suicide.

Georgia Power supplies electricity to 1.5 million customers around the state. It employs 14,000 people at its headquarters in Atlanta and in towns and plants throughout Georgia. This diverse group ranges from professional to hourly workers, from linemen and plant operators to engineers and marketing representatives.

The communication department was assigned the task of rebuilding morale. Its objective was to motivate employees to work as a team and commit to profitability and customer service. Specific communication goals were developed based on key company issues, including raising employee awareness of the two major corporate goals and increasing to 70 percent employee awareness that management makes decisions based on profit. Goals relating to marketing efforts were to generate employee support for marketing initiatives (like electric heat pump sales).

and to increase understanding of existing competition. The communication department also had to address the company's downsizing, retirement of the longtime CEO, and a new president and CEO in need of support for his vision of the company's future.

To meet these challenges, the communication department decided a comprehensive communication approach was needed. Two methods were used to increase awareness of the company goals. Vision 2000 scoreboards were designed to keep employees updated on company and departmental performance on key goals. A quarterly Scoreboard newsletter was also developed to report on the company's performance. To encourage two-way communication, Vision 2000 meetings included managers and supervisors between the top executives and employees.

A newly designed program enabled the new CEO to communicate his philosophy and vision to senior management and officers. Vice presidents and senior managers would then present a video on the CEO's vision to their employees, followed by a discussion of the video. A discussion guide was produced to assist in the program's presentation. Reports could be sent back to the CEO with questions employees raised during the discussions. To help build morale, the communications department also introduced the Everybody Has a Customer Award. The award enabled employees to recognize each other for excellence.

Thanks to the new communication program, awareness of company goals jumped from 4 to 70 percent of employees (19 percent higher than the goal). Recognition that profitability affects management decisions reached 83 percent, exceeding the 70 percent goal. About 80 percent of the employees believed Georgia Power's message about the threat of competition: nearly 80 percent believed management had a clear vision of the future and was communicating that vision. Employee support for marketing initiatives increased, and morale was higher than it had been in a long time. In 1990 the project won the International Association of Business Communicators Gold Quill Award for excellence in communication.

## Questions

1. Describe the communication challenge facing Georgia Power.
2. What were the objectives of the new communication program?
3. What formal channels were selected to communicate with employees?
4. Why do you think the comprehensive program developed by the communication department was successful?

## ■ CASE 15-2

### Matsushita Acquires MCA

When a company is acquired by foreign ownership, the new culture must be communicated to employees. Managers and non-managers alike need to know about the new company's history, portfolio, and business strategy. Any merger or acquisition can be potentially troublesome for employees, who are often fearful and uncertain of changes taking place. But when a foreign company acquires a domestic firm, the potential is even greater. During the transition that typically includes layoffs and restructuring, clashes due to cultural differences are also likely to occur. Damage to employee morale and productivity can be extensive.

Many firms fail to communicate to employees the new company's culture and the changes taking place. Managers may be spending their time dealing with details of the merger or acquisition, and simply fail to take time to communicate with employees. Some firms hold off on communicating anything until all details are finalized. Because of a lack of communication through formal channels, the grapevine becomes the source for employees to learn about the new parent company. Unfortunately much of this information can be inaccurate and result in more fear and uncertainty.

When Matsushita Electric Industrial Co. Ltd. of Japan purchased MCA Inc., employee communication became a priority. The new parent company assured everyone that it would be business as usual at MCA. The president of both MCA and Matsushita wrote letters to all employees with this reassurance. A

communication plan was also developed to integrate the MCA companies, which included Spencer Gifts, Putnam Publishing, the Curry Co., and Universal Studios. Up until this point, MCA did not have a formal communication program.

The communication program developed at MCA included several aspects. A team was created to manage the transition. The team was made up of executives from human resources, benefits, finance, legal, and corporate communications. The team's goal was to make the employee the customer of transition communication. Employees were interviewed to determine their information needs. A newsletter, video presentations, and programs were developed to communicate to employees what MCA and Matsushita were about. Company meetings were held so employees could get their questions answered in person and be reassured about their jobs. Employees also learned that they were an important part of a team working all over the world.

## Questions

1. Why is communication important when a company is acquired by a foreign firm?
2. What can be done to control the grapevine when one firm is acquired by another?
3. Why did MCA need a formal communication program after being purchased by Matsushita?
4. What were the benefits of the communication plan developed by MCA?

## ■ APPLICATION EXERCISE

The president of a large corporation wishes to inform all employees that the organization has decided to implement a TQM program. The president would also like to encourage everyone to participate fully and dedicate themselves to the total quality effort. This first communication is critical in getting the program off on the right foot and in generating enthusiasm throughout the organization.

The following message was developed:

*While our company has done a good job, it simply hasn't been good enough. Faced with increasing competition from foreign firms, we have to reduce our costs and increase our output. The company has decided to implement a total quality management program. You may have heard of similar programs at other organizations. Total quality programs are based to a large extent on the work of Dr. Deming. I have attached his 14 points for your information.*

*As the president, I would like to call on you to cooperate fully in this important effort. Your future and the future of the company depend upon our ability to improve quality. The division heads will be in communication with each of you shortly as our quality initiative gets underway. Thank you in advance for your cooperation.*

Did the president accomplish the objectives of the communication? Why?

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Does the president demonstrate good communication skills?

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Does this message encourage feedback?

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Rewrite the message to meet the objectives and overcome any problems you detected.

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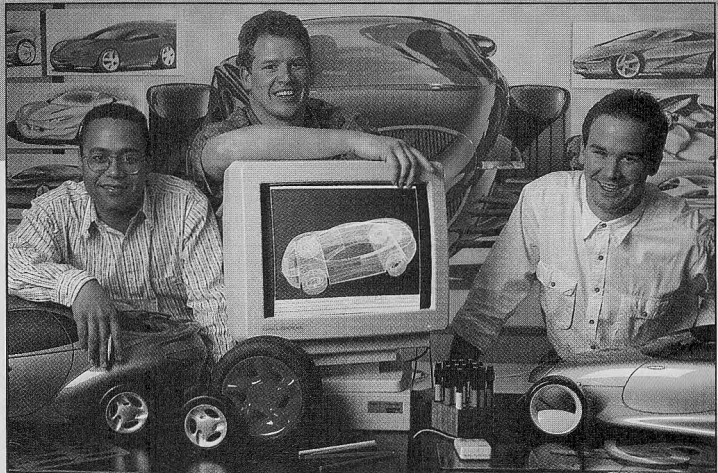


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PART

V

## CONTROLLING



CHAPTER 16

Control Systems

CHAPTER 17

Managing Production and Operations

CHAPTER 18

Managing Services

CHAPTER 19

Managing Organizational Change



CHAPTER

16

CONTROL SYSTEMS

*After reading this chapter, you should be able to:*

Describe the red bead experiment and explain its message to managers.

Describe the three elements of the control process.

Define *total quality control*.

Explain workers' role in total quality management.

Explain management's role in total quality management.

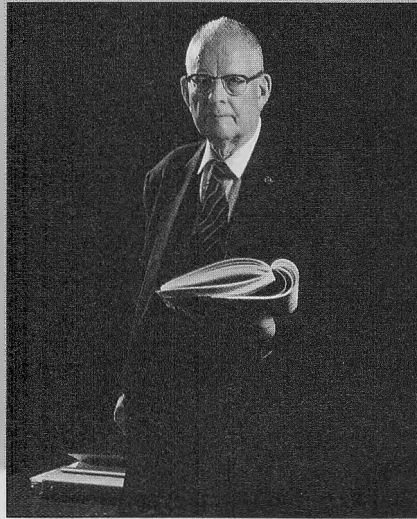
Contrast statistical process control with total quality control.

## THE RED BEAD EXPERIMENT

In his presentations to managers, W. Edwards Deming uses a vivid exercise to illustrate the use and misuse of controls in managing quality. The so-called “red bead experiment” is designed to show that worker inability to meet performance objectives is often a function of the system, not with their laziness or lack of skill.

■ The exercise begins with a large container of 4,000 beads—800 red and 3,200 white. Deming provides participants (typically, six are selected) with paddles, each containing 50 holes for collecting beads. The participants represent workers, and the paddles are their tools. The workers’ task is to dip the paddle into the container of beads and then remove it with each hole containing a bead—red or white. Deming first demonstrates the work process. Dipping the paddle into the bucket he inevitably produces at least a few red beads. (Given that red beads constitute 20 percent of the beads in the container, statistically we’d expect 10 red beads per 50 beads produced.)

■ Deming then puts the workers to the task. Each worker, in turn, dips the paddle into the container and withdraws 50 beads. This is production—very simple, yet very frustrating. Deming sets a production quality standard of 2 red beads per 50 beads produced (8 fewer than the expected 10). This standard is the basis for a quality control system. Deming then serves as the foreman inspecting the results of each “production run.” The bead production system thus has a production process, a standard, and a supervi-



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W. Edwards Deming

sory review process. ■ As foreman, Deming evaluates each worker according to the quality control standard of no more than 4 percent red beads (2 of 50) among the white beads on the paddle. He proceeds to reward, promote, reprimand, and even ridicule and fire workers based on their conformance to this standard. When a worker succeeds at meeting the goal, Deming praises her; he may offer the lucky worker a raise, even a promotion. When a worker produces more than 2 red beads per 50, Deming criticizes him harshly for failing to meet the control standard. In this fashion, Deming illustrates the pointlessness of a merit system in which workers’ performance is due to normal variation within management’s system, not their individual ability. ■ In the red bead experiment, few of the workers’ attempts to meet the production goal are

satisfactory. Since 20 percent of the beads in the large container are red, random samples of beads will, on average, contain 20 percent red beads. While workers can produce some paddles with two or fewer red beads, the average expected will be 10 red beads (20 percent of 50) per production run. Over the long run, no worker can consistently produce fewer than 10 red bead “defects” and no worker will achieve the standard on a regular basis. ■ Deming points out that it would be a waste of management time to find out why Worker X produced more beads than Worker Y. The difference between their performance, he points out time and again, is simply normal variation within the system created by management. The important point is that any process can be looked at in the same way. Although usually workers have more control over the outcome of their work, any process is subject to normal variation that affects even the best workers. ■ People involved in this exercise soon realize both its parallels with actual work situations—setting goals, trying hard, motivating, reprimanding—and its futility. The only way to lower defect rates is to lower the number of red beads in the bowl. Workers know the number of red beads is the problem, but they can’t change the process. As a result of this exercise, most people realize that exhorting workers to try harder is not the answer to more effective organizations. They learn that it is the system that needs improvement.

Source: Adapted from W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Center for Advanced Engineering Study, Massachusetts Institute of Technology, 1986), pp. 109–112; Ronald Yates, “Prophet of Boom,” *Chicago Tribune*, February 16, 1992, pp. 14–22; Rafael Aguayo, *Dr. Deming: The Man Who Taught the Japanese about Quality* (New York: Fireside Books, 1990), pp. 53–58; and Ellen Earle Chaffee and Lawrence A. Sherr, *Quality: Transforming Postsecondary Education* (Washington, D.C.: ERIC Clearinghouse on Higher Education, 1992).

FIGURE 16-1  
Managers Must Control Four  
Characteristics of Organizations



The red bead experiment described in the opening vignette illustrates that the production system must be designed and managed to effect quality, rather than to create difficult or impossible expectations for workers. It is management's responsibility to design the system so that workers can succeed.

Control is a fundamental management responsibility, closely linked with the planning and organizing processes. It also has an important impact on motivation and team behavior. Control is both a process (e.g., working to keep things on schedule) and an outcome (e.g., the product has met standards). In traditional terms, the controlling function includes all activities the manager undertakes in attempting to ensure that actual results conform to planned results (see Chapter 6).

Like many management terms, control has different meanings to different people so an individual's concept of control often reflects a personal perspective. Statisticians may think of control in terms of numbers (variances, means, errors, control limits); engineers think of control in terms of specifications, monitoring, and feedback; and managers think of controlling the activities, attitudes, and performance of subordinates. Despite these differing approaches to control, there are some characteristics of all organizations that must be controlled: production and operations, financial resources, human resources, and organizational change and development (Figure 16-1).

After planning or making a decision, managers must deploy organizational resources to achieve specific goals or objectives. (See Chapters 5 and 6 for models of decision making and planning.) Even though decision making and planning are conducted systematically and with accurate information, unexpected circumstances may yet arise. Unforeseen events may occur in the social, economic, political, or natural environment. Thus, managers must be prepared to redirect organizational activities toward desired ends. To do this, they need an understanding of the elements of control.

## ■ ELEMENTS OF CONTROL

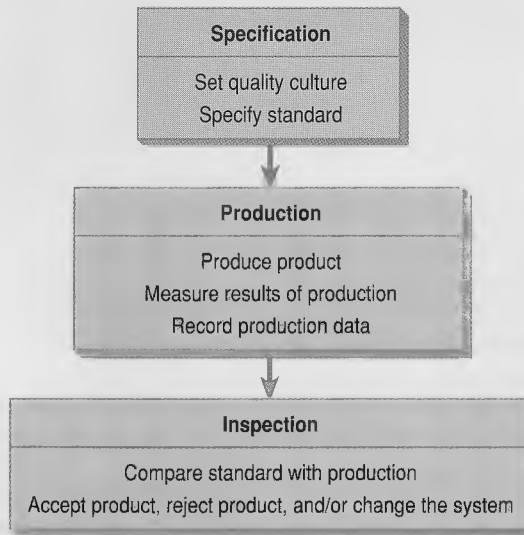
The process of maintaining conformance of the system.

What elements define a control system? **Control** is a process used (1) to evaluate actual performance, (2) to compare actual performance to goals, and then (3) to take action on the difference between performance and goals.<sup>1</sup> Quality statistician Walter Shewhart elaborated these three elements within the control process under the concepts of specification, production, and inspection.<sup>2</sup> (See Figure 16-2.)

- *Specification* is the statement of the intended outcome. Control requires the specification of a standard. A standard is an operationally defined measure used as a basis for comparison. Specification fully describes the preferred condition, which may take the form of a goal, standard, or other carefully determined quantitative statement of conditions.
- *Production* means making the product or delivering the service. Shewhart defines this element as the work required to achieve objectives. It's important to note that this applies as much to service as to manufacturing.



FIGURE 16-2  
Steps in the Control Process



- *Inspection* is a judgment concerning whether the production meets the specifications. Inspection determines whether corrective actions need to be taken.

**operational definition**

A definition that converts a concept into measurable, objective units.

Clear specification of a performance standard requires an **operational definition**. An operational definition converts a concept into measurable, objective units.<sup>3</sup> For example, the concept “weight” can be operationally defined in terms of grams, pounds, or another standard measure. These measures are not subject to personal interpretation. In contrast, the concept “heavy” can be interpreted differently by different people. For some, six ounces is heavy; for others, six pounds is heavy. Says Deming, “An operational definition puts communicable meaning into a concept. Adjectives like ‘good,’ ‘reliable,’ ‘uniform,’ ‘round,’ ‘safe,’ and ‘unemployed’ have no communicable meaning until they are expressed in operational terms. An operational definition is one that reasonable men agree on.”<sup>4</sup>

To illustrate the importance of operational definitions, Deming tells the story of the “wrinkled” auto instrument panel. A manager of an auto manufacturing plant told him the reported defect rate in an auto instrument panel was 35 to 50 percent per day. The defect in question was “wrinkles” in the panel. When Deming examined this rate, he found that each inspector had his own visual perception of what constituted a wrinkle. Deming resolved the defect rate problem by working with the inspectors to develop an operational definition of wrinkle. As a result, the defect rate dropped to 10 percent in less than one week.<sup>5</sup>

The process of setting performance standards must begin with a strategy, conveyed in terms of operationally defined measures. Operational measures underlie the control process. Not only do they control operations through finished-product or after-service inspections, they also enable workers to evaluate processes as they are occurring.

Production and operations are controlled by performance standards. Standards determine the activity or outcome to be measured.<sup>6</sup> Control of production and operations requires measurement to identify deviation from standards. Through measurement and assessment, workers can find possible improvements within the product or process and indicate where to initiate change.<sup>7</sup> The act of measuring errors or defects often has an immediate, direct effect on reducing them.

It is important to point out that control applies to all types of organizations, not just manufacturing. Businesses that provide a service must also be concerned with controlling their operations and the quality of their work. One of the principal ways in which service organizations control performance is through employee training. Small and large firms alike have recognized the importance of giving employees the knowledge and



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At Home Depot, empowered workers help customers without a need for close supervision or control by managers.

information they need to serve customers. Home Depot, the hardware and home repair discounter, has made an art of empowering employees to exceed each customer's expectations. As a result, the company has established a service reputation that prompted Wal-Mart CEO David Glass to remark, "They're running the best retail organization in America today."<sup>8</sup> Home Depot doesn't conduct extensive marketing surveys, but relies on its associates who are trained to ask customers what they want and expect.

Birkenstock Footprint Sandals, a small California distributor of cork-heeled sandals, has found similar success with empowerment. Company managers have found that a small employee empowerment project begun in 1989 has snowballed into broad performance and productivity gains. In January 1993, the company hired its first full-time trainer to further advance its commitment to employee empowerment as a means of controlling quality and productivity.<sup>9</sup>

Inspection in traditionally managed companies typically occurred at the end of production or the provision of a service. Quality management discourages this type of inspection. In fact, the third of Deming's 14 points states, "Cease dependence on mass inspection." As Deming puts it, "Routine 100 percent inspection to improve quality is equivalent to planning for defects, acknowledgement that the process has not the capability required for the specifications."<sup>10</sup> Quality-based firms used statistical sampling techniques concurrent with the production process to ensure that most products or service encounters exceed performance specifications.

When statistical sampling indicates a deviation from specifications, corrective action may be necessary. People undertaking corrective actions must know that they're responsible and must have the authority to effect change. Job descriptions that have specific operationally defined performance objectives are necessary to control performance. Responsibilities that fall between the jobs of two individuals should be avoided. For the control function to be most effective, operationally defined objectives, clear authority, and accurate information are requisite.

## REFLECTIONS BY PHILIP B. CROSBY

## CONTROL AND QUALITY

A football coach carefully planned and then studied the statistics of the games his team had played. In each of the past three contests, he noted, they had scored the same number of touchdowns as the opposing team but had lost the game because two extra point attempts had been blocked. As a result of this data, he decided that they should spend more time learning how to block the kicks the opponents attempted after they scored touchdowns.

Most of the practice that week was spent on this effort and the team was rewarded in the following game by being able to block three extra points. Even though they lost the game 18 to 7, they were encouraged by their success and began to devote all of their time to kick blocking. Soon they were denying their opponents that one point seven and eight times a game. They scored no touchdowns of their own but were brilliant in accomplishing their chosen goal. They never won another game or made another point, and the coach was fired. This is an example of being carried away by the concepts of containment and measurement.

It was some time later, and in a new profession, before it began to dawn on the coach that the best system for containing extra points was to keep the other team from scoring touchdowns. A defense based

on prevention achieved more than one focused on a single point.

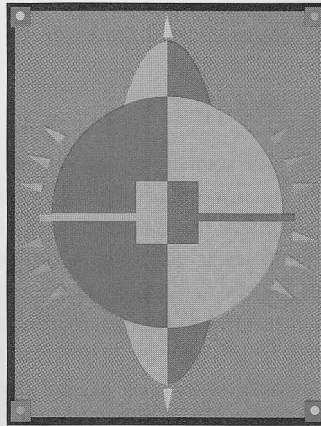
This sort of discovery happens regularly. A city commission found that improved street lighting reduced crime rates more than extra police; a person with a weight problem found that a new, much more accurate scale had no effect on the weight loss program. We must be careful not to confuse the systems of measurement with the setting of goals. Keeping neat records of overspending is not the way to manage money.

The instruments on a car's dashboard are examples of control charts. Their purpose is to assist the operator in managing the vehicle. They control nothing in themselves; they just display what's happening, and they haven't changed much in 50 years. This is also true of statistical control charting.

Just as automobile drivers are successful when they are carefully trained, understand the requirements of operation,

and are responsible for their own actions—so workers are successful when the same conditions exist. When they are directed to do useless work, or limited in their communications, then they fail.

All that comes from management. When management depends on focused systems rather than people, it pays the price.

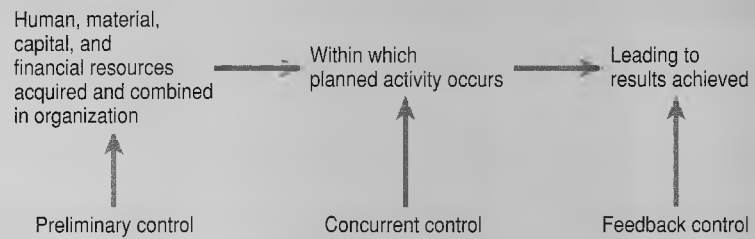


In the next two sections we will examine different techniques managers use to control organizational behavior and performance. You will learn about three different types of control: preliminary, concurrent, and feedback. Next, you will learn about three approaches to quality control: total quality control, statistical process control, and total quality management. As you read about and discuss these different approaches to organizational control, notice how quality control shifts management's focus from the worker as the source of defects, to the system as the source of such problems. This subtle shift has helped many once-outpaced American companies—such as U.S. automakers—regain competitive standing in the global marketplace.<sup>11</sup>

## ■ TYPES OF CONTROL

Management has numerous control methods at its disposal. Each has strengths and limitations. Managers must decide what type of control system to employ in different situations. Some control techniques have very specific, limited application. Nonetheless, all control techniques must be economical, accurate, and understandable.

FIGURE 16-3  
The Controlling Function



Source: James H. Donnelly, Jr., James L. Gibson, and John M. Ivancevich, *Fundamentals of Management*, 8th ed. (Homewood, IL: Richard D. Irwin, 1992), p. 264.

The techniques managers use to control production and operations can be classified under three main types: preliminary control, concurrent control, and feedback control. Figure 16-3 illustrates each of the types which we will detail next.

### Preliminary Control

**preliminary control**  
Control method focusing on preventing deviations in the quality and quantity of resources used in the organization.

**Preliminary control** focuses on preventing deviations in the quality and quantity of resources used in the organization. For example, human resources must meet the job requirements as defined by the organization: Employees must have the physical and intellectual capabilities to perform assigned tasks.<sup>12</sup> Materials used in production must meet acceptable levels of quality and must be available at the proper time and place. Capital must be on hand to ensure an adequate supply of plant and equipment. Financial resources must be available in the right amounts and at the right times.

Preliminary control procedures include all managerial efforts to increase the probability that actual results compare favorably with planned results. From this perspective, policies are important means for implementing preliminary control since policies are guidelines for future actions (see Chapter 6). It's important to distinguish between *setting* policies and *implementing* them.<sup>13</sup> Setting policy is included in the planning function (see Chapter 6), whereas implementing policy is part of the control function.<sup>14</sup> Similarly, job descriptions are aspects of the control function because they predetermine the activity of the jobholder.<sup>15</sup> At the same time, however, we must distinguish between defining and staffing the task structure. Defining jobs is part of the organizing function (see Chapter 9); staffing them is part of the controlling function.

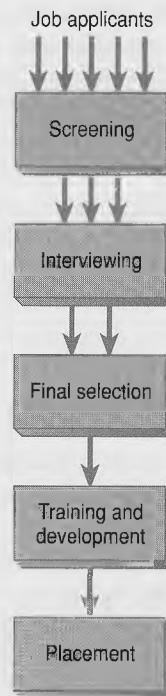
Management needs to be concerned with preliminary control of processes in four areas: human resources, materials, capital, and financial resources.

**Human Resources** The organizing function defines the job requirements and predetermines the skill requirements of jobholders. These requirements vary in degree of specificity, depending on the nature of the task. Preliminary control of human resources is achieved through the selection and placement of managerial and nonmanagerial personnel.<sup>16</sup> Figure 16-4 shows the steps involved before a person actually begins to work at a firm. Each step along the way, including placement, is a preliminary control step during which the potential worker's skills, abilities, and attitudes are assessed for his or her qualifications for a given position.

Candidates for positions must be recruited from inside or outside the firm, and the most promising applicants must be selected based on the matching skills and personal characteristics to the job requirements. The successful candidate must be trained in methods and procedures appropriate for the job. Most organizations have elaborate procedures for providing training on a continual basis.

Appropriate attention to preliminary control of human resources ensures that the organization will have a match between its needs and individual skills, abilities, and

FIGURE 16-4  
Preliminary Control of Human  
Resources



attitudes. With increasing emphasis on information and knowledge as the primary focus of global business, the search, selection, and placement of people is an increasingly vital function. Where human resource professionals had been relegated to staff support in the past (typically, under the rubric “personnel”), many firms today have line positions for human resources. This significant shift reflects the growing awareness that competitive advantage can be gained through proper screening and development of people. In their human resource planning, managers should distinguish between procedures designed to obtain qualified subordinate managers (staffing) and those designed to obtain qualified nonmanagers and operatives (selection and placement). Although basic procedures and objectives are essentially the same, the distinction is important because managerial competence is a fundamental determinant of the organization’s success.

**Materials** The raw materials that are converted into a finished product must conform to quality standards *before* they are used in the production process. At the same time, a sufficient inventory or delivery system must be maintained to ensure a continuous inflow of raw materials so the manufacturer can meet customer demand. The techniques of inventory control are discussed in Chapter 17; at this point, we are concerned only with controlling incoming materials.

Numerous methods that use statistical sampling to control the quality of materials have been devised. These methods typically involve inspection of samples rather than an entire lot. Thus, statistical methods are less costly, but there’s a risk of accepting defective material if the sample is nonrandom or, by chance, contains none of the defective items.

We won’t provide a complete discussion of statistical sampling procedures in this text. However, the essence of the procedure can be described. As an example, suppose management establishes a standard that it will accept no more than a 3 percent defect rate from a supplier. The incoming material would be inspected by selecting random samples and calculating the percentage of defective items in the sample. Based on this

sample, managers must make a decision to accept or reject the entire order or to take another sample. This method is not perfect. Based on the sampling technique, managers could reject an entire lot even though the overall defect rate is less than 3 percent, or they may accept a lot even though the defect rate is greater than 3 percent. The control system used is based on balancing the relative costs of these two types of potential error.<sup>17</sup> We'll say more about the role of statistics in control later in this chapter.

**Capital** The acquisition of capital reflects the need to replace existing equipment or to expand the firm's productive capacity. Capital acquisitions are controlled by establishing criteria of potential profitability that must be met before the proposal is authorized. Such acquisitions ordinarily are included in the **capital budget**, an intermediate and long-run planning document that details the alternative sources and uses of funds. Managerial decisions that involve the commitment of present funds in exchange for future funds are termed **investment decisions**. The methods that serve to screen investment proposals are based on economic analysis. Below are a number of widely used capital control methods. Each involves formulating a standard that must be met to accept the prospective capital acquisition.

**capital budget**

An intermediate and long-run planning document that details the alternative sources and uses of funds.

**investment decisions**

Managerial decisions that involve the commitment of present funds in exchange for future funds.

**payback method**

Calculates the number of years needed for the proposed capital acquisition to repay its original cost out of future cash earnings.

**The Payback Method** This is the simplest method of capital control. The **payback method** calculates the number of years needed for the proposed capital acquisition to repay its original cost out of future cash earnings. For example, a manager is considering implementing new information technology that would reduce labor costs by \$20,000 per year for each of the four years of the new technology's expected life. The cost of the technology is \$40,000. If we use the Clinton Administration's proposed 36 percent marginal tax rate on corporations with taxable income over \$10 million, the additional after-tax cash inflow from which the machine's cost must be paid is calculated as follows:

Additional cash inflow before taxes (labor cost savings)		\$20,000
Less: Additional taxes		
Additional income	\$20,000	
Depreciation (\$40,000/4)	\$10,000	
Additional taxable income	\$10,000	
Tax rate	0.36	
Additional tax payment		\$ 3,600
Additional cash inflow after taxes		\$16,400

The payback period can be calculated as follows:

$$\$40,000/\$16,400 = 2.44 \text{ years.}$$

The proposed new information technology would repay its original cost in about two and one-half years; if the predetermined standard requires a payback of three years or less, the information technology would be an appropriate investment.

The payback method suffers many limitations as a standard for evaluating capital resources. It doesn't produce a measurement of profitability. More important, it doesn't take into account the time value of money; that is, it doesn't recognize that a dollar today is worth more than a dollar at a future date. Other capital control methods do include these important considerations. The primary reason for using the payback method is that in situations where the technology changes rapidly and new products become obsolete quickly, corporations should look for investment opportunities that pay back within a short period of time.

**Rate of Return on Investment** One alternative measure of profitability, consistent with methods ordinarily employed in accounting, is the simple **rate of return on investment**. Using the preceding example, the calculation would be as follows:

Rate of return on investment  
One alternative measure of profitability, consistent with methods ordinarily employed in accounting.

Additional gross income		\$20,000
Less: Depreciation (\$40,000/4)	\$10,000	
Taxes	\$ 3,600	
Total additional expenses		\$13,600
Additional net income after taxes		\$ 6,400

The rate of return is the ratio of additional net income to the original cost:

$$\$6,400/\$40,000 = 16\%.$$

The calculated rate of return would then be compared to some standard of minimum acceptability, and the decision to accept or reject would depend on that comparison. In this case, if the standard rate of return were 10 percent, the purchase of the information technology would be a good investment. The measurement of the simple rate of return has the advantage of being easily understood. It has the disadvantage of not including the time value of money. The discounted rate of return method overcomes this deficiency.

discounted rate of return  
A measurement of profitability that takes into account the time value of money.

**Discounted Rate of Return** The **discounted rate of return** is a measurement of profitability that takes into account the time value of money. It is similar to the payback method, only cash inflows and outflows are considered. The method is widely used because it is considered the correct method for calculating the rate of return. Based on the preceding example,

$$\$40,000 = \frac{\$16,400}{(1+r)} + \frac{\$16,400}{(1+r)^2} + \frac{\$16,400}{(1+r)^3} + \frac{\$16,400}{(1+r)^4}$$

$$r = 23\%.$$

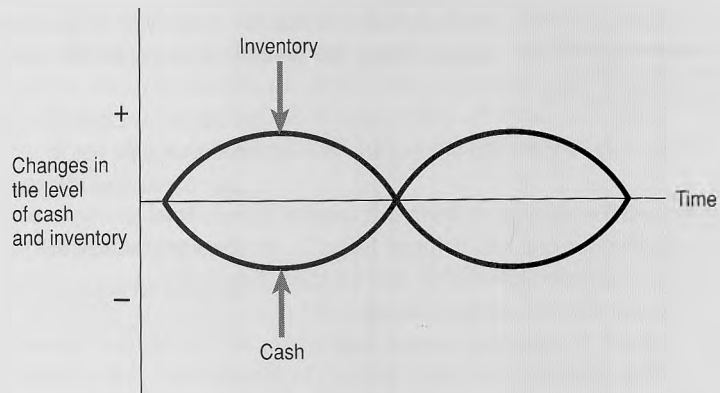
The discounted rate of return ( $r$ ) is 23 percent, which is interpreted to mean that a \$40,000 investment repaying \$16,400 in cash at the end of each of four years has a return of 23 percent.

The rationale of the method can be understood by thinking of the \$16,400 inflows as cash payments received by the firm. In exchange for each of these four payments of \$16,400, the firm must pay \$40,000. The rate of return—23 percent—is the factor equating cash inflows and present cash outflow. This rate of return can be compared to a company minimum standard to determine its acceptability.

**Financial Resources** Adequate financial resources must be available to ensure payment of obligations arising from current operations. Materials must be purchased, wages paid, and interest charges and due dates met. The principal means of controlling the availability and cost of financial resources is budgeting—particularly cash flows and working capital budgets.

These budgets anticipate the ebb and flow of business activity when materials are purchased, finished goods are produced and inventoried, goods are sold, and cash is received.<sup>18</sup> This operating cycle results in a problem of timing the availability of cash to meet obligations. The simple relationship between cash and inventory is shown in Figure 16-5 on the next page. When inventories of finished goods increase, the supply of cash decreases as materials, labor, and other expenses are incurred and paid. As inventory is depleted through sales, cash increases. Preliminary control of cash requires that

FIGURE 16-5  
The Relationship between Cash  
and Inventory



Source: James H. Donnelly, Jr., James L. Gibson, and John M. Ivancevich, *Fundamentals of Management*, 8th ed. (Homewood, IL: Richard D. Irwin, 1992), p. 272.

cash be available during the period of inventory buildup and be used wisely during periods of abundance. This requires the careful consideration of alternative sources of short-term financing during inventory buildup, and alternative short-run investment opportunities during periods of inventory depletion.

Managers use certain ratios to control financial resources. For example, the control standard may be stated in the current ratio (the ratio of current assets to current liabilities), and a minimum and a maximum set. The minimum ratio could be set at 2:1 and the maximum at 3:1, which would recognize the cost of both too little and too much investment in liquid assets. The control would involve corrective action taken when the actual current ratio deviates from the standard. Other financial ratios contributing to control of financial resources include the acid-test ratio, inventory turnover, and average collection period. These ratios are discussed in greater detail in the section on feedback control methods.

## Concurrent Control

**Concurrent control**  
Monitoring ongoing operations to ensure that objectives are pursued.

**Concurrent control** monitors ongoing operations to ensure that objectives are pursued. The standards guiding ongoing activity are derived from job descriptions and from policies resulting from the planning function. Concurrent control is implemented primarily by the supervisory activities of managers. Through personal, on-the-spot observation, managers determine whether the work of others is proceeding in the manner defined by policies and procedures.<sup>19</sup> Delegation of authority provides managers with the power to use financial and nonfinancial incentives to effect concurrent control.

**Direction**  
The acts of managers when they (1) instruct subordinates in the proper methods and procedures and (2) oversee subordinates' work to ensure that it's done properly.

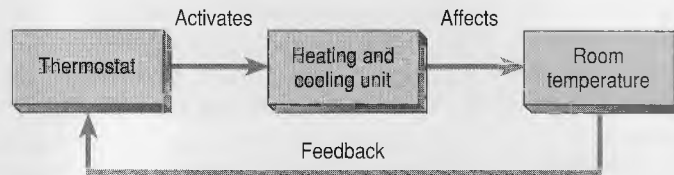
Concurrent control consists primarily of actions of supervisors who direct the work of their subordinates. **Direction** refers to the acts of managers when they (1) instruct subordinates in proper methods and procedures and (2) oversee subordinates' work to ensure that it's done properly.

Direction follows the formal chain of command, since the responsibility of each superior is to interpret for subordinates the orders received from higher levels. The relative importance of direction depends almost entirely on the nature of the tasks performed by subordinates. The supervisor of an assembly line that produces a component part requiring relatively simple manual operations may seldom engage in direction. On the other hand, the manager of a new product research unit must devote considerable time to direction. Research work is inherently more complex and varied than manual work. So it requires more interpretation and instruction.

Directing is the primary function of the first-line supervisor, but at some point every manager in an organization engages in directing employees. The direction given should



FIGURE 16-6  
Feedback Control Regulates  
Room Temperature through a  
Thermostat



be within the stated organizational mission, goals, and objectives (see Chapters 6 and 7). As a manager's responsibilities grow, the relative time spent directing subordinates diminishes as other functions become more important.

The scope and content of directing vary according to the nature of the work being supervised. In addition, a number of other factors determine differences in the form of direction. For example, since direction is basically a process of personal communications, the amount and clarity of information are important factors. Subordinates must receive sufficient information to carry out the task and they must understand the information they receive. On the other hand, too much information and detail can be distracting.

The tests of effective direction are similar to the tests of effective communication. To be effective, a directive must be reasonable, understandable, appropriately worded, and consistent with the organization's overall goals. Whether these criteria are met isn't the manager's decision. Rather, it's the subordinate who decides. Many managers have assumed that their directives were straightforward and to the point only to discover that their subordinates failed to understand or to accept them as legitimate.

## Feedback Control

### Feedback control

A type of control where corrective action is directed at improving either the resource acquisition process or the actual operations.

**Feedback control** methods focus on end results. Corrective action is directed at improving either the resource acquisition process or the actual operations. This type of control derives its name from its use of results to guide future actions. A simple illustration of feedback control is a thermostat, which automatically regulates the temperature of a room (Figure 16-6). Since the thermostat maintains the preset temperature by constantly monitoring the actual temperature, future results (activation of heating or cooling units at time  $x$ ) are directly and continually determined by feedback (room temperature at time  $x - 1$ ). Room temperature at time  $x$  then feeds back to control the heating and cooling units at time  $x + 1$ , and so on. The feedback control methods employed in business organizations include budgets, standard costs, financial statements, quality control, and performance evaluation.

This section outlines two feedback control methods widely used in business: financial statement analysis and standard cost analysis.

### Balance sheet

Describes an organization's financial condition at a specified point in time.

### Income statement

A summary of an organization's financial performance over a given period of time.

**Financial Statement Analysis** A firm's accounting system is a principal source of information managers can use to evaluate historical results. Periodically, the manager receives a set of financial statements that usually includes a **balance sheet** and **income statement**. These financial statements summarize and classify the effects of transactions in assets, liabilities, equity, revenues, and expenses—the principal components of the firm's financial structure.<sup>20</sup> The balance sheet describes an organization's financial condition at a specified point in time. The income statement is a summary of an organization's financial performance over a given time period.

A detailed analysis of the financial statement's information enables management to determine the adequacy of the firm's earning power and its ability to meet current and long-term obligations. Managers must have measures of and standards for profitability, liquidity, and solvency. Whether a manager prefers the rate of return on sales, on owner's

equity, on total assets, or a combination of all three, it's important to establish a meaningful norm—one that's appropriate to the particular firm, given its industry and stage of growth. An inadequate rate of return negatively affects the firm's ability to attract funds for expansion, particular if a downward trend over time is evident.

The measures of **liquidity** reflect the firm's ability to meet current obligations as they become due.<sup>21</sup> The widest known and most often used measure is the **current ratio** (the ratio of current assets to current liabilities). The standard of acceptability depends on the particular firm's operating characteristics. Bases for comparison are available from trade associations that publish industry averages. A tougher test of liquidity is the **acid-test ratio**, which relates only cash and near-cash items (current assets excluding inventories and prepaid expenses) to current liabilities.

The relationship between current assets and current liabilities is an important one. Equally important is the composition of current assets. Two measures that indicate composition and rely on information found in both the balance sheet and income statement are the **accounts receivable turnover** and the **inventory turnover**. The accounts receivable turnover is the ratio of credit sales to average accounts receivable. The higher the turnover, the more rapid the conversion of accounts receivable to cash. A low turnover would indicate a time lag in the collection of receivables, which in turn could strain the firm's ability to meet its own obligations. Appropriate corrective action might be tightening of credit standards or a more vigorous effort to collect outstanding accounts. The inventory turnover also facilitates the analysis of appropriate balances in current assets. It's calculated as the ratio of cost of goods sold to average inventory. A high ratio could indicate a dangerously low inventory balance in relation to sales, with the possibility of missed sales or a production slowdown. Conversely, a low ratio might indicate an over-investment in inventory to the exclusion of other, more profitable assets. Whatever the case, the appropriate ratio must be established by the manager, based on the firm's experience within its industry and market.

Another financial measure is **solvency**, the ability of the firm to meet its long-term obligations—its fixed commitments. The solvency measure reflects the claims of creditors and owners on the firm's assets. An appropriate balance must be maintained—a balance that protects the interest of the owner yet doesn't ignore the advantages of long-term debt as a source of funds. A commonly used measure of solvency is the ratio of net income before interest and taxes to interest expense. This indicates the margin of safety; ordinarily, a high ratio is preferred. However, a very high ratio combined with a low debt-to-equity ratio could indicate that management hasn't taken advantage of debt as a source of funds. The appropriate balance between debt and equity depends on many factors. But as a general rule, the proportion of debt should vary directly with the stability of the firm's earnings.

Firms also use *debt ratios* to assess the amount of financing being provided by creditors. Two popular debt ratios are the **debt/equity ratio** and the **debt/asset ratio**. The debt/equity ratio is a measure of the amount of assets financed by debt compared to that amount financed by profits retained by the firm and investments (stocks and other securities). The debt/asset ratio is an expression of the relationship of the firm's total debts to its total assets.

**Standard Cost Analysis** Standard cost accounting systems are considered a major contribution of the scientific management era. A **standard cost system** provides information that enables management to compare actual costs with predetermined (standard) costs. Management can then take appropriate corrective action or assign to others the authority to take action. The first use of standard costing was to control manufacturing costs. In recent years, standard costing has also been applied to selling, general, and administrative expenses.<sup>22</sup> Here we discuss standard manufacturing costs.

The three elements of manufacturing costs are direct labor, direct materials, and overhead. For each of these, an estimate must be made of cost per unit of output. For

#### liquidity

Reflects the firm's ability to meet current obligations as they become due.

#### current ratio

The ratio of current assets to current liabilities.

#### acid-test ratio

Relates only cash and near-cash items (current assets excluding inventories and prepaid expenses) to current liabilities.

#### accounts receivable turnover

The ratio of credit sales to average accounts receivable.

#### inventory turnover

The ratio of cost of goods sold to average inventory. Facilitates the analysis of appropriate balances in current assets.

#### solvency

The firm's ability to meet its long-term obligations, its fixed commitments.

#### debt/equity ratio

A measure of the amount of assets financed by debt compared to that amount financed by profits retained by the firm and investments (stocks and other securities).

#### debt/asset ratio

An expression of the relationship of the firm's total debts to its total assets.

#### standard cost system

Provides information that enables management to compare actual costs with predetermined (standard) costs.

example, the direct labor cost per unit of output consists of the standard usage of labor and the standard price of labor. The standard usage derives from time studies that fix the expected output per labor hour; the standard price of labor is fixed by the salary schedule appropriate for the kind of work necessary to produce the output. A similar determination is made for direct materials. Thus, the standard labor and standard materials costs might be as follows:

Standard labor usage per unit	2 hours
Standard wage rate per hour	\$5.00
Standard labor cost (2 × \$5.00)	\$10.00
Standard material usage per hour	6 pounds
Standard material price per pound	\$.30
Standard material cost (6 × \$.30)	\$1.80

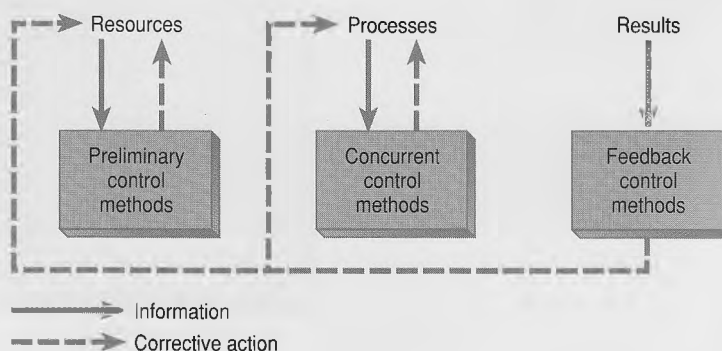
The accounting system enables the manager to compare incurred costs and standard costs. Today, cost accounting practices are undergoing significant changes to keep pace with the rapidly evolving manufacturing environment. **Activity-based accounting**, a new system of cost accounting based on activity, has been advocated by many academicians and practitioners. Its underlying principle is that activities consume resources and products consume activities. (See Chapter 5.) The labor costs of supporting departments can be traced to activities by assessing the portion of each person's time spent on each activity, which can then allow for restatement of departmental cost in activities and their associated costs. Activity costs then are traced to the product based on the amount of activity volume each product consumes. The overall impact is more accurate product costs information.

activity-based accounting  
Analyzes all organization activities  
that consume resources.

### Summary of Types of Control

In the three types of control we just examined, the focus of corrective action differs (Figure 16-7). Preliminary control methods are based on information that measures some attribute or characteristic of resources; corrective action focuses on resources. Concurrent control methods are based on information related to ongoing processes; corrective action is focused on these processes. The focus of corrective action associated with feedback control is not that which is measured (i.e., results). Rather, feedback control provides information concerning the quality and/or effectiveness of resources and processes.<sup>23</sup>

FIGURE 16-7  
The Three Types of Control



## ■ QUALITY CONTROL TECHNIQUES

The total quality movement has brought with it a set of tools and techniques for controlling organizational processes. Three approaches in particular—total quality control, statistical quality control, and total quality management—are in wide use in a broad spectrum of industries. These approaches all are similar in their focus on exceeding customer expectations as a central value. Another central value is a focus on the system (in contrast to the traditional focus on the worker) as the source of most production or service errors or defects.

Figure 16–8 contrasts the traditional model of control and a quality-based control model. As you can see, the traditional approach does not include training for workers, management inspects the results of production, and failure to meet production specifications results in worker reprimands. In contrast, the quality-based control model includes worker training, workers inspect the results of production during the production process, and failure to meet production specifications results in revision of the system.

Any comprehensive quality control program includes the use of statistics. Whether an organization's primary focus is service or manufacturing, statistical tools can provide insights that lead to process improvements. Managers who intend to implement a broad program of continuous improvement through quality control should learn the basis of statistics.

### Statistical process control

A method of implementing quality control before the final inspection stage. It relies on statistical tools to control variation within given processes.

### Statistics

That branch of applied mathematics that describes and analyzes empirical observations for the purpose of predicting certain events as a basis for decision making in the face of uncertainty.

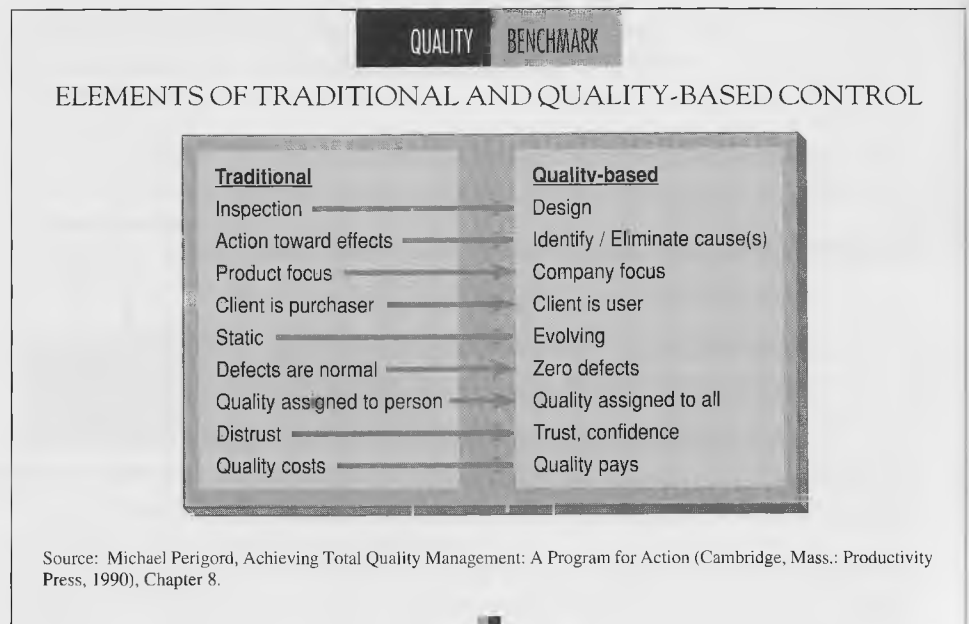
### Descriptive statistics

A computed measure of some property of a set of data, making possible a statement about their meaning.

## Statistical Process Control (SPC)

**Statistical process control (SPC)** is based on two assumptions: (1) nature is imperfect and (2) variability exists everywhere in systems. Therefore, probability and statistics play a major role in understanding and controlling complex systems. Charts, diagrams, and graphs are conceptual tools managers can use to summarize statistical data, measure and understand variation, assess risk, and make decisions. **Statistics** is defined as “that branch of applied mathematics which describes and analyzes empirical observations for the purpose of predicting certain events as a basis for decision making in the face of uncertainty.”<sup>24</sup>

Statistics come in two varieties: descriptive and inferential. **Descriptive statistics** are a computed measure of some property of a set of data, making possible a statement



about its meaning. An example of a descriptive statistic is the average (mean) time it takes to answer the telephone in the customer service department. Other descriptive statistics include the mode (the most common data point) and the median (the point at which 50 percent of the other points lie above and 50 percent below). Mean, median, and mode are also often referred to as measures of central tendency.

#### inferential statistics

Computations done on a set of data, or among several sets of data, that are designed to facilitate prediction of future events or to guide decisions and actions.

**Inferential statistics** are computations done on a set of data, or among several sets of data, that are designed to facilitate prediction of future events, or to guide decisions and actions. An example of an inferential statistic might be the correlation of the average time the customer service department takes to answer the telephone with customer attitudes about the organization. It might be found that faster average response time is correlated with increased customer satisfaction. In that case, this statistic would be a catalyst to action centered on reducing telephone response time.

Variation exists in any process. Because of this, no two products or service encounters are exactly alike. The control of quality is largely the control of variation. The job of statistical process control is to limit this variation within an acceptable range. So how do we determine what is acceptable variation?

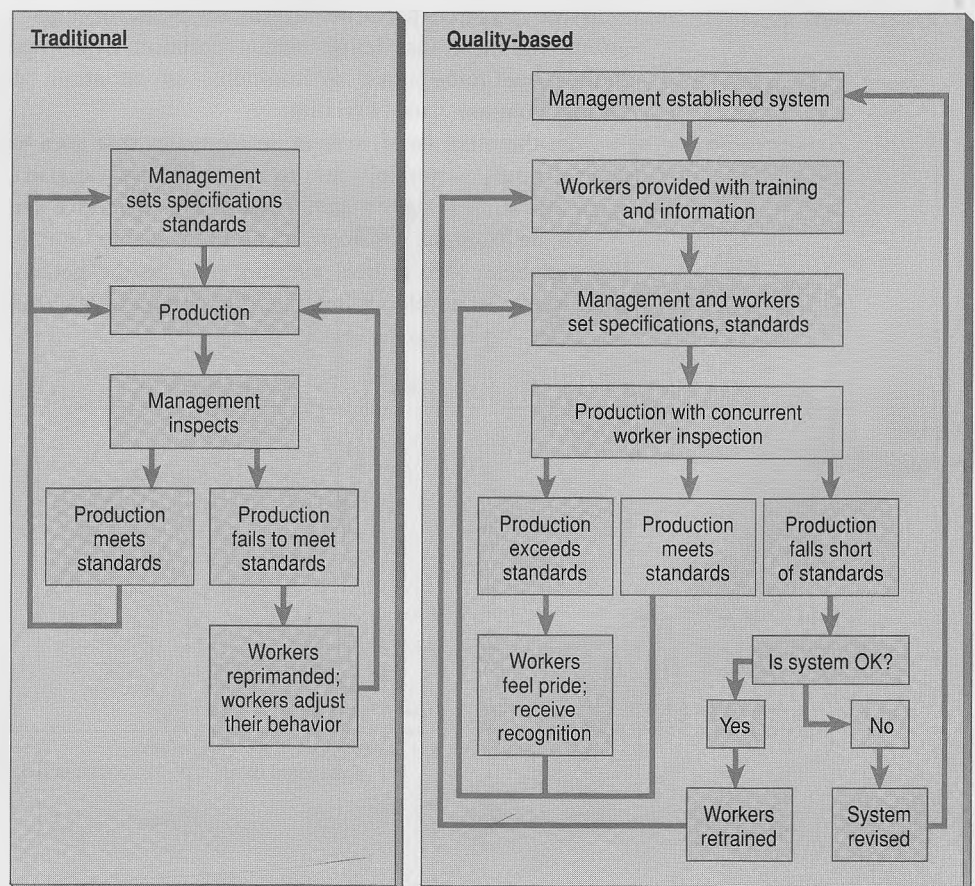
There are two types of variation in any system: random and nonrandom. Random variation is often referred to as the “normal” variation of a system. Random variation potentially affects all components of a process. Nonrandom variation is not considered to be part of the normal cause processes of a system. This type of variation leads to unpredictable outcomes, something management wants to eliminate.

#### common cause variation

The random variation in a system. Typically, it can't be completely eliminated.

Random and nonrandom variation are explained in turn by two different types of causes: common and special. **Common cause variation** is just the random variation in a system and, typically, can't be completely eliminated. Managers should work to minimize the range of common cause variation as part of their continuous improvement process. *Range* refers to the extreme upper and lower measures of a variable. But, given

FIGURE 16-8  
Models of Traditional and  
Quality-Based Control



**special cause variation**

Variation within a system that is due to some external influence.

**stable system:**

A system that has eliminated special cause variation and is subject only to the unavoidable common cause variations.

the assumption that the perfect system isn't likely to be achieved, managers need to be aware that some common cause variation is likely to remain.

**Special cause variation**, on the other hand, is due to some *external* influence upon a system. This could be anything from drug abuse by workers to earthquakes. Managers want to eliminate special cause variations to the extent possible. In our examples, this would be done by screening workers and offering drug abuse counseling, or by locating in areas not prone to earthquakes. A **stable system** is one that has eliminated special cause variation and is subject only to the unavoidable (yet reducible) common cause variation.

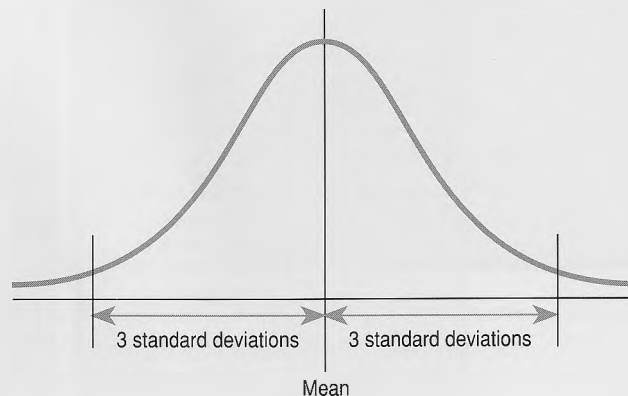
Without getting into the mathematics, SPC involves statistical sampling and the use of graphs to determine acceptable variation. Samples of an important variable within a process are collected and its values are plotted on a graph, usually a control chart. Using *standard deviation* (a standard measure of variation around a mean), upper and lower control limits can be established. Typically, these limits are set at three standard deviations above and below the mean. Based on statistical theory, this should account for over 99 percent of all data points. In other words, assuming the data points are normally distributed, 99 percent will fall within three standard deviations above or below the mean. Figure 16-9 shows a normal curve (also called a *bell-shaped curve*) the mean, and three standard deviation units from the mean in each direction. As you can see, the area of the curve encompassed by these points accounts for 99 percent of the data. The normal curve is a mathematical abstraction useful in describing a set of natural events. It isn't a law of nature, but it has proven to be useful in describing a wide range of phenomena. Managers who find a data point that's beyond the three standard deviation units above or below the mean can be confident that they have an unexpected event and that intervening action may be necessary.

Using SPC, managers can determine whether variation in a system is within expected parameters or whether the variation is beyond expected parameters. Any system, over a period of time, will experience some variation on a critical measure around an average (mean) value. Using statistical techniques (techniques that are quite simple, but won't be explored here) managers can establish upper and lower *control limit* values around the mean that define normal variation. System performance within these control limits is said to be subject to common cause variation. Managers shouldn't take action to correct common cause variation.

On the other hand, system performance that goes beyond either the upper or lower control limits is possibly due to special cause variation. Managers who detect special cause variation in their system should take corrective action.

As an example, consider a firm that wants to establish quality control over one of its key suppliers. One critical measure may be the percentage of orders that are delayed each week. To develop a baseline, the company may randomly sample 100 orders each

FIGURE 16-9  
The Normal Curve



week from this supplier for, say, 20 weeks to develop a mean percentage of orders that are delayed. With these data, it's possible using well-tested statistical methods to establish upper and lower control limits. The range of values within these limits would be the range of expected variation due to common causes. If the mean percentage of delays during the 20-week baseline period is .06 and the upper and lower control limits are .11 and .01, respectively, then any subsequent weeks where the percentage of delays is between these values is probably due to common cause variation (e.g., traffic conditions, worker absences, misplaced orders).

However, if for several weeks the manager notices that the percentage of delays is above .11 (or below .01), a special cause may be operating and action may need to be taken. Some possible special causes are (1) the supplier was bought out and is under new management and (2) a trucker strike is delaying deliveries. Quality-based managers use statistical measures to know when key processes are affected by special cause variation and need immediate attention.

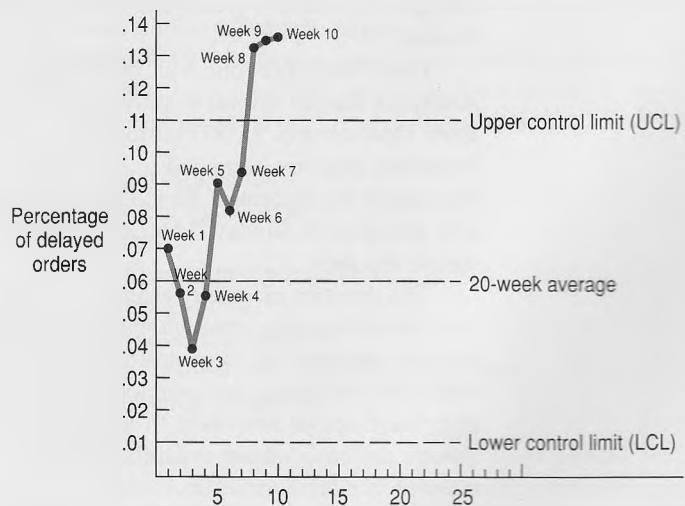
Figure 16-10 shows a control chart based on the preceding scenario. (A **control chart** is a record of the targeted activity over time, with established upper and lower control limits.) The horizontal axis is divided into units of weeks, and the vertical axis into units of percentage of orders delayed. The upper and lower control limits, as well as the mean, are based on the 20-week baseline period during which these measures were taken. As you can see from the plotted data points, weeks 1 through 7 are within the upper and lower control limits and their deviation from the mean can be attributed to common cause variation. However, weeks 8 through 10 are beyond the upper control limit. A prudent manager would watch closely for a continuation of this trend which may indicate a special cause is operating. According to statistical methods, a run of seven straight data points beyond the control limits would indicate a need for intervention.

One company that has become famous for its quality transformation provides its workers with extensive training on basic SPC. Motorola's famous "six sigma" quality program is named for a statistical term that expresses its company wide goal of less than about three defects per million for each product it produces. Compare that figure to the average American company which operates at three or four sigma or about 67,000 to

#### control chart

A record of the targeted activity over time, with established upper and lower tolerances or control limits.

FIGURE 16-10  
Control Chart of Delayed Orders



Note: Weeks 1 through 7 are within the control limits established during the 20-week baseline period. Weeks 8 through 10 show a consistent run beyond the upper control limit and suggest that a special cause variation may be at work.



Milt and Joan Mann/Ceramann International, Ltd.

Motorola's use of statistical process control (SPC) by workers has provided massive reductions in product defects, world-class, "six sigma" quality.

6,200 defects per million. Motorola workers train at Motorola University where they learn how to use statistical tools to control their processes. When the company conducted a survey of 100,000 of its workers to determine if they felt the quality tools and training were useful, it found that most of them thought it was, but that it wasn't happening fast enough. This from a group that management had traditionally thought to be resistant to change.<sup>25</sup>

Banc One CEO John McCoy was named 1992 Banker of the Year by the newspaper *American Banker* in part because of his bank's superior customer service. Each quarter, Banc One surveys 35,000 customers to find out what they expect from the company. Statistical data are compiled to direct managerial focus. One result of these surveys is that nearly 60 percent of Banc One's 1,377 branches are open on Saturday, and 20 percent are open on Sunday.<sup>26</sup> McCoy directed these changes based on statistical analysis of the survey data.

The practice of quality management in any type of organization—whether it's service, manufacturing, retail, nonprofit, or something else—can benefit from applying statistical methods to organizational processes or customer expectations. Although statistical techniques are common to most quality management environments, each manager must decide how best to apply these techniques to his or her own organization. What's common across organization types is the fundamental purpose of quality control—to minimize variation.

SPC is the most narrowly focused of the approaches to quality control discussed in this section. It's concerned primarily with quantitative measures of performance, and doesn't address the issue of how to achieve performance improvements. Total quality control and total quality management focus on worker and manager behavior as well as techniques for controlling organizational performance through their activities.



## Total Quality Control (TQC)

In traditional production management, quality control consisted of assigning the last person on the assembly line the responsibility of ensuring that the product worked. Today, quality control begins at the beginning; that is, quality control is maintained from the design process through manufacturing, sale, and use of the product. The sum of all these efforts is called total quality control. The principles of total quality control can be applied equally well to either products or services. Customers will always seek products and services of consistently high quality. To understand how total quality control can transform an organization, consider that each worker within a company can be viewed as providing a product or service for some other individual, and that the product or service can be evaluated using the tools of total quality control.<sup>27</sup>

Armand Feigenbaum is often credited with coining the term *total quality control* (TQC).<sup>28</sup> TQC represents a more comprehensive form of quality control than SPC, although it recommends using statistics to improve quality. According to Feigenbaum, “**Total quality control** is an effective system for integrating the quality-development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels which allow for full customer satisfaction.”<sup>29</sup> To practice TQC is to develop, design, produce, and service a quality product that’s economical, useful, and always satisfactory to the customer.<sup>30</sup>

The fundamental purpose of total quality control is to manufacture products or deliver services that meet the level of quality demanded by customers. TQC’s emphasis is on customer satisfaction. Feigenbaum identifies several TQC benchmarks for the 1990s: quality is what the customer says it is; quality is a way of managing; quality and innovation are mutually dependent; quality requires continuous improvement; and quality is implemented with a total system connected with customers and suppliers.<sup>31</sup>

According to Feigenbaum, there’s no such thing as a permanent quality level. Demands and expectations for quality are constantly changing. A distinction of good management is personal leadership in mobilizing the knowledge, skill, and positive attitudes of everyone in the organization to recognize that what they do to make quality better helps to make everything in the organization better. Quality is also essential for successful innovation for two reasons. The first reason is the rapid speed of new product development. The second is that, when a product design is likely to be manufactured globally, where international suppliers must be involved in every stage of development and production, the entire process must be clearly structured.<sup>32</sup>

In a quality-based system, control is a conscious, positive, preventive stance created *in the system*. TQC begins with *planning*—*planning that’s aimed at preventing quality problems*. The concerns addressed by quality planning include:

1. Establishing quality guidelines.
2. Building quality into the design.
3. Procurement quality.
4. In-process and finished product quality.
5. Inspection and test planning.
6. Control of nonconforming material.
7. Handling and following up on customer complaints.
8. Education and training for quality.<sup>33</sup>

As we mentioned, TQC is similar to total quality management in its customer-focused approach to control. Total quality management uses both the techniques and ideas of SPC and TQC, but goes further in its involvement of workers in the quality process. TQM’s main progenitor, W. Edwards Deming, is a familiar name in a wide range of industries and organizational types. Deming has become required reading for managers searching for total quality. His TQM philosophy includes specific guidelines for organizational control. On the other hand, Feigenbaum, the main figure behind TQC, is

### total quality control

An effective system for integrating the quality-development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels that allow for full customer satisfaction.

less widely known and studied. His program for quality improvement is familiar primarily to quality engineers.

### Total Quality Management (TQM)

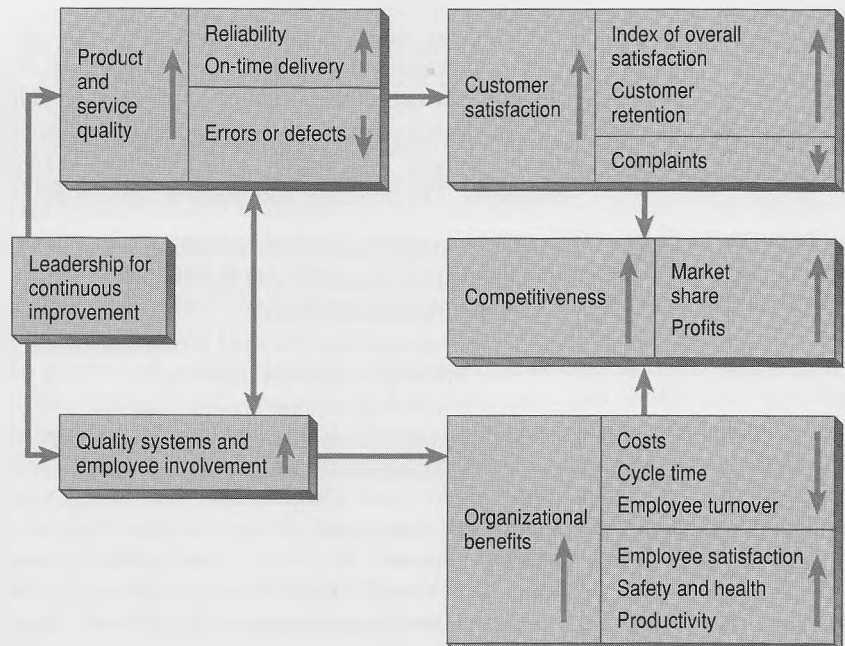
Total quality management (TQM), the generic name given to the Deming approach to quality-based management, is heavily oriented toward treating the *system* as the primary source of error or defects in manufacturing or service work. We have already examined many elements of Deming's management philosophy throughout this text, summarized primarily in his 14 points. Additionally, we saw in this chapter's opening vignette how Deming demonstrates the folly of controlling processes through worker reprimands or rewards when they're operating within normal system variation.

Although quality management uses a myriad of statistical techniques to control processes, there are also some fundamental lessons for control from a human psychology perspective. Deming stresses in his 14 points such things as "pride of workmanship," "self-improvement," and "drive out fear." These are all elements of the "softer" side of management (the nonquantitative side) but equally important to master. Managers who only use SPC are likely to ignore the need for pride in workmanship that most workers share. Thus, the *total* in total quality management requires managers to be familiar with a wide range of facts about the workplace, both those that can be described mathematically and those that can't. Figure 16-11 describes the benefits that accrue to an organization from paying attention to these nonquantitative aspects of a TQM approach.

Let's examine just a few of the important elements of TQM. You'll learn about the worker's role and the manager's role in a TQM environment.

**The Worker's Role in TQM** In their book *In Search of Excellence*, consultants Tom Peters and Bob Waterman illustrate the importance of personal worker control in quality.<sup>34</sup> They describe an experiment designed to determine the effect of loud, disturbing noise on performing a mental task. The experimental group was provided a button it could press to eliminate the noise. The control group had no such button. In performing

FIGURE 16-11  
Total Quality Management Model



the mental task, the experimental group achieved five times the productivity rate and only 20 percent of the error rate of the control group. The significant point of this experiment is that, while the experimental group performed better, no one in the experimental group ever touched the button. Subjects who merely believed they had personal control over their working conditions achieved higher productivity and greatly reduced error rates compared to those who didn't believe they had control. A personal sense of control, not reduced noise, explained the difference between the two groups.

To enhance workers' sense of personal control, Johnson Controls of Milwaukee, Wisconsin, has developed an office product it calls "Personal Environments RH Modules" (PEMS). These modules enable workers to control the temperature, light level, sound level, and even fragrance at their workstations. Investigators from Rensselaer Polytechnic Institute (RPI) in Troy, New York, studied the effect of PEMS workstations used by 500 employees at the West Bend Mutual Insurance Company in West Bend, Wisconsin. The RPI researchers found a 2 percent increase in productivity in workers who used PEMS. West Bend executives think the increase in productivity attributable to the workstations is more like 6 to 8 percent. Terry Weaver, vice president at Johnson, remarked, "The groundbreaking aspect of this study is that for the first time there is hard evidence that workers are more productive when they can control their environment."<sup>35</sup>

Japanese management expert Mikio Katano also recommends that managers place a high value on workers. A production engineer with Toyota Motor Corporation's Motomachi factory, Kitano has been counseling factory managers to slow down in their application of automation. Kitano is not antitechnology, but he does oppose machines that needlessly overcomplicate processes. "The key to productivity is simplicity," he says. "Men control machines, not the other way around." As quoted in Karen Lowry Miller, Kitano emphasizes that when workers feel they have control over a discrete section of the assembly line, they develop a sense of pride and autonomy.<sup>36</sup>

As the Global Exchange on the next page shows, not only Japan and America are discovering the virtues of allowing workers to control the processes for which they are responsible. The Mexican worker has also achieved higher quality and productivity levels through increased personal control of work processes.

Deming provides an example of successful worker quality control in the production of stockings. *Managers with the stocking company first recognized a problem in production costs when they faced a situation where costs were soon to exceed revenues. Management hired a statistician to help them diagnose their problem. The statistician recommended that the company send 20 supervisors to a 10-week training course to learn techniques for charting the number of defective stockings. When the supervisors returned, they were asked to apply some of the principles they had learned.*

In all but two cases, defects fell within statistically established control limits with a mean defect rate of 4.8 percent per production worker (called "loopers" in the stocking business). Next, individual loopers were charted. Management found (1) an excellent looper whose skills were passed on to others by training them, (2) a looper who improved markedly with eyeglasses, and (3) a looper whose performance changed dramatically after charting. One of the loopers remarked, "This is the first time that anybody ever told me that care mattered." Within seven months, the mean number of defects dropped to 0.8 percent. Instead of 11,500 stockings rejected each week, only 2,000 were rejected.<sup>37</sup>

A quality-based system of control must be built on worker trust and pride of workmanship, which provides a basis for worker self-control.<sup>38</sup> In this quality-based view, control must be seen as an internal, individual process before it can result in an external process. Control becomes an internal quality guide practiced by all employees rather than an external set of rules applied by managers. Juran defines self-control as "A means of knowing what the goals are . . . a means of knowing what the actual performance is . . . a means for changing the performance in the event that performance does not conform to goals and standards."<sup>39</sup>

## GLOBAL EXCHANGE

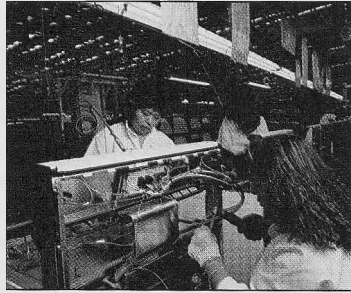
## MAQUILADORAS: MEXICAN WORKERS PRACTICE TOTAL QUALITY

Most discussions about global quality leaders focus on Japan, Germany, and other industrial powerhouses. Seldom does one associate Mexico with world-class industrial production. But that's changing. Mexico's fast-growing border plants, known as *maquiladoras*, have adopted quality as a way of life. Maquiladoras were first established in 1965 after the United States tightened its immigration rules and Mexican farm laborers were no longer able to find seasonal work in California. As the maquiladora program was originally conceived, U.S. companies would establish "twin plants" on each side of the Mexican border. The plant on the U.S. side would manufacture parts and ship them to the Mexican plant for assembly. Since the inception of this system, the tradition for the maquiladora was associated with this type of basic assembly and rough manufacturing work. Despite low quality production, the attraction of low-wage labor ensured that U.S. companies would use the program.

Today, low wages are not enough of an attraction to keep U.S. companies interested in the maquiladora program. Maquiladora workers typically make \$2.00 per hour today; their functional counterparts in East Asia might earn that much in an entire day. In fact, in the early 1980s, two thirds of the existing maquiladora plants had packed up and moved to Asia. Managers of the surviving maquiladoras realized that their competitive niche no longer was cheap labor. They realized that they had to provide high-quality labor as well.

Leon Opalin Mielniska, vice president at Banco Nacional de Mexico (BANAMEX) in Tijuana, explained the transformation that's occurring in maquiladora management. "In Mexico, we are improving our manufacturing by investing in our labor and improving our human resources."

Proving this point, Shure Brothers' Juarez facility uses a cross-functional TQM team known as the "Paradigm Busters" to improve the manufacturing process of the company's top-selling microphone products. The team is made up of seven Mexican and three American Juarez employees. After training in fundamental quality concepts, the team implemented a set of changes to improve processes. When the results were assessed, the team not only had cut



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Mexican Maquiladora workers produce high-quality products.

manufacturing steps from 349 to 96 and lowered production time from 32 days to just 2 days, it had also recommended significant product design improvements. James Furst, vice president of total quality at Shure Brothers, said, "We've had other TQM projects in the United States, but there's something about TQM in Mexico that really makes it take off."

Turnover at the Shure Brothers' Tijuana plant plummeted from 8 percent per month to 1 or 2 percent after TQM was introduced. At the same time, the Paradigm Busters were able to cut the work force on one product from 56 to 29 people. Furst explained, "When we changed the working atmosphere by empowering people, they changed their work habits."

And the Shure Brothers' story isn't unique. Another example of the Mexican turn to quality is at Mattel's MABAMEX facility in Tijuana. Plant workers run a just-in-time assembly line on which workers themselves control the line's speed. Workers move the line forward when they are satisfied with the quality of the product.

The Mexican plants of U.S. industrial giants Ford, General Electric, and IBM match and often surpass their U.S. counterparts in productivity and quality. Although pay in Mexico is about one sixth the U.S. level, productivity grew at twice the U.S. rate from 1988 to 1993. Companies now regularly benchmark the maquiladoras against Asian competitors. "We run our Mexican factories with basically the same premise as in the U.S.," says James Meyer, senior vice president at Thompson Consumer Electronics, Inc., of Indianapolis. "They use state-of-the-art, expensive, very modern equipment. These are not high-volume sweatshops."

As these examples show, involving workers in the TQM transformation and allowing them a measure of control over their work processes is effective in maquiladoras. Using this approach, Mexico has been able to develop a new competitive niche by combining low wages with high quality.

Source: Adapted from Martha H. Peak, "Maquiladoras: Where Quality Is a Way of Life," *Management Review*, March 1993, pp. 19-23; and Douglas Harbrecht, Geri Smith, and Stephen Baker, "The Mexican Worker: Smart, Motivated, Cheap—And a Potent New Economic Force to Be Reckoned With," *Business Week*, April 19, 1993, pp. 84-92.

Using standards, workers have a quality-based strategy for determining those activities necessary and harmful to quality. Activities are built around the standards; irrelevant, redundant, or non-value-added activities are eliminated.

While workers play an important role in implementing a TQM approach, management has the responsibility of leadership. In most organizations, workers below the managerial level are unlikely to lead a revolution in organizational philosophy. It's up to management to steer the ship. Managers must create the vision for the organization. This

## ETHICS SPOTLIGHT

## ETHICS OFFICERS CONTROL ORGANIZATIONAL BEHAVIOR

A new movement is taking place across corporate America. Stung by bad press and public outrage over several highly publicized cases of unethical behavior, large organizations are calling in a new breed of professional to control things. Not that the new “ethics officers” could have prevented Ivan Boesky from insider trading, or stood in the way of the broad misdealings of the Bank of Credit and Commerce International (BCCI). Nonetheless, corporations that have ethics officers on staff find them useful and are employing them to handle increasingly complex issues.

Textron’s Bell Helicopter unit started its ethics program in 1987 with ethics ombudsmen. The ombudsmen operated at a lower level than today’s ethics officers. The Textron ombudsmen, for example, handled only ethics infractions and employee complaints. Based on their early success, Textron has expanded its ethics program to include a full-time ethics officer, Richard Greaves. His job includes addressing worker complaints on issues from expense accounts to possible misconduct by colleagues. Mr. Greaves also provides training sessions on ethical decision making, coordinates meetings for a senior management ethics committee, and monitors broader corporate ethics issues.

Five years ago, few corporations had ethics officers. Today, 15 to 20 percent of big companies have them. An ethics officer typically holds a title from director to vice president and earns \$90,000 to \$200,000 per year. In

most cases, ethics officers report directly to the company’s chief executive.

One effective tool ethics officers use to control employee behavior is an ethics hotline. At Raytheon Corporation, ethics officer Paul Pullen receives some 100 calls a month. Around 80 percent involve issues he can resolve on the spot or refer to appropriate departments in the company. Another 10 percent of the callers are simply looking for advice. But, on the average, about 10 callers per month report a serious ethical lapse that Pullen must discuss with senior management. Pullen says, “Most people have high standards, and they want to work in an atmosphere that is ethical. The complaints come from all levels, and they are typical of what you would find in any business: possible conflicts of interest, cheating on time-cards, cheating on expense reports.”

As Pullen notes, most workers prefer to work in an environment that has high ethical standards. Total quality management recognizes the need for worker control over work processes. It follows that, if workers can control, at least to some extent, the ethical environment they work in, they can be more productive. At least that’s the reasoning behind the growing trend toward corporate ethics officers.

Source: Adapted from Juli Amparano Lopez, “More Big Businesses Set Up Ethics Officers,” *The Wall Street Journal*, May 10, 1993, p. B1; and Kenneth Labich, “The New Crisis in Business Ethics,” *Fortune*, April 20, 1992, pp. 167–76.

is no different in a TQM environment or a scientific management environment. What’s different is the behavior of managers.

**Management’s Role in TQM** Quality-based management believes control of work processes is effected first by the work force, then by automation, then by managers, and finally by upper managers. Upper management is responsible for creating the system; workers are trained to maintain control. Thus a quality-based approach locates control at the lowest levels of the firm—the workers on the line who provide the service.<sup>40</sup>

The traditional managerial control function has focused on supervision during the production process. Supervision has been widely practiced as a traditional method of keeping an eye on workers—looking for mistakes. Some managers have even resorted to using information technologies to eavesdrop on employees. Procter & Gamble, for example, examined workers’ phone records to search for possible leaks of sensitive information. This type of practice has debilitating effects on performance and is ethically questionable. In some cases, the corporate trend toward downsizing and rightsizing has led workers lower down in the corporate hierarchy to only tell bosses what they think they want to hear, even resorting to lying. Extreme pressure to perform can lead to improper behavior.

To control the ethical practices within corporations, many firms are creating high-level positions for “ethics officers.” Their responsibility is to control behavior that runs against an organization’s mores and values. As the Ethics Spotlight shows, ethics officers can find a home in TQM-based organizations.

The responsibility for quality control ultimately rests with management. However, managers must also promote worker self-management or “quality-mindedness” practices, as Armand Feigenbaum refers to it.<sup>41</sup> To further employee self-management, managers must develop worker participation programs and policies. With knowledge of the company’s costs and goals, workers can practice control with minimal supervision. Management’s job is to ensure that workers have the knowledge, the tools, and the power to prevent problems from arising. Managers must also encourage employee suggestions and cost consciousness by recognizing and implementing worker quality improvement decisions. And, if there are problems, management should give workers the first opportunity to solve them.

Managers need patience to transform their organizations using the principles and tools of total quality management. If a manager grows frustrated too soon with the lack of worker understanding or motivation to become involved in the new philosophy, she may not give it a chance to work.<sup>42</sup> As a 1991 Ernst & Young survey found, companies that fail with TQM are those that haven’t provided their workers with the information and training they need to be effective.<sup>43</sup> Managers must realize this. Most workers want responsibility and control over their work. Most will understand and accept a new approach to their work if management demonstrates commitment to improving the system. That means workers need to be trained in the tools and techniques of TQM, SPC, and TQC. They need to be empowered to control their work processes. And they need to be encouraged constantly to develop pride in their work and their organization. These elements of quality are the least quantifiable, but no less important.

## ■ SUMMARY OF LEARNING OBJECTIVES

### ***Describe the red bead experiment and explain its message to managers.***

The red bead experiment illustrates the problems associated with attempts to control worker behavior with rewards and disciplinary actions. The system, not the workers, is responsible for the prevailing defect rate. The experiment demonstrates that the system must be designed and managed to bring about quality, rather than to create difficult or impossible expectations for workers.

### ***Describe the three elements of the control process.***

The three elements of control are specification, production, and inspection. Specification fully describes the preferred condition, a goal, standard, or carefully determined quantitative statement of conditions. Production means acting to meet the specifications (i.e., making the product). Inspection is a judgment as to whether the product meets the specifications. Appropriate followup actions must then be taken, based on the findings of the inspection.

### ***Define total quality control.***

Total quality control is an effective system for integrating the quality-development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels that allow for full customer satisfaction.

### ***Explain the workers’ role in total quality management.***

Control should be primarily in the hands of the workers, and not in the hands of a supervisor or an outside or final inspector. Management’s job is to ensure that workers have the knowledge, tools, and power to prevent problems from arising. A quality-based system of control must be built on worker trust and pride of workmanship, which provides a basis for worker self-control.

In this quality-based view, control is an internal process before it can result in an external process. The responsibility for planning, implementing, and maintaining control ultimately rides with management. The effective application of control and of achieving quality rests more on the effective use of self-management practices. Control becomes an internal quality guide, practiced by all employees, rather than an external set of rules applied by managers to workers. Successful control must be recognized and rewarded.

### ***Explain management’s role in total quality management.***

The traditional managerial control function has focused on supervision during the production process. Supervision has been widely practiced as a traditional method of keeping an eye on workers, looking for special causes of variation. Traditional management has used technology to monitor and intimidate workers. In contrast, quality-based management believes control is effected first by the work force, then by automation, then by managers, and finally by upper managers. Upper management is responsible for the system: workers are then judged capable of effecting control. Thus a quality-based approach locates control at the lowest levels of the firm—with information technology and the workers.

### ***Contrast statistical process control with total quality control.***

Statistical process control (SPC) focuses on the use of statistics to identify and understand production and operations. SPC isn’t concerned with how to resolve problems in systems. Total quality control (TQC) focuses on customer expectations to control production and operations. Although it recognizes the importance of statistics, it also sees the importance of worker involvement with the quality improvement process.

## KEY TERMS

accounts receivable turnover, p. 450	debt/equity ratio, p. 450	payback method, p. 446
acid-test ratio, p. 450	descriptive statistics, p. 452	preliminary control, p. 444
activity-based accounting, p. 451	direction, p. 448	rate of return on investment, p. 447
balance sheet, p. 449	discounted rate of return, p. 447	solvency, p. 450
capital budget, p. 446	feedback control, p. 449	special cause variation, p. 454
common cause variation, p. 453	income statement, p. 449	stable system, p. 454
concurrent control, p. 448	inferential statistics, p. 453	standard cost system, p. 450
control, p. 440	inventory turnover, p. 450	statistical process control, p. 452
control chart, p. 455	investment decisions, p. 446	statistics, p. 452
current ratio, p. 450	liquidity, p. 450	total quality control, p. 457
debt/asset ratio, p. 450	operational definition, p. 441	

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is a stable system? Who is responsible for creating and maintaining a stable system?
2. Describe the differences between preliminary, concurrent, and feedback control.
3. What are the differences between traditional control and quality control?

### Understanding

4. Explain the role of statistics in quality control.
5. Why does the red bead experiment work so well to highlight the system as the source of error in work processes?

6. Who is responsible for achieving and maintaining control in an organization?
7. Do you think that all variation within a system can be eliminated by comprehensive preliminary control?
8. Why do workers seem to perform at higher levels when they have personal control of their work processes?

### Application


9. Design and implement a statistical measure to assess your arrival time for class each day.
10. Think of ineffective controls that you have experienced in school, at work, or in other aspects of your life. How were they ineffective? How might they have been improved?

## CASE 16-1

### Whirlpool Lets Customers Control Product Design

Manufacturing consultant Earl Hall has remarked that “The global markets of the 21st-century will demand the ability to quickly and globally deliver a high variety of customized products.” Futurist Alvin Toffler has coined the term *prosumer* (a concatenation of *producer* and *consumer*) to signify the consumer’s increasingly important role in the design of products and services. Some have projected that the time is rapidly approaching when consumers will play a role in the design of all of the major items they consume. Some companies are already riding this wave of change.

Whirlpool is a familiar name in the home appliance business. But the industry giant found itself faced with a dilemma even senior managers couldn’t resolve. On the surface, it seemed simple enough—company surveys had determined that consumers wanted a cooking range with controls that were easy to clean.



Whirlpool engineers responded to the survey, proposing that the company use modern touch-pad controls like those on microwave ovens. Touch-pad controls can be cleaned with one swipe of a damp cloth. The problem was, the idea of push-button controls flew in the face of industry wisdom. Earlier models with push-button controls had not sold well in stores, while consumers chose ovens with knobs they could grasp and turn.

Rather than reject the results of its consumer study, the company decided to follow consumers’ wishes to the letter. It designed a touch-pad controlled range and, during roll-out, monitored consumer reaction every step of the way. At the company’s Benton Harbor, Michigan, headquarters, consumer volunteers played with computer simulations of the new controls, and marketers tested prototypes with passersby in nearby shopping malls.

The result of all this effort is a range with a touch-pad control system so easy to use it doesn’t require a manual. The user simply turns on the oven in a simple series of steps. The new

range hit the sales floor in 1992 and became one of Whirlpool's hottest-selling models.

This example of bringing the customer into the design process is one of the ways in which Whirlpool involves the consumer in controlling corporate behavior. Each year the company sends its Standardized Appliance Measurement Satisfaction (SAMS) survey to 180,000 households, asking people to rate all of their appliances on a number of attributes. If the survey finds that a competitor's product ranks higher, Whirlpool engineers tear it apart to find out why.

In addition to the survey, the company pays hundreds of consumers to "use" computer simulations of potential products at the company's Usability Laboratory. Engineers record consumer reactions on videotape.

Vice President John Hamann explained that consumers' expectations aren't immediately clear. For example, one SAMS survey showed that people want clean refrigerators. After analyzing this and asking more questions, Whirlpool found that consumers don't want refrigerators that are easy to clean, but rather refrigerators that *look* clean. The company promptly designed refrigerators with stucco-like fronts that hide fingerprints.

Whirlpool uses consumer data to differentiate its products from its chief competitors' (Maytag and Electrolux). Since 1982, the company has nearly tripled in size to become the world's largest major appliance manufacturer. And the company has plans for continued expansion. CEO David Whitwam is confident that consumer research methods will lead to big gains overseas. This confidence has already been justified in European microwave oven sales. Until recently, fewer than one third of European

households had microwaves. But Whirlpool's consumer research showed that more families would buy them if they performed more like conventional ovens. In late 1991, Whirlpool introduced the VIP Crisp, a microwave model strictly for European markets. It contains a broiler coil for top browning and a unique dish that sizzles the underside of the food. The Crisp is now Europe's best-selling microwave.

Bringing the customer into the process of product design is another fundamental element of total quality control. Determining what customers are willing to purchase before bringing a product or service on line ensures a market. However, consumer demand is constantly shifting, and companies such as Whirlpool that use sophisticated techniques to bring the consumer into the design of new products on a continuous basis will stay out front in the global economy.

## Questions

1. What type of control is displayed by the Whirlpool SAMS survey?
2. Whirlpool managers are interested in controlling product design. What kind of questions do you think the SAMS survey asks? List 10 questions that you think would help in the design of new home appliances.
3. Develop a means for measuring and assessing responses to your questions in Question 2. What type of statistics will help the most? Would you use descriptive or inferential statistics?

## ■ CASE 16-2

### Tenneco's New Chief Controls by Setting High Standards

When Michael H. Walsh joined Tenneco, Inc., in 1991, the board of directors decided he should serve a seven-month apprenticeship as president before taking over as CEO. Tenneco is a \$13.4 billion per year company ranked 27th among the Fortune 500 in 1992. Walsh had no experience in its businesses—chemicals, automotive parts, shipbuilding, natural gas pipelines, packaging, and agricultural and construction equipment—and the board wanted to see how he would handle his new responsibilities. Walsh didn't disappoint them. Having just completed a turnaround of Union Pacific Railroad, he charged ahead with reform of Tenneco.

Even before his official starting date, Walsh let people know that he was in control. At Chicago's Drake Hotel on September 4, 1991, a full month before he officially joined the company, Walsh seized control. Presidents of the company's six divisions gathered at the hotel for what was supposed to be a casual dinner. Outgoing CEO James Ketelsen was also in attendance. Walsh was there to listen and to be introduced to the other executives by Ketelsen.

During the evening's discussion, it was brought up that Tenneco's Case Corporation had third-quarter operating loss of \$83 million—double what was expected by analysts. When Walsh heard that, he took over the meeting, demanding explanations and giving orders. Objecting to Walsh's boldness, Case president Edward Campbell was aghast, asking Ketelsen, "What the hell is going on here?" But Ketelsen deferred to Walsh, and the torch was passed.

Now on a roll, Walsh proceeded through farm equipment, natural gas, shipbuilding, and auto parts, raising tough questions. He soon realized why earnings had fallen three years in a row and why in 1991 the company would post a net loss of \$732 million.

Walsh discovered that Tenneco's auto parts and chemicals divisions—both profitable—didn't strive as hard as they might for higher earnings because their surplus was dumped into the money-losing farm equipment division. He discovered bloated inventories due to some plant managers keeping production lines rolling without regard for customer demand. Shipping labels on some packages were so illegible that customers didn't know what was inside and thus were slow to pay—let alone to buy more. In short, Walsh found that quality control was a joke.



After 18 months, not only was Walsh able to restore profitability to Tenneco's operations, he was able to do so without heavy layoffs and closing operations. Walsh—who was named Tenneco CEO in April 1992—sought out inefficiencies wherever he could find them. Quality teams were established to re-engineer manufacturing processes. For example, welds on certain car parts were shortened, scrap metal previously tossed out is now recycled, and 179-mile routes that some parts used to travel inside the factory have been shortened.

These and other quality-based changes resulted in a \$250 million reduction in 1992 operating costs. Some analysts expect Tenneco to post a 1993 operating net income of \$510 million. In 1992, Tenneco had operating earnings of \$292 million, including a gain of \$71 million from discontinued operations, compared to a 1991 loss of \$692 million.

How can this turnaround be explained? Improved quality control played a big part. To increase management's effectiveness, Walsh decided on a simple strategy: Set higher targets on every measure of performance and make missing them unacceptable. At first, Tenneco executives appreciated this strategy. But they later were stunned when, falling short of their goals, they were called on the carpet by the impatient Walsh.

Walsh requires weekly "flash reports" containing news of the past few days and status reports on how each business is pro-

gressing toward forecasts of the current quarter. Walsh has inspired the spirit of quality transformation even among line workers. His videotaped messages calling for innovation at all levels of the company led one worker to refine a 30-year-old formula for making liner board. The result: fewer defects and an annual savings of \$350,000.

Michael Walsh's Tenneco turnaround was engineered in large part because of his insistence on knowing facts, his ability to inspire innovation, and also his insistence on quality control. The jury is out on whether the rapid improvements produced at Tenneco translate to long-term success. But if the quality controls he has established keep the company focused on continuous improvement and customer satisfaction, then chances are good that a return to past unprofitability isn't likely.

## Questions

1. Explain why you think Walsh has videotapes of his quality control messages made available to all Tenneco employees.
2. Why do you think Walsh has requested weekly flash reports?
3. What is the role of the leader in creating a quality control transformation inside a company?

## ■ APPLICATION EXERCISE

Hibson's is a department store in a large, suburban mall. You have been asked to assist management with a program for 19 full-time sales associates (SAs) in a section of the store. Sales associates are responsible for providing customer service in the store, ensuring customer satisfaction, and making sales. Observations, anecdotal information, and a review of industry standards of sales dollars generated by each sales associate have convinced management and the associates that they are underperforming. Management and the SAs are looking to you for help in finding a solution.

Local market conditions are stable, with competition from a variety of retail stores. Advertising, pricing, and other marketing issues are outside the domain of your work; all of you agree that SA performance, not marketing, is the issue. Sales associates receive above-the-industry average base compensation. An individual-based commission plan was attempted six months ago; the SAs asked management to drop the program when they decided that it caused dysfunctional competition among the SAs, who recognize the need for a more fluid team approach to sales, sales support, and customer satisfaction. That also led to a behavioral survey.

In the survey, assistant managers and the SAs collected observational measures, carefully recording and then classifying SA behaviors. The associates were involved in the study; in fact, they helped self-record and collect the data. Measures were made over all shifts over a representative sales month. Management and the associates agree that the measures are fair and accurate. Behavior was classified as: (1) selling (conversing with customers, assisting with selecting and fitting, registering sales, and completing charge slips), (2) stock support work (arranging and displaying merchandise, tagging and replenishing stock, and packing and unpacking stock), (3) other work-related behavior (giving directions, taking returns, checking credit, answering questions, etc.), (4) idle time (socializing and not working), and (5) absence from the work area. Sales data for each associate has been recorded for each shift. Direct measures of customer satisfaction were not collected. Management will provide you with the full records of these measures shortly. You are not familiar with the specific results of the survey.

Outline your basic plan for effecting change. Include problem definition, standards, measures, controls, an action plan, and recommended followup.

CHAPTER

17

MANAGING PRODUCTION AND OPERATIONS

*After studying this chapter, you should be able to:*

Define *production* and *operations*.

Discuss the evolution of modern manufacturing.

Explain the role of production and operations managers.

Compare traditional company organizations with cellular organizations.

List the factors that should be considered in selecting a site.

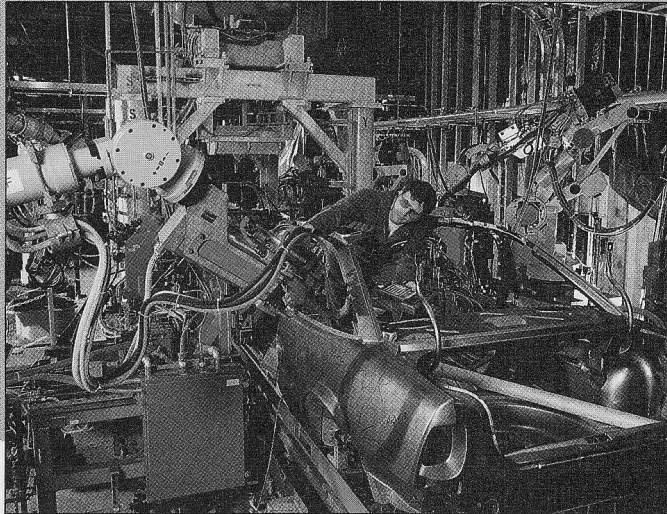
Evaluate computerization's effects on production and operation management functions.

Explain the importance of productivity and quality.

Discuss safety's importance to productivity and quality.

## FLEXIBLE MANUFACTURING—THE NEXT FRONTIER

In their book *The Machine That Changed the World*, a group from MIT's International Motor Vehicle Program showed how Japanese automobile companies were much leaner than U.S. auto manufacturers. The book's major message was that while American car companies in the 1970s and 1980s were still using production techniques developed by Henry Ford in 1913, the Japanese were using a new system of *lean production*.



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This system involved using less of everything, including inventory, labor, factory space, and investment. Car company executives attributed the Japanese firms' success to lower labor costs. But in 1982 Honda opened the first Japanese plant in the United States and paid U.S. wages; Honda still had lower labor costs than other U.S. plants. ■ Since then, the world of auto making—and that of many other products—has changed. American manufacturing firms have improved quality dramatically in recent years. In many instances, this has been accomplished by imitating ideas pioneered by the Japanese. Chrysler, for instance, after studying Honda, has cut \$1 billion a year in costs. Many U.S. firms are manufacturing better-quality products with fewer workers and less inventory in less time. In many industries Japanese firms are no

At GM's assembly plant in Lordstown, Ohio, flexible manufacturing enables the firm to develop new models that have fewer parts and more standardized assembly procedures.

longer far ahead of U.S. companies. But while the quality gap has been reduced, the world's best companies are gearing up for the next frontier—flexible manufacturing. ■ Through a flexible manufacturing system (FMS), a single factory turns out a wide variety of products with computer-controlled robots. The idea behind this system is fairly simple. By reading the market more quickly, manufacturing many different products on the same line, and switching from one to another instantly and at lower costs, a firm can respond to customers quickly and economically. New products reach markets faster, product improvements

are made faster, and competitors are left to catch up. Many experts feel flexibility will be the key to competitiveness in the coming decade. Japan and the United States are racing once again, and Japan is ahead. According to Aleda Roth, a manufacturing expert at Duke University, "Most American companies are a generation behind—as far behind as they were on quality." The Japanese take product quality as a given. Without durability, conformance to

customer specifications and on-time delivery, a firm can't survive. The Japanese focus is on more and better product features, flexible factories, expanded customer service, and more new product introductions. ■ Many top U.S. companies (including General Electric, Figgie International, and Motorola) are working hard to develop FMS. General Motors has upgraded its Lordstown, Ohio, plant for flexible manufacturing. There, more cars can be built on one assembly line—450,000 a year—than anyplace else in the world. Robots and other machinery can easily be reprogrammed to build a wide mix of cars to meet changing demand. Workers have also been retrained to handle a variety of tasks instead of repeating a few rote tasks over and over.

Source: Adapted from Erle Norton, "Small, Flexible Plants May Play Crucial Role in U.S. Manufacturing," *The Wall Street Journal*, January 13, 1993, pp. A1-A2; Thomas A. Stewart, "Brace for Japan's Hot New Strategy," *Fortune*, September 21, 1992, pp. 62-74; Bradley A. Steitz, "Detroit's New Strategy to Beat Back Japanese Is to Copy Their Ideas," *The Wall Street Journal*, October 1, 1993, pp. A1, A10; and James B. Treece and Patrick Oster, "General Motors: Open All Night," *Business Week*, June 1, 1992, pp. 82-83.

Businesses strive for the perfect blend of management and machine. Creating and maintaining that balance is the production and operations manager's task. The job hasn't been easy. In the 1970s double-digit inflation plus a recession dealt heavy blows to industry in the United States and the rest of the industrial world. Consumers could no longer afford to buy as much so they wanted goods that would last. The cost of money soared, and financing companies' growth became very expensive. Millions of employees lost their jobs. Vulnerable in key areas such as automobiles, textiles, machine tools, and steel, the United States gradually lost market share to competitors from Japan, Germany, Korea, and other nations.

To recapture markets, top management asked production and operations managers to increase production, improve quality, and cut costs. There is much work to be done to complete a turnaround. And technology, competition, products, and worker skills have changed so much in the past 20 years that the production and operations manager's job requires a wide range of analytical and communication skills. These managers must understand sophisticated technology, delegate more, and forfeit some decision-making power. Everything used to be mechanical; now it is more sophisticated, computerized, and modern.<sup>1</sup> As this chapter's opening vignette illustrates, flexible manufacturing will be a key to future competitiveness.

This chapter portrays how production and operations managers do their jobs. We start by describing production and operations, followed by a brief history of manufacturing. We then discuss the production and operations manager's various responsibilities, including organizing the production process, planning site location and layout, controlling materials, purchasing, inventory, and production scheduling. Other topics covered include using technology such as computers and robots, increasing productivity while maintaining quality control, and maintaining safety for employees, consumers, and the environment.

## ■ ■ DEFINING PRODUCTION, MANUFACTURING, AND OPERATIONS

### production

The total process by which a company creates finished goods or services.

Many people confuse the terms *production*, *manufacturing*, and *operations*. **Production** is the total process by which a company produces finished goods or services. This process might involve the work, ideas, and plans of the design engineers as well as the production manager, plant manager, plant superintendent, and their crews plus any other department actually involved with bringing forth the product. Table 17-1 illustrates different types of businesses, products, and the processes involved. Production isn't limited to the manufacture of goods; it applies to both the service and manufacturing sectors of the economy. For example, a company might produce shampoo and cream rinse for hair, which are manufactured goods; another company might operate a chain of hair salons, which produce a service. The word *production* can also be used to name the total amount of product brought forth, as in the statement "Total production increased by 20 percent in 1990."

### manufacturing

The physical process of producing goods. (Services are not manufactured.)

**Manufacturing** refers only to the physical process of producing goods; services are not manufactured. The word *manufacturing* comes from the ancient Latin words *manu* (hand) and *factor* (create or make)—in other words, handmade. In ancient Rome distinguishing between machine-made and handmade was not an issue; all goods were handmade. If someone sang for the Romans, it was a service; if someone crafted a brand new jar for storing olive oil, it was a manufactured good, something created by the work of hands.

### operations

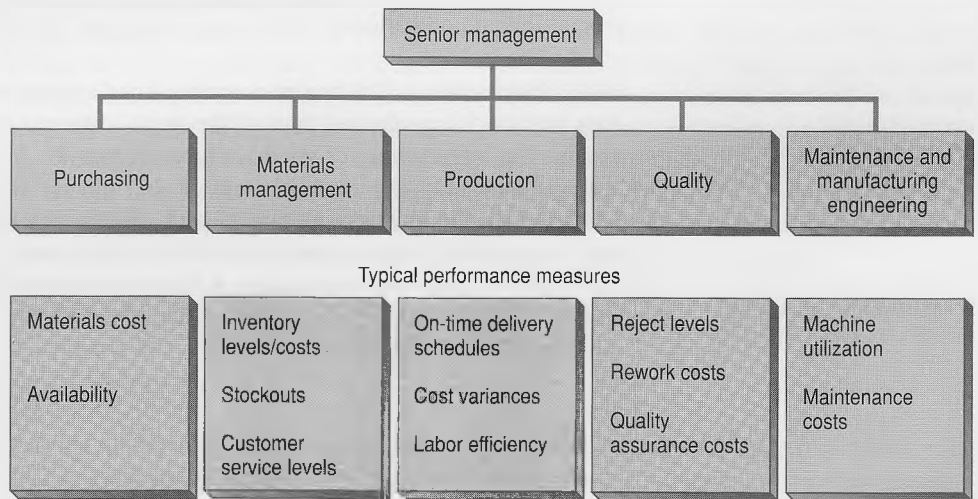
The functions needed to keep the company producing and delivering. Literally any function or series of functions enacted to carry out a strategic plan.

**Operations** are the functions needed to keep the company producing and delivering. They're literally any function or series of functions enacted to carry out a strategic plan. In a firm such as Ford Motor, operations usually include purchasing, materials management, production, inventory and quality control, maintenance and manufacturing engineering, and plant management. Operations' importance cannot be overstated if firms—and nations—are to be successful. The tasks involved in producing and delivering

TABLE 17-1  
Production Processes for Different Organizations

Organization	Inputs	Production Processes	Outputs or Products (Type)
Magazine publisher	Information in various forms (written, verbal, and photo or art pictorials), labor, energy, capital, ink, paper, tools, equipment, technology	Planning, budgeting, scheduling, design and layout, writing, editing, typesetting, art and photo preparation, management control, printing, folding, cutting, binding, shipping on time	Magazines (nondurable goods)
Hair-styling salon	Clients, hair knowledge, skills, information, hair care supplies, tools, technology, equipment, labor, energy, capital, water	Planning, budgeting, scheduling, materials ordering and handling, design, hair preparation, washing, conditioning, coloring, styling, meeting schedules, maintaining customer satisfaction (quality control)	Personal hair care (service)
Steel conduit manufacturer	Steel, chemicals, labor, energy, capital, tools, technology, equipment, water, location	Planning, budgeting, scheduling, materials ordering and handling, metal processing, labor organization, employee relations and safety, quality control, forming, cooling, storage and distribution, meeting schedules	Steel wire and pipe products (durable goods)

FIGURE 17-1  
Activities Managed  
by Operations



Source: Reprinted by permission of *Harvard Business Review*. An exhibit from "Manufacturing's Crisis: New Technologies, Obsolete Organizations," by Robert H. Hayes and Ramchandran Jaikumar, September–October 1988. Copyright © 1988 by the President and Fellows of Harvard College; all rights reserved.

a product or service are the value-added elements that build individual, corporate, social, and national wealth.<sup>2</sup> Figure 17-1 shows the activities managed by operations in the traditional plant.

## ■ THE EVOLUTION OF MODERN MANUFACTURING

Until the 19th century manufacturing was done largely by hand. Modern manufacturing can be traced from its origins in the use of fuel energy and mass production to today's technological innovations being developed throughout the world. A brief discussion of this evolution will help us understand the role of the production and operations manager.

## Early Innovations

Several early innovations were crucial in manufacturing's development. Specifically the use of fuel energy, scientific management, and mass production paved the way for modern manufacturing.

**Fuel Energy** Fuel energy made it possible to use large machinery in factories; large machinery made mass production possible. In the United States steam-powered mills of the 19th century were the first indication of the industrial growth to follow.

**Scientific Management** As the 20th century began managers became interested in improving production of individuals and of the total organization. Frederick Taylor, the father of scientific management, pioneered the use of scientific methods to improve productivity.<sup>3</sup> The essence of his philosophy was that scientific laws govern how much a person can produce per day and that management's function is to discover and use these laws in operating productive systems.

Taylor's approach was not greeted with universal approval. Some unions feared scientific management because it was rigid, unions played almost no role in Taylor's setup of jobs, and they had little idea of Taylor's ultimate goal. In some cases managers embraced Taylor's time study and incentive plans but ignored the need to organize and standardize the work to be done. The result was poorly designed production operations and overworked employees.<sup>4</sup> Despite critics and inept use, Taylor's philosophy and work helped shape work flow systems, incentive packages, and the design and arrangement of jobs. His principles of scientific management are still part of the procedures used in production and operations.

**Mass Production** The use of assembly lines and the division of labor—each worker does one small, specialized part of the work—brought about **mass production**, which permits the manufacture of goods in large quantities. Around 1913 a significant breakthrough occurred—the establishment of the moving assembly line for manufacturing Ford cars. In the mass production of early Fords, one worker attached the headlamps, another attached the hood, and so on. Each worker performed one function on each and every car as its chassis came down a moving conveyor belt (**assembly line**). The belt carried work from one workstation to the next. Ford's assembly line began at the entrance to a long shedlike factory building and emerged bearing finished cars at the other end. When a finished auto emerged at the end of the assembly line, workers had given *form utility* to the materials used. Form utility is the value added by giving useful form to materials. A formed car is indeed more useful than a pile of parts!

Standardization of parts was another essential factor in the development of mass production. At Ford each headlamp was exactly the same size and was connected to the same spot on identical car frames as they came down the assembly line. Thus one worker could attach headlamps over and over rather quickly and easily with a standard level of quality because the parts were standardized.

Some workers and social critics complained about the “human machines” who moved their arms and hands over and over again, in the same motions, to the rhythms of the inescapable assembly line. Silent film star Charlie Chaplin even imitated and mocked them in his movie *Modern Times*. But mass production and the assembly line were here to stay. No significant business operation could afford to ignore their technological advances. Their tremendous production capacity would eventually make the United States the most productive and richest nation in the world.

## Industrialization and America's Postwar Supremacy

During the 1920s many nations of the world became increasingly industrialized and some of them increasingly competitive. By World War II, Japan and Germany were well-

### mass production

A system permitting the manufacture of goods in large quantities.

### assembly line

A moving conveyor belt that carries work from one workstation to the next.

developed industrial nations, but they needed raw materials and markets. With its superior production and manufacturing achievements—coupled with the fact that its production capacity was not destroyed or badly damaged—the United States emerged from World War II as the leader in production and manufacturing.

During the 1950s, 60s, and most of the 70s, American goods and services were the most sought after in the world. The holds of cargo planes and ships carried American cars and trucks, mechanical and electrical parts, chemicals, commodities, clothing, medicines, food products, toys, soft drinks, and recordings to every major port in the world. In those planes' and ships' passenger compartments, American services and technical know-how were being exported too. Doctors, nurses, dentists, X-ray technicians, teachers, broadcasters, engineers, agricultural advisers, and hundreds of other specialists carried their know-how to foreign markets. Soon the workers, entrepreneurs, and governments of those markets began to respond in kind. As Europe and Japan recovered from the war's devastation, they rebuilt their industries. They began to export goods and services, competed with each other, and created an industrial and marketing basis for competing in world markets.

### Consumerism and Planned Obsolescence

In the expansion of the late 1950s and the 60s the pace of life—and the pace of production and consumption—escalated with unimagined speed. Salaries rose, prices increased, production rates climbed. By the 70s new and unexpected pressures appeared. Uneasiness and dissatisfaction began to spread. Americans became disillusioned with leadership at national, local, and even trade and labor union levels. With disillusionment came cynicism. Manufacturers talked of planned obsolescence—goods made to last only a short period of time so consumers would have to buy again. Consumers began to question both quality and prices of products and services. Critics also questioned the facilities being used for manufacturing; many factories were old, outdated, inefficient, and dirty.

In addition to leadership, quality, and facility problems, the pressures to produce more and faster made pride of accomplishment all but impossible. Goods and services were in such demand that the prevailing cries were “Never mind about the details—it's got to get out!” and “If there's anything wrong with it, they can send it back!” And they did. In the 1940s products might be returned once in a while; by the mid-70s corporations maintained whole departments solely to handle returns of defective items.<sup>5</sup>

### Made in America versus Global Competition

The decline in confidence in once-invincible “made in America” products became a critical issue. The manufacturing community developed a new interest in what production and operations managers do and how to improve it. Today American firms are searching for new ways to manufacture and deliver quality goods and services.

The book *Made in America* starts with the statement, “To live well, a nation must produce well.”<sup>6</sup> In the United States fears of economic decline have been linked to the nation's inability to manage production and operations efficiently over the past two decades. Critics claim that America does not produce as well as it should or as well as some other nations (e.g., Germany, Japan, and Korea) do. The Global Exchange on the next page examines how U.S. productivity stacks up with the rest of the world.

Why must the United States find new manufacturing methods? Traditional mass production methods have been changing as other countries, such as Germany and Japan, have used alternatives successfully. For example, the Japanese auto industry's success is based on a system different from Detroit's. The Japanese make products that are different in color, shape, and weight for each market segment. They have had to develop manufacturing technologies, job designs, and work flows that allow them to reduce production volume while increasing their speed in bringing new products to market. The Japanese emphasize quality, service, and cost.

## GLOBAL EXCHANGE

## THE GLOBAL PRODUCTIVITY CHALLENGE

Says General Electric CEO Jack Welch, "For a company and for a nation, productivity is a matter of survival." Basically, rising productivity means a higher standard of living for a nation. For over 120 years productivity in manufacturing, farming, mining, construction, and transportation has risen in developed countries at an annual rate of 3 to 4 percent. These gains have meant a great deal to these nations and their citizens—increases in disposable income and purchasing power, better education and health care, and more leisure time.

U.S. manufacturing and services rank first in productivity throughout the world. In 1990 the average American worker produced \$45,000 worth of goods and services, compared to \$37,850 for the average German worker and \$34,500 for Japanese workers, who work more hours per year. To retain the world's highest standard of living, American factories, stores, and offices must continue to be the most productive in the world.

Even though America's workers are the world's most productive, the nation's lead is eroding. U.S. productivity is improving more slowly than ever before and slower than its rivals'. Despite efficiency improvements and cost containments of recent years, the United States lags behind nations such as Germany, Japan, Britain, and France in productivity growth. Nations like Korea and Taiwan are also making big gains in productivity, raising their competitive position in the world. And while American business does a good job increasing productivity by cutting inputs like labor, firms need to improve outputs by investing in people and innovation. Finally, productivity growth has been stagnant in the largest section of the economy—services.

Many are concerned that unless these trends are reversed, America's standard of living will fall.

No one knows for sure why America's productivity growth has stagnated. As a result of takeovers, process redesign, and downsizing, American manufacturing is more productive than ever. The problem is that American factories are not increasing output as much as this increased efficiency would allow. The more corporate America tries to increase productivity, the more elusive that goal becomes. From 1980 to 1990 U.S. industrial output rose only three quarters as fast as manufacturing productivity, compared to Japan where both industrial output and productivity grew in tandem. U.S. manufacturers not only cut payrolls, they also cut capital spending and research. One result, for instance, is that on average, a machine tool in an American factory is seven years older than one in Japan; but new computer-controlled tools are much better than older equipment.

Businesses have learned how to cut costs or inputs. But to improve America's productivity problems, outputs must also be increased. The huge federal deficit, a major source of disinvestment, is one place to start. The government must also develop policies that encourage capital formation, research, training, education, and entrepreneurship. Investments must also be made in workers. Not only are educated and highly trained people more productive; they also attract better jobs.

Source: Adapted from Thomas A. Stewart, "U.S. Productivity: First But Fading," *Fortune*, October 19, 1992, pp. 54–57; Peter F. Drucker, "The New Productivity Challenge," *Harvard Business Review*, November–December 1991, pp. 69–79; and Karen Pennar, "The Productivity Paradox," *Business Week*, June 6, 1988, pp. 100–2.

Henry Ford's comment, "The customer can have any color as long as it's black," is often quoted to illustrate that Ford didn't understand his customers. But according to Peter Drucker, few people understand what Ford was actually saying: flexibility costs time and money, and the customer won't pay for it.<sup>7</sup> General Motors, by offering customers both colors and annual model changes at no additional cost, was able to beat Ford.

Today most manufacturers have learned to do what GM did in the mid-1920s, and some have gone even further in combining flexibility and standardization. Yet some manufacturing people continue to think, like Henry Ford, you can have standardization at low cost or flexibility at high cost, but not both. The successful factory of the future will have both at low cost. Put another way, craftsmanship has returned. Consumers will order high-quality products to their specifications. But instead of being made by hand, the products will be produced in flexible, high-tech factories.

How to increase flexibility and speed product development is a top priority of all managers, especially those in production and operations. Compaq, Boeing, Merck, Microsoft, Honda, 3M, and Toyota are known for their ability to develop, manufacture, and market what consumers want, when they want it, at an affordable price for a specific group of customers. Typically these innovative product developers are global, and 35 to 70 percent of their sales come from outside their home market.<sup>8</sup>

In the search for new and better manufacturing methods, production and operations managers are playing more significant roles in their organizations. As markets and tech-



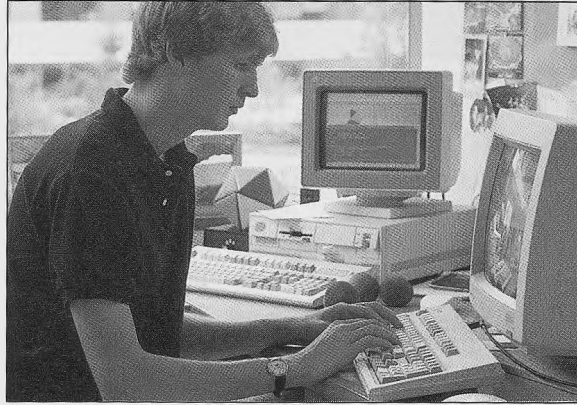


Photo courtesy of Microsoft Corporation

Increasing flexibility and speeding product development helps Microsoft produce what consumers want, in a timely fashion, and at prices they can afford.

nologies globalize, these managers increasingly need to understand foreign customers' needs, preferences, and price limitations. The basis for successful global competition lies in the successful adaptation of the production and operations functions of American business. Unless production and operations can restore the stature of goods and services made in the United States, the economic quality of American life is likely to suffer. Products that cannot compete in the global market in terms of quality and price are unacceptable for the future of U.S. business.

## ■ THE ROLE OF THE PRODUCTION AND OPERATIONS MANAGER

Production and operations managers are responsible for producing the goods that business needs to sell. There are many kinds of production and operation systems, just as there are many kinds of products—goods and services—wanted by people in the marketplace. Production and operations vary in size from a single person in a very small company like family-owned baker L'Madiellenes to thousands of employees in a huge multinational corporation such as Procter & Gamble.

Every business's production goals focus on producing products—and producing the best, the fastest, and at the least cost. Thus the production and operations manager must produce with effectiveness and efficiency while maintaining quality control. Richard Bodine, president of Bodine Corporation, knows about speed, efficiency, and effectiveness. He manufactures assembly lines for organizations. His firm is now working on an electromechanical system that will assemble 2,400 alkaline batteries per hour. Bodine manufactures about 30 machines a year at a rate that is fast, efficient, and results in high quality.<sup>9</sup>

A production and operations manager's job is to see that the operations necessary to achieve the company's production goals are carried out. To do this, these managers oversee a number of company operations. Typical functions include:

- Product planning.
- Site location and layout.
- Inventory control.
- Purchasing and materials management.
- Manufacturing and production.
- Production control.
- Quality control.
- Plant management.

## REFLECTIONS BY PHILIP B. CROSBY

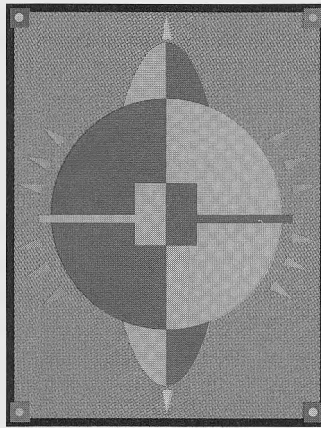
## MANAGING PRODUCTION AND OPERATIONS

When people discuss quality and operations, a question that always arises concerns the cost of doing things right. Someone always asks about the situation where they would have to invest money in order to meet their current requirements. As it is now, people just toss out a portion of the output and feel they are making a sound economic decision. The way they describe the case, it always sounds like a fine management option. In reality the pain of trying to get money out of senior management justifies almost any action in their minds.

For many years I carried a bright shiny \$100 bill in my wallet as preparation for this question. When anyone described such a situation, I would bring out the money and offer it to them if they could show me that what they were doing was financially correct. Forget ethical or quality policy; I would pay off on economics. Without exception, and in dozens of cases, it turned out that they were not counting the true cost of such a practice.

One questioner took me up on it and we journeyed out to the shop floor where he showed me the operation in question. The electronic component involved was programmed by a machine and then tested by another. The programming machine was not quite capable of meeting the full range necessary, but a new one would require a capital expenditure of several hundred thousand dollars. To get around this they had set up a checking operation where an operator tested each component and then returned those found wanting. These were processed through a special rework machine that had been built in the engineering laboratory, and then were tested again. About half of these passed; the rest were discarded.

"The cost of doing this is much lower than buying a new machine," said my host. "We've checked it out. You can hand over the \$100 now if you wish."



I cautioned him about jumping to conclusions and asked the operator how many were rejected on the first pass. He said that at least 20 percent failed and less than half of them responded to the rework. I suggested we agree that the process contained a 10 percent final scrap rate. Thanking the operator, we moved over to the quality engineering office and I asked the systems analyst about returns from the customers. It turns out that they amounted to another 10 percent, mostly due to marginal programming.

While we were mulling this over, the quality engineer volunteered that she had been drawing up a report on the failure rates in all the operations. Technology was becoming more demanding, she noted, and the shop's instruments were not able to keep up with it. Therefore they were doing more evaluations that let them assume a rate of failure based on economic considerations. My host did not know about this and questioned the engineer sharply. She stood her ground.

"We know this is not in line with the quality policy, but it is the actual practice. We cannot ignore it, and apparently it makes sense from a cost standpoint."

"Do you know the cost of operating your whole shop?" I asked the manager. He nodded and gave me a large figure.

"If you are establishing a practice that is going to waste 20 percent of that cost in labor, materials, overhead, and customer returns also, then that is a lot of money down the chute," I noted. "That one operation we looked at is spending a great deal more money than proper machines would cost. But worse than that, the whole operation is being infected. It is like going back to 1958."

I still have my \$100.

The idea of a well-designed operation is to have it proceed with its task without any special attention or interruption.

In moderate-sized firms, the production and operations manager is often a vice president who reports directly to top management; managers or supervisors representing the preceding functions report to the production and operations manager.

Production and operations managers have product planning responsibilities such as preparing forecasts, schedules, and budgets in collaboration with top management, finance, and marketing. In start-up operations, they oversee site location and layout. They

also oversee the hiring, training, and development of personnel for departments involved with production and operations. Working with all other departments in the company—especially marketing, physical distribution, warehousing, and shipping—is important as well.

## Organizing the Production Process

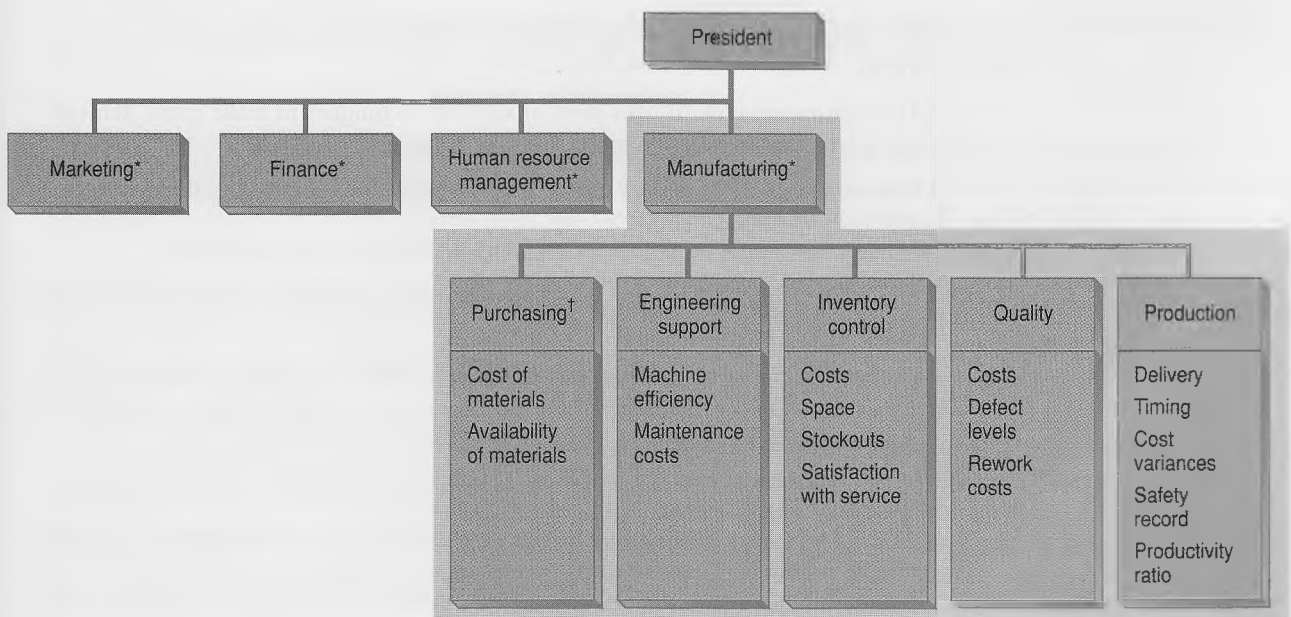
Chapter 9 presented different ways to organize, depending on needs, types of production, strengths and weaknesses of company managers, and the like. Titles vary also. The inventory control manager in one company may be called the purchasing and inventory control manager in another company. Knowing the exact titles and type of organization in place enables managers to have appropriate expectations and communicate effectively. Production and operations managers must fit into different types of organizations.

**Traditional Organizations** The organization chart in Figure 17–2 follows the traditional or job-shop form. It gives each manager a specific area of authority and responsibility; but it can also pit managers against each other. For example, if a purchasing manager has budgeted \$50,000 for a quantity of a specific part and the inventory control manager must order them on a rush basis for \$60,000, the purchasing manager's responsibility and authority are subordinated to the inventory manager's needs. Andy Grove (CEO of Intel, the world's largest semiconductor company) believes that companies structured the traditional way will have a difficult time thriving in the future.<sup>10</sup>

Figure 17–2 shows typical departments in this type of organization and some common measures used in judging departmental performance. For example, the quality manager's performance would be appraised on the basis of costs, defect levels, and rework costs.

**Cellular Organization** In the past decade more and more companies have begun to use a cellular organization. Here workers cooperate in teams (cells) to manufacture total

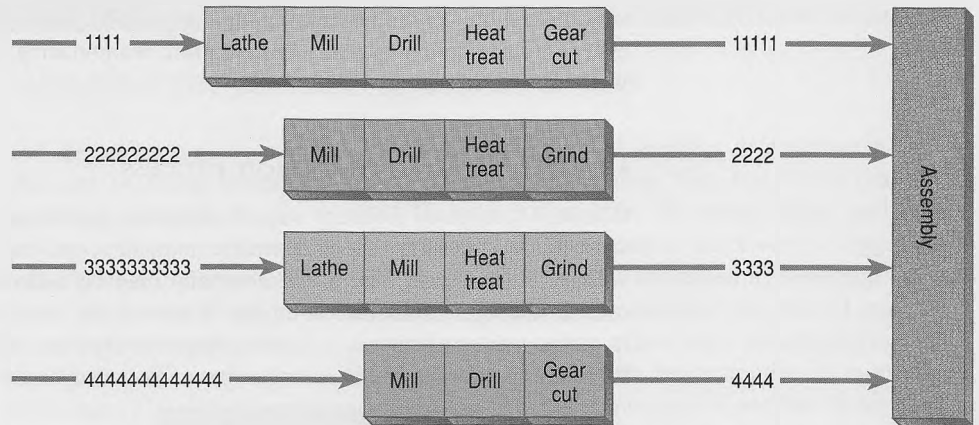
FIGURE 17–2  
Traditional Manufacturing Organization



\* Each function would have a complete structure if chart were presented in full.

† Examples of performance measures are shown below each departmental grouping.

FIGURE 17-3  
Cellular Manufacturing Layout



Source: Reproduced from D. Fogarty and T. Hoffman, *Production and Inventory Management*, p. 472, with the permission of South-Western Publishing Co. Copyright 1983 by South-Western Publishing Co. All rights reserved.

products or subassemblies. Each cell is responsible for the quality and quantity of its products. Each has the authority to make adjustments to improve performance and product quality. Figure 17-3 illustrates how, in the cellular arrangement, machines are arranged to handle all of the operations needed to assemble the products. The parts follow a path through each cell to final assembly.

The basic difference between the cellular and the traditional organization is that workers in the cells are all responsible for their output. The linear competitiveness of the traditional structure is avoided. Instead each individual is pressured to perform so that the group will succeed. Cells tend to be tightly self-monitoring and self-correcting. In a cellular organization companies tend to have much smaller staffs overall, with middle management positions reduced and lean management numbers at the top.

**Process and Project Manufacturing** How a company organizes may be related to the type of manufacturing carried on. *Process manufacturing*, for example, is carried on in various forms. This type of manufacturing applies various processes, or methods, to change materials into finished goods.

- The *assembly process* puts parts together to form whole products, such as cars and trucks.
- The *continuous process* uses mass production techniques to make many items of one kind, such as roller bearings, nuts, or bolts.
- *Intermittent processing* uses one process for a batch of goods, and then changes processes to produce goods having some differences from the earlier batches (e.g., stainless steel restaurant kitchen drainboards and fitted metal cabinets).
- The *analytic process* breaks down materials into components to extract the parts needed, as in oil refining and smelting.
- The *synthetic process* brings items together to create an entirely different product. For example, in the synthetic fabric industry and the rubber industry, materials are changed by chemical and heat processes before being formed.
- The *extractive process* removes a product from raw material, as in coal mining.

*Project manufacturing* usually involves very large projects for which materials and workers must be removed. There is no assembly line or workstation layout within a factory or shop; the product is built in place. Examples include the building of large ships, large printing presses, and high-rise offices.

## Planning Site Location and Layout

When a company starts up or opens a new branch, the production and operations manager is heavily involved in planning the site location and layout. Company officers, engineers, and heads of departments add their ideas and lists of requirements.

**Site Selection** A site may be bought or leased with or without a building already in place. If the site is to be leased, all managers involved should make their plans and submit their needs to a commercial or industrial real estate broker. The broker then submits a list of properties available in the area within the price range required. Sites may come with a “build to suit” lease or may be a turnkey location whose building and interior facilities are already completed.

The type of business dictates the kind of facility. Service sector businesses often require small office facilities in heavy-traffic areas convenient to customers or to the electronic communications and other services the business itself requires. Heavy industry, on the other hand, requires vast space near ship operations as well as transportation to market. A production and operations manager’s plan for site location considers most if not all of the following factors:

- Economies of cost or other economic advantages for land, buildings, or units.
- Taxes, insurance, and other costs.
- Nearness to related industries and suppliers, warehouses, and/or service operations.
- Availability of an appropriate labor force, considering such factors as quality and cost.
- Availability of economical transportation for materials and supplies as well as for finished goods.
- Nearness to market for goods.
- Air and water conditions.
- Nearness to plentiful, economical energy services.
- Climate and environment that’s in line with the industry’s needs and is amenable to employees’ lifestyle.
- Ample space for firm’s current and future needs.
- Nearness to such employee needs as housing, schools, mass transportation, religious facilities, day care, shopping, and recreational facilities.
- Community receptiveness.

Some site choices may be based on the overriding advantages of one factor, such as availability of labor or market, or low cost of land. In recent years, for example, many American companies have chosen to locate in Mexico because of the low costs of facilities, land, and labor. Clothing manufacturers have settled in Korea and Taiwan because of abundant cheap labor. Another increasingly popular production site is eastern Europe. Major changes in the business climate and a large untapped market have made the former Soviet Union, Poland, Hungary, and other central and eastern European countries intriguing options for joint ventures and new plants.

**Site Layout** Just as it dictates the kind and location of facility, the type of business will determine the layout of the site selected. For each kind of business, production and operations managers must meet different needs. Different kinds of production require varying space for assembly lines, workstations, or other specific arrangements for work layouts.

The manager must plan the layout in detail before the site is chosen. The plan must account for the needed square footage, work areas, office and conference areas, storage,

and shipping needs. To draw up specific plans, managers use templates, models, drawings, and the latest computer techniques.

The case of a small manufacturer in a Chicago suburb illustrates how site layout decisions are made. After carefully considering a number of sites, management decided on the suburban Chicago location, which had around 100,000 square feet of interior space plus three recessed loading docks and one enclosed loading dock. The company distributes finished goods by direct mail and in private-label batches for other companies. All finished goods are transported by truck from the facility. The interior layout required office space for top management, finance, marketing, design and pattern making, conferences, order handling, customer service, billing, accounting, and personnel management. In addition, the firm needed work areas for cutting, assembling, sewing, finishing, labeling, storing, and packing and shipping. Due to humidity and extreme temperatures, all interior work and storage areas required heating and air-conditioning. At least one enclosed loading dock was required for shipping in subzero temperatures or heavy rain and snow. The shape and layout of the building chosen was well suited to the company's particular kind of assembly process.

## Managing Materials, Purchasing, and Inventory

Materials management, purchasing, and inventory control cover the planning, ordering, and internal storage and distribution of supplies and materials needed for production. Other names used for these areas include *material handling*, *procurement*, *supply room management*, and *inventory management*.

Some variations occur in the way authority and responsibility are organized. In some companies the purchasing department purchases every good or service bought from outside sources. In others the purchasing function covers only those materials and supplies used in the actual production process.

In large companies the materials manager may oversee the functions of purchasing and inventory control, or inventory control may be part of production control, depending on its scope. Inventory control may handle only inventory of components and subassemblies, or it may cover all inventories—of supplies, raw materials, components, and subassemblies, and even finished products.

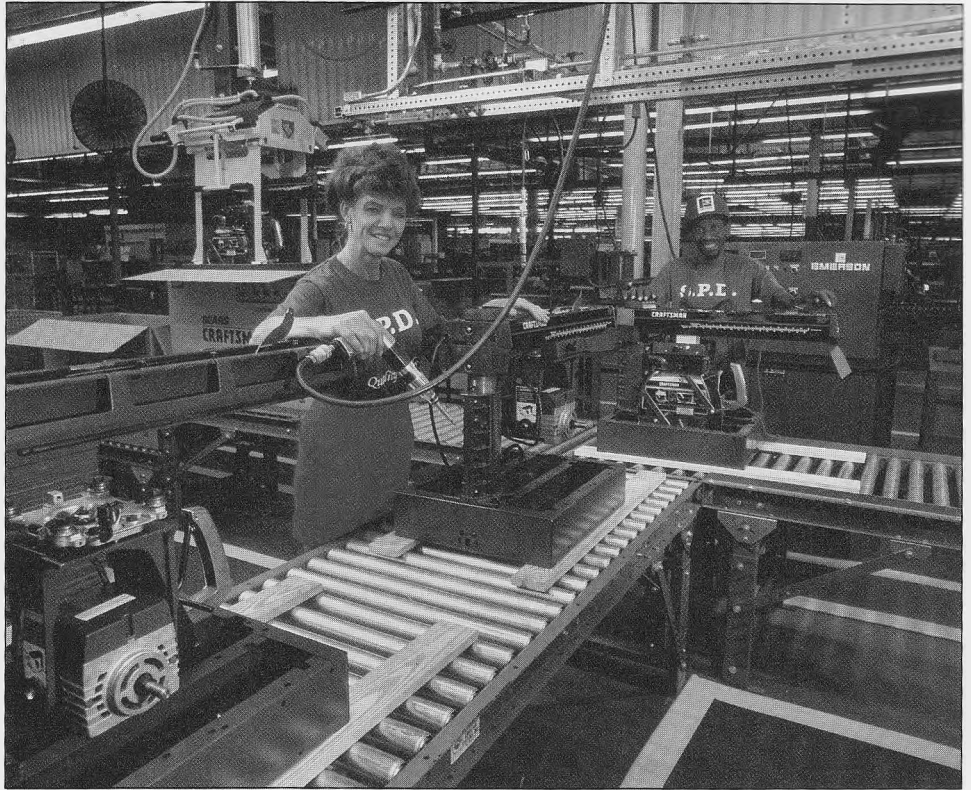
In recent years two important systems have been created to handle materials management and inventory control. Just-in-time (JIT) inventory control and materials requirements planning (MRP) have greatly refined the degree to which materials and inventory control can be managed and scheduled.

The just-in-time inventory control approach was developed by Taiichi Ohno at Toyota Motor Company of Japan.<sup>11</sup> **Just-in-time (JIT) manufacturing** requires that the exact quantity of defect-free raw materials, parts, and subassemblies are produced just-in-time for the next stage of the manufacturing process. This concept extends backward to suppliers and forward to the final customer. JIT's goal is to match the output of manufacturing with market demand, eliminating waste.<sup>12</sup>

An efficient JIT system can result in low inventories of purchased parts and raw materials, work in process, and finished goods. It saves warehouse and work area space while lowering the costs of carrying large inventories. Reducing inventory can also expose other production problems. A sometimes tardy supplier can be covered if the firm carries a large inventory. Smaller inventories spotlight the efficiency of all sources. A delinquent supplier will be replaced.

When production and parts deliveries are organized on a JIT basis, quality is critical. Defective parts slow the process and defeat the very purpose of JIT. As noted in Chapter 1, *zero defects (ZD)* is a performance standard developed by Philip B. Crosby to address some organizations' attitudes that mistakes are human and acceptable.<sup>13</sup> By committing themselves to avoiding errors, people can move closer to the goal of zero defects. ZD's aim is to build quality into a product and eliminate costly inspections after production. Jaguar, for instance, reduced assembly line defects by 80 percent in two years.<sup>14</sup>

**just-in-time (JIT) manufacturing**  
A system requiring that the exact quantity of defect-free raw materials, parts, and subassemblies are produced just in time for the next stage of the manufacturing process.



Emerson Electric Company

Companies like Emerson Electric use just-in-time inventory to reduce inventories of raw materials, work in progress, and finished goods.

Team-based work groups and quality management are generally part of JIT manufacturing. Because JIT systems have little margin for error, both upstream workstations and suppliers outside the organization must deliver on time in the right quantity with no defects.

Since JIT systems have little finished goods inventory, machine breakdowns are costly. Thus careful attention to maintaining efficient equipment becomes a high priority. Machines must be in top working order to fulfill the JIT demands. A top-quality repair team that can move into immediate action must be available if JIT is to work effectively.

**Materials requirements planning (MRP)** is a computer-driven system for analyzing and projecting materials needs and then scheduling their arrival at the work site at the right time. MRP works closely with the master production schedule (which we'll discuss shortly) and takes into account such variables as lead time in ordering.

MRP focuses on "getting the right materials to the right place at the right time." In most cases, making "right" decisions requires a computer to handle all of the materials and components involved. The MRP program analyzes data from inventory, the master production schedule, and the bill of materials. The output includes inventory status, planned order timing, and changes in due dates because of rescheduling.

MRP is used in companies involved in assembly operations. Firms that produce large volumes of tools, generators, turbines, appliances, and motors are particularly attracted to MRP. It is also useful in companies that order a high number of units.

Together JIT and MRP provide a system that saves time and dollars. They have helped managers control the amount of inventory required to keep production moving smoothly. With JIT and MRP, suppliers of parts and subassemblies can plan in much closer time tolerances. In very large operations, such as the Detroit auto assemblies,

#### materials requirements planning (MRP)

A computer-driven system for analyzing and projecting materials needs and then scheduling their arrival at the work site at the right time.

nearby suppliers are actually hooked up by computer to follow the progress of assembly line work. From this vantage point, their trucks can arrive nearly at the moment the materials are needed. Lead times on orders are greatly reduced, and costs of storing inventory drop sharply.

## Scheduling

The production, or manufacturing, manager is responsible for the company's main goal: producing goods in the amounts and sequence planned and on schedule. This function is critical to the firm's success. Three elements of management—planning, organizing, and controlling—can be clearly seen in the production manager's tasks. Planning the use of labor, facilities, and materials for fulfilling the production schedule is a complex, ongoing task. The manager will usually have more than one product to plan for, with the resultant needs for changes in materials, production processes, energy, and labor.

A *master production schedule* must be created. It will show when the manager plans to produce each product and in what quantities. The production manager is responsible for meeting the dates, quantities, and cost commitments on the schedule. The master schedule will affect the efforts and success of every department in the company. Therefore it should also reflect the needs of the finance, marketing, shipping, and all other departments.

Production managers must plan for flexibility to be able to change from one process to another on short notice. They may use a number of tactics to meet emergencies or make changes in the plan. Requesting overtime, hiring temporary workers, cross-training workers so they can do more than one job, and many other methods are available.

Flexibility as well as adherence to schedule can be achieved with the use of the **program evaluation and review technique (PERT) chart**. PERT was developed in the 1950s from the joint efforts of Lockheed Aircraft, the U.S. Navy Special Projects Office, and the consulting firm of Booz Allen & Hamilton. They were working on the Polaris missile project and wanted to provide the United States with an advantage over what was then the Soviet Union in time of completion.

An important part of PERT is the construction of a chart, a graphical system for tracking events that must take place to accomplish a task. A PERT chart is one of the most effective tools of modern management. To create one, five steps are followed:

1. Break the project to be accomplished into events or completed actions; label each with the amount of time needed to do it.
2. List the first event of the task.
3. List the event that follows the first one; draw a line with an arrow from the first event to the next one, showing the sequence. (If two events follow, draw arrows to both events to show that one event leads to two, or even more, events.)
4. Chart all the events needed to complete the project in the same way, to completion.
5. Label the arrows with the amount of time it takes to complete each activity.

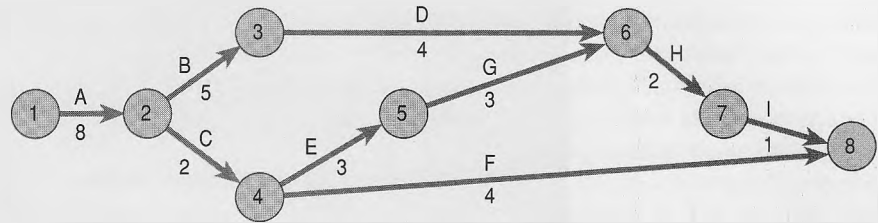
Figure 17-4 presents a PERT chart for the replacement of a machine in a manufacturing plant. The letters represent the activities necessary to replace the machine. The numbers in the circles represent completed activities, called events; number 1 is the origin of the project. For instance, B represents securing bids and awarding contracts; 3 represents that bids have been secured and contracts awarded. Each activity is also assigned an expected time for completion; removing existing equipment is expected to take two weeks.

As Figure 17-4 shows, some activities must be completed before others, while some can be completed simultaneously. The prerequisites are shown in the figure. For example, specifications must be prepared and old equipment must be removed before painting. All activities must be accomplished before the final event, rescheduling production. The

program evaluation and review technique (PERT) chart  
A graphical system for tracking the events that must take place to accomplish a task.



FIGURE 17-4  
Example of a PERT Chart



Activity	Description	Completion Time (days)	Prerequisites
A	Prepare specifications	8	None
B	Secure bids and award contracts	5	A
C	Remove existing equipment	2	A
D	Train operators for new machine	4	A, B
E	Electrical modifications	3	A, C
F	Paint	4	A, C
G	Install machine	3	A, C, E
H	Test machine	2	A, B, D
I	Reschedule production	1	A, B, D, H

longest path from start to completion of the project in terms of time needed to complete the activities is called the *critical path*. In this case, the critical path is 1-2-3-6-7-8, which takes 20 days. Thus the project cannot be completed in less than 20 days.

The PERT chart can be used to track exactly where a product or project is in its development and what needs to be done next to keep it on its path. Bottlenecks can be identified and corrected. For example, if the third event in a sequence always involves a delay, the production manager can identify the problem and make changes as needed.

The PERT chart is only as good in planning as its user's ability to identify all of the steps in a chain of events. Because it helps break down the production tasks into clearly separate segments, PERT also helps to identify needs and uses for computerized manufacturing programs, temporary workers, and overtime techniques. This breakdown is helpful in the current climate of rapid change in production techniques, numbers of products, and kinds of new products. The public presents an ever ready market for newer, more appealing products; getting the products to the consumer is up to the production staff. In the recent past companies could expect to bring out a new product line or new models in the line no more frequently than every year. Now in many industries new products are inserted into the master schedule—and from there into the marketplace—as fast as they can be designed.

## ■ PRODUCTION TECHNOLOGY

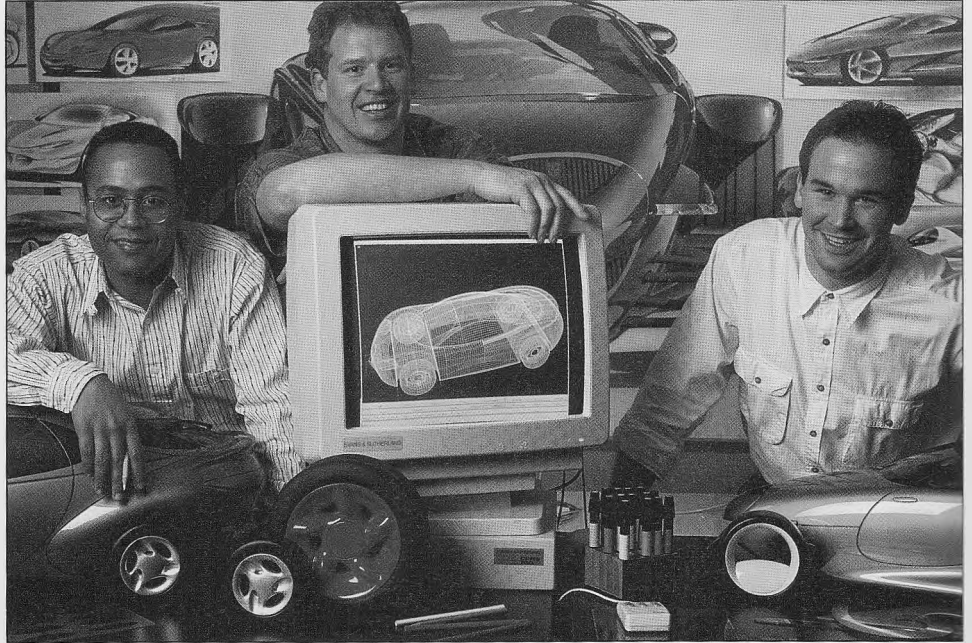
### Computer-aided design (CAD)

The use of computers to draw plans for a product or service.

### Computer-aided engineering (CAE)

The use of computers to plan engineering processes and test designs.

Increased production is achieved not only through efficient planning. Computers have added flexibility and speed to the production process. **Computer-aided design (CAD)** is the use of computers to draw plans for a product or service. **Computer-aided engineering (CAE)** is the use of computers to plan engineering processes and test designs. CAD and CAE have enabled the development of millions of new designs. Designs can be drawn, extended, contracted, added to, or taken from—all within the computer. Engineers can test designs for function and stress and try out variations without the cost or risk of building models or samples. Drafters using CAD can perform many of these tasks once the initial design is developed. The computer does much of the calculation and the drawing in two or three dimensions as needed.



© Alan Levenson

Chrysler's most futuristic cars are built by young designers using CAD technology to direct machines to carve clay models from computer fantasies.

CAD has been used to design products ranging from buildings to potato chips. Dimension Measurement System Inc. has developed a technology that uses CAD to produce suits made to measure. Light is projected onto a prospective buyer from three directions, and digital cameras capture images from various angles. A computer processes these inputs to get three-dimensional contours of the body. These measurements are sent to a CAD pattern maker made by Microdynamics Inc. The pattern maker modifies standard patterns for individual measurements, the CAD data are downloaded to an automatic fabric cutter, and workers sew the garment.<sup>15</sup>

**Computer-aided manufacturing (CAM)** includes the use of computers for controlling the operation of traditional, modified, and electronic machines, including robots. In Japan the Fujitsu plant in Akashi was using robots effectively in the 1980s. The plant specializes in sheet metal manufacture, producing more than 100,000 parts each month for 1,500 different products. The production order, specifying the parts, the number, and the materials to be used, is given to the main computer. The computer then selects the most efficient way to make the parts and creates a layout for the automated shear machines and punch presses to follow. The Fujitsu plant is estimated to be 40 percent more productive with the CAM system, saving approximately \$10,000 worth of material a month.

## Robotics

In the United States the auto industry is the best-known user of robots for manufacture. A **robot** is a computerized, reprogrammable, multifunctional machine that can manipulate materials and objects in performing particular tasks. Robots paint, sand, test, and weld car parts; robots track individual cars on the assembly line and perform dozens of repetitive, exacting, unwieldy, or dangerous tasks.<sup>16</sup>

In 1988 approximately 51 percent of robots in operation in the United States were used in the auto industry. By 1995 that percentage is expected to drop to about 26 percent as robot usage increases in the service sector and other areas. But robots will probably continue to play a significant role in auto production.

computer-aided manufacturing (CAM)

The use of computers for controlling the operation of traditional, modified, and electronic machines, including robots.

robot

A computerized, reprogrammable, multifunctional machine that can manipulate materials and objects in performing particular tasks.

The ability to manipulate other objects makes a robot unique compared to other kinds of computerized machinery. Toshiba Corp. uses robots to manipulate the numerous controls on oscilloscopes (engineers' instruments for testing electronic devices' performance). This lets human engineers concentrate on less tedious and more creative work.<sup>17</sup> Robots also can perform the same tasks, such as welding a piece in place over and over again, hundreds and hundreds of times, without becoming tired or being endangered, as human workers would be in the same function. Robots are therefore used especially in situations that are too repetitive or dangerous for human beings. For example, a robot can be more efficient, consistent, and cost-effective than its human counterpart in the task of opening and closing a car door thousands of times. In applying acid to the surface of metal parts, a robot can perform at a constant pace for thousands of hours without danger or exhaustion.

From the early, simple machines like automated mail delivery carts to the sensor-monitored "intelligent" machines of today, robotics has made a rapid ascent. An estimated 33,000 robots are currently at work in American industry, most of them in the auto, appliance, aerospace, chemical, electronics, food processing, home furnishings, pharmaceuticals, and textiles manufacturing areas. Technologies such as machine vision and tactile sensing promise to expand robot use in service industries such as education, health care, security, and training and development.

## Flexible Manufacturing Systems

Robots and other computerized machines programmed to switch fairly easily from producing one kind of product to another can be grouped in a **flexible manufacturing system (FMS)**. Parts and materials flow to the operation by automated equipment, and finished products are removed automatically. Their flexibility allows FMS to be used for just-in-time inventory control projects as well as for small batches of customized parts or products without raising costs drastically.

The National Bicycle Industrial Co., a subsidiary of Japanese electronics giant Matsushita, has used FMS with great success. Robots, computers, and people work together to make production flexible and responsive.<sup>18</sup> With 20 employees and a design-smart computer, the firm can produce any of 11,231,862 variations of 18 models of racing, road, and mountain bikes in 199 color patterns and about as many sizes as there are people. Production doesn't start until an order is placed. But within two weeks, the customer is riding her personalized bike.

National Bicycle designs and manufactures the bicycle to fit the customer's size, shape, and strength. The bicycle store mails or faxes the specifications to the firm. A computer operator punches the data into a microcomputer. The bicycle is bar coded for one customer. The bar code is fed into the computer that instructs a robot where on the frame to build or what color the bicycle should be painted. The customer's name is imprinted on the frame. A custom-made, personalized bike brings many smiles to a happy customer. Personalized, flexibly manufactured bicycles sell for \$545 to \$3,200, compared with \$250 to \$510 for standard bicycles.

Flexible manufacturing systems (FMS)

A grouping of robots and other computerized machines programmed to switch fairly easily from producing one kind of product to another.

## ■ IMPROVING QUALITY

Computers, JIT systems, production schedules, and robots are all used in production and operations to improve quality, cost, service, and productivity. Improvements in productivity and quality have long-term effects on a firm's success.

The term *quality* and its implications are now very important throughout the industrialized world. Germans brag about their cars' quality. The Swiss praise the quality of their watches. The quality of Italian marble and tile work sets the standard for everyone in that industry. At times quality refers to workmanship or an evaluation such as the Good Housekeeping Seal of Approval. From the consumer's perspective, quality is best

described as “perceived excellence.” It is what a person requires from the product or service. Thus quality is the conformance to customer requirements. This involves finding out what the customer wants, writing it down, training everyone to accomplish it, and then delivering it to the customer on time.<sup>19</sup>

The perception of quality generally depends on how well the product or service meets the evaluator’s specifications and requirements. In judging the quality of a Honda Accord or a Pontiac Bonneville, a car buyer may compare the vehicles on performance, features, reliability, aesthetics, and other requirements before making the purchase decision. Whether the buyer purchases a second Honda or a Pontiac three years later will depend on how well the first car meets his expectations of quality.

As we discussed earlier in this chapter, the quality of American goods—unquestioned before and just after World War II—slipped in the 1960s, 70s, and 80s. Many reasons have been advanced for this. The postwar economic boom created a seemingly ever-expanding market as demand for goods and services rose. Consumers—looking for the latest models in cars, cameras, tape recorders, and televisions—bought more and faster. Technological change accelerated and business hurried to keep pace, while workers complained they had no time or authority to maintain quality. In the midst of plenty, imperfections in the production process began to erode consumers’ confidence and industry’s optimism.

As American-made goods no longer were seen as top-quality, foreign competitors’ products began to gain acceptance as meeting top-quality standards. In major markets (cars, steel, electronics), this loss of sales cut deeply into the U.S. economy.

Greater competition increases the importance of high quality. For example, foreign competitors—Toyota, BMW, Daimler-Benz, and Volvo—have stimulated the American auto industry’s current quality improvements. Meanwhile the Japanese are again redefining and expanding the notion of quality. Their newest concept is called *miryokuteki hindshitsu*: making cars that are more than reliable—cars that fascinate, bewitch, and delight.<sup>20</sup> Japanese engineers are now working to give each car a special look, sound, and feel without sacrificing reliability. They call this the “second phase of quality.”

Former Chrysler chairman Lee Iacocca didn’t surrender the auto market to the Japanese—or to the Germans, French, Italians, or Swedes. He claimed, “Our cars are every bit as good as the Japanese.” And recent recalls of Japanese products, including cars, do raise questions about consistency of quality. Four electronic giants—Sony, Matsushita Electric, Pioneer Electronics, and Toshiba—recalled hundreds of thousands of color TV sets in 1990.<sup>21</sup> Seiko Epson recalled laptop computers that smoked. Toyota had to recall thousands of luxury Lexus cars in the United States because of defects in the cruise control mechanism and in a brake light. Nissan recalled nearly 38,000 cars in Japan. Nonetheless, while Honda Motor Co. recalled one car for every 24 it sold in 1991, both Ford and Chrysler recalled more than three fourths of those they sold.<sup>22</sup> These recalls underscore the principle that working on quality is a continual process. If a product is manufactured correctly in the first place (zero defects), there won’t be a recall.

Consumer pressure, lost market share, good business thinking, and competition, then, all motivate companies (whatever their nationality) to focus on quality.

## Managing Quality Control

The quality control manager may be responsible for defining standards with exact specifications or for issuing guidelines regarding exact specifications set by an outside agency. Standards are set by hundreds of regulating agencies such as the federal Food and Drug Administration (FDA) and Bureau of Standards. These standards affect color, size, shape, taste, texture, durability, and many other properties of goods produced in the United States. From toothpaste to rocket fuel, American products are tested and standardized to a greater degree than any others in the world. Government contracts can be lost and consumer purchasing can fall rapidly if standards are not met.

The quality control manager must select or devise procedures to test products' quality, establish troubleshooting procedures, pinpoint causes of any defects in products, and correct any problems rapidly to minimize losses. Customer complaints or returns of defective products must also be analyzed so that necessary corrections can be made.

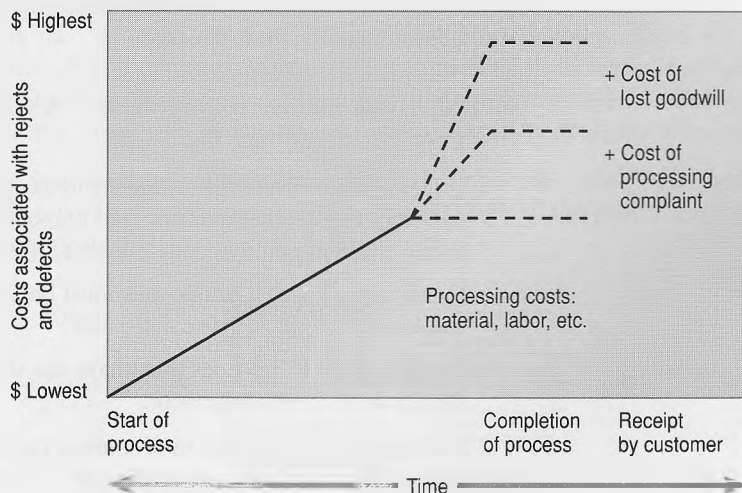
Complaints and returns from customers can build up and result in lost customers and sales. Therefore a quality control expert must develop a system that reduces the chances that low-quality products or services get to the customers. A four-step program can help keep the perception of poor quality from being associated with the company.

**Step 1: Define quality characteristics.** The first step involves defining the quality characteristics desired by the customer or client; this means finding out what customers want. Examining customer preferences, technical specifications, marketing suggestions, and competitive products provides necessary information. Customer preferences are extremely significant since repeat sales likely depend on a reasonable degree of customer satisfaction. A Rolex watch customer wants accuracy, a long service life, and style. But a Timex watch customer has other quality standards and preferences. The Timex keeps reasonably accurate time and sells at a much lower price than the Rolex. Rolex watches' quality characteristics meet and depend on different customer preferences than Timex watches' quality characteristics do.

**Step 2: Establish quality standards.** Once the quality characteristics have been defined, the next step is to establish the desired quality levels. Quality standards serve as the reference point for comparing the ideal to what actually exists. Standards for factors such as size, color, weight, texture, accuracy, reliability, time of delivery, and support are set by management.

The cost of achieving and sustaining a specific level of quality must be estimated and compared to the cost of potential rejections. Figure 17-5 represents what is often called the *quality funnel principle*: the closer to the start of the production process, the lower the cost of rejection. As the product or service progresses through the process, more resources are invested; the greater the amount of resources invested, the higher the cost of rejection. The greater cost is incurred when the customer or client is the source of rejection. In that case the cost of processing the complaint and the cost of lost goodwill are added to the cost of resources. For example, complaints about Ford's Pinto were

FIGURE 17-5  
The Quality Funnel Principle



Source: David Bain, *The Productivity Prescription: The Manager's Guide to Improving Productivity and Profits*. © 1982. Reprinted with permission of McGraw-Hill, Inc.

costly in the form of lost repeat sales, customer lawsuits, and recalls to repair defective parts.

In 1979 Crosby's book, *Quality Is Free*, introduced the quality program he established at ITT.<sup>23</sup> Crosby challenged the notion that quality reduces the bottom line. Rather, quality is free, but suffers from the lack of an obvious method of measurement. He argues that the real costs that detract from the bottom line are the costs of inspection and fixing problems plus all other costs associated with not doing jobs right the first time. Nonconformance to customer requirements wastes money. By stating the standards of management in a way that no one can misunderstand them—zero defects—quality becomes the goal of everyone in the organization.

In 1987 the International Organization for Standardization published the ISO-9000 series of quality standards. The ISO standards are international guidelines for the design and development, production, final inspection and testing, installation, and servicing of products, processes, and services.<sup>24</sup> To register, a company must document its quality systems and go through a third-party audit of its manufacturing and customer service processes.<sup>25</sup> ISO-9000 is evidence of a global movement toward quality. While only 621 U.S. firms had registered for ISO-9000 as of 1993, these standards have gained widespread acceptance in Europe. Approximately 20,000 firms from European Community countries are registered under ISO-9000. A growing worldwide acceptance of ISO-9000 and the feeling that registration will be required to do business in Europe and elsewhere are expected to increase the number of U.S. companies that adopt the standards.

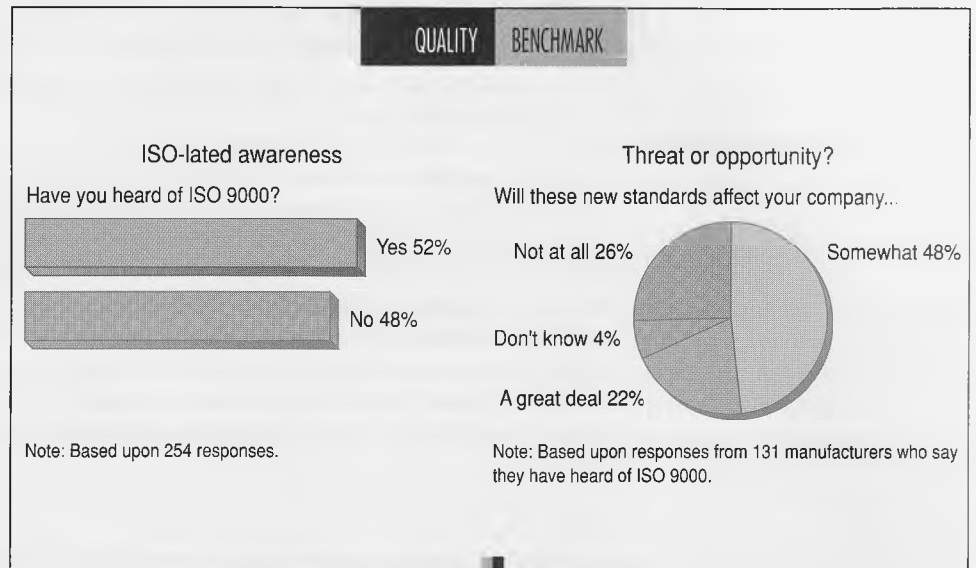
**Step 3: Develop quality review program.** The methods for quality review, where and by whom reviews will be reported and analyzed, and other review procedures must be formalized. One important decision involves how many products will be checked for quality. Will all products be inspected or only a representative sampling? The greater the number of products inspected, the greater the costs associated with quality review. Representative sampling is less costly but creates (1) the risk that more low-quality products will get into customers' hands, (2) a greater likelihood that customer goodwill can be tarnished, and (3) the need to decide on what number of defects or poor-quality products will be acceptable.

Sampling procedures can take many forms. Some organizations use a random spot check. A random selection of the product is inspected for quality. When a formal random spot check is used, the results can be meaningful and can provide adequate control. Other forms of sampling plans using statistical analysis are also available.<sup>26</sup> Decisions about which plan to use involve making inferences about the entire procedure, based on samples. Representative sampling presupposes that defective products will occasionally slip through the quality check network.

**Step 4: Build quality commitment.** A commitment to quality among an organization's work force has three ingredients:

- *Quality focus.* From top management to operating employees, all employees must sincerely believe that quality of all outputs is the accepted practice. Satisfying customer or client quality needs must be all employees' goal.
- *Quality intelligence.* Employees must be aware of the acceptable quality standards and how those standards can be met.
- *Quality skills.* Employees must have the skills and abilities to achieve the quality standards set by management.

Employees' commitment to producing the high-quality output is imperative.<sup>27</sup> It can be obtained with motivational programs. The numerous approaches include job enrichment, goal setting, positive reinforcement, and team development. Participative management (an approach with many adherents) involves employees in important management decisions.



## Benchmarking

American industry today is competing globally, as companies worldwide are eyeing global markets rather than relying on domestic markets. The United States must sell abroad to pay for the goods and services it purchases abroad and for the money it has borrowed from abroad. To compete successfully for foreign markets, the United States must explore foreign innovations such as the Japanese auto industry's as well as manufacturing technologies being developed abroad.

For decades American businesses largely ignored technological innovations coming from foreign labs and companies. Most production and operations experts scoffed at Korean steel-processing procedures, Japanese inventory systems, Swedish assembly line team concepts, and Taiwanese electronics procedures. But today more and more U.S. managers are scanning foreign projects, activities, and innovations. Importing ideas and methods of potential benefit is becoming an accepted practice. At Xerox, for example, every department is expected to conduct a global search for the firm or organizational unit that performs its function best. This performance level then becomes the target for Xerox.

This process is referred to as *benchmarking*. As we noted in Chapter 4, benchmarking is the continuous process of measuring a firm's goods, practices, or services against those of its toughest competitors. Benchmarking is perfectly legal and enables a firm to establish operating goals and productivity objectives based on the best practices in the industry. Successful benchmarking requires three fundamental activities:

- Know your operation and assess its strengths and weaknesses. This involves documenting work process steps and practices and defining the critical performance measurements used.



The unprecedented Xerox three-year Total Satisfaction Guarantee is the industry benchmark for product quality and reliability. Since September 5, 1990, customers who have purchased Xerox equipment can decide for themselves whether that equipment is working to their satisfaction. If they decide it is not, Xerox will replace the equipment with an identical or comparable unit — at no charge.

Xerox Corporation

The Total Satisfaction Guarantee has helped Xerox become the industry benchmark for product quality and reliability.

- Know industry leaders and competitors. Capabilities can be differentiated only by knowing leaders' strengths and weaknesses.
- Incorporate the best and gain superiority. This involves emulating and surpassing the strengths of the best.<sup>28</sup>

There are several different types of benchmarking, including internal, functional, and competitive. *Internal benchmarking* involves comparing divisions within an organization. *Functional benchmarking* involves studying the best companies for a particular function, regardless of their industry. *Competitive benchmarking* is the measurement of direct competitors' activities. Many companies use one or more of these benchmarking techniques. Manco, Inc., manufactures tape, weather stripping, and mailing supplies. Manco studies service leaders to learn their standards and emulate their strengths. Not only does Manco benchmark its major competitor (3M), it also studies other service leaders like Wal-Mart. And other leading firms like P&G benchmarks against Manco.<sup>29</sup>

## Quality Circles

As noted in Chapter 9, quality circles are based on the belief that the people who work with the process are best able to identify, analyze, and correct the problems in any given production situation. They originated in Japan in 1962 and were expanded into a highly developed system by Japanese firms. Quality circles usually consist of 10 or fewer people working in a related area. They meet about once a week and discuss the flow of work, its problems, and potential solutions. Participation in the circle is voluntary, and the workers establish a moderator or team leader to lead discussion. The group's findings and proposals are forwarded to management.

Experience with quality circles suggests that several preconditions are required for success. First, those involved must be intelligent. They must know how to use statistics and work design analyses. They must know the technical aspects of the job. Second, management must trust the participants enough to provide them with confidential cost information (from competition). Third, participants must be dedicated to working together as a team. They must have a team spirit, since groups, not individuals, are rewarded for success. Fourth, quality circles work best as part of what is called *total quality control*. This philosophy follows three principles: (1) The goal is to achieve a constant and continual improvement in quality year after year. (2) The focus extends beyond the actual product or service that a firm provides, to every process in the organization (e.g., finance, accounting, research and development). (3) Every employee bears responsibility for quality improvement.

Implementing total quality control involves the same steps used to develop the quality control system. But the breadth of the quality focus—that every employee is responsible—and the challenge of continual improvement require extra effort.

The extra effort has paid off in the Metal Stamping Division of Irvin Industries, Inc., of Richmond, Kentucky. After receiving quality improvement training, the firm declared that quality was a must and that each quality circle would set a goal of zero defects. Each Irvin employee has accepted the goal and is working to achieve zero defects.<sup>30</sup> Quality circle improvements have resulted in many cost savings, a reduced injury rate, and increased morale.

Quality is also important in services. If a plastic surgeon performs a poor-quality surgical procedure on a patient's face, permanent disfiguration can result. Businesses trying to provide quality service need to use every single step of the process applied to product quality control.

Service quality is of concern at the former Soviet Union's Aeroflot Airlines.<sup>31</sup> Described as the world's biggest airline, Aeroflot carries about 5 million passengers annually. Statistics and glossy promotion booklets boast of excellent services to and from 99 countries. In reality, Aeroflot's reputation among most Eastern European and Western passengers is that it provides the poorest service of any world-class airline: overbooked



flights, long lines to make reservations, poor or no food service, shortages of trained flight attendants, and old equipment. As the former Soviet Union moves toward a market-driven economy, the airline must totally overhaul its view of service quality and delivery to be competitive in the international marketplace. To accomplish this Aeroflot has teamed up with British Airways to launch a new international airline called Air Russia.<sup>32</sup> (Services are detailed in the next chapter.)

## Quality Control versus Quality Management

In this section we have discussed several techniques for controlling quality. We also noted that it is the production and operations manager's job to improve (or manage) quality. Unfortunately concepts of quality control and quality management are often confused. This confusion is the source of many problems that organizations encounter with quality programs or total quality management. Some firms find that quality is a long-run commitment and abandon quality initiatives. Plagued by poor earnings, McDonnell Douglas Corp. embraced TQM, only to drop the program in less than two years, declaring it a failure.<sup>33</sup> A study conducted by Ernst & Young found that many businesses waste millions of dollars on quality-improvement strategies that don't improve performance.<sup>34</sup> In part these failures can be attributed to the presence of quality control with the absence of quality management.

Quality *control* is based on statistical actions and techniques that contain or reduce the nonconformances of processes by applying a series of screens.<sup>35</sup> This involves applying statistical techniques to control a process. This chapter's appendix summarizes seven common statistical tools. The key issues in quality control is understanding the variability in key measures of a product or service. First, variability is controlled with specified limits; then it is reduced further.

In contrast, quality *management* is a commitment to run the entire organization based on prevention, so there is nothing to screen out.<sup>36</sup> Quality management includes quality control as one of its functions, but also includes other activities like benchmarking, continuous improvement, and quality teams. While quality control was developed to contain nonconformances within a manufacturing process using statistical tools, quality management attempts to eliminate the nonconformance (zero defects).

Quality control remains an effective way to run a manufacturing process, but it is not a management system. Quality control's weakness is that it cannot be totally effective all the time, so errors are acceptable. It is management's job to create a culture of prevention in an organization. This function cannot be delegated to technicians or workers. The idea is to help everyone in the organization concentrate on doing their job right the first time. Without quality management, an organization's efforts to improve or control quality are likely to fail.

## ■ IMPROVING PRODUCTIVITY

The rate at which goods and services are created (output per labor-hour worked) is called *productivity*. In a healthy economy, productivity must be high and also steadily increasing. One common measure of productivity, *labor productivity*, is expressed in dollars of output (adjusted for inflation) per hour worked. Another important factor in output is technology and how employees use it. Labor and technology combined generate the outputs that are priced and sold to consumers.

Amid increasing labor, material, and opportunity costs plus uncertain world events, fast technological change, and shifting investment policies, a firm's productivity must continually increase for it to stay in business. The challenge facing managers and non-managers in firms of all sizes is immense. Ignoring either quality or productivity improvements is likely to result in lost markets, layoffs, foreclosures, and general business decay. Because the labor force will increase slowly in the 1990s, America will need

2 percent annual productivity gains for decent economic growth.<sup>37</sup> Consumers are demanding more quality, and companies need to improve the output per labor and technological input. This will require U.S. industries to take the offensive and invest in new technology and world-class production equipment.<sup>38</sup>

From a manager's perspective, a motivated employee works hard, sustains that pace, and is self-directed toward meeting challenging goals. Productivity improvement can only occur through such motivated employees. A quality circle program, a total quality control system, and a productivity improvement strategy all need motivated employees to implement and sustain them.

Thomas Peters and Robert Waterman, in their book *In Search of Excellence*, point to the success of companies that have put the responsibility for quality on every employee and backed it up with management commitment to job security, meaningful profit sharing, and recognition. They cite companies such as Dana Corporation, a midwestern manufacturer of propeller blades and gearboxes. Through the leadership of then chairman Rene McPherson, Dana Corporation became the number 2 Fortune 500 company in returns to investors. McPherson points out:

*Until we believe that the expert in any particular job is most often the person performing it, we shall forever limit the potential of that person, in terms of both his own contribution to the organization and his own development. Consider a manufacturing setting: Within their 25-foot-square area, nobody knows more about how to operate a machine, maximize its output, improve its quality, optimize the material flow, and keep it operating efficiently than do the machine operators, materials handlers, and maintenance people responsible for it. Nobody.*<sup>39</sup>

This attitude, according to Peters and Waterman, is expressed in one way or another by the best of the American corporations. At Delta it's the "Family Feeling," at Hewlett-Packard the "HP Way" and "Management by Wandering Around." The authors define the attitude as "tough-minded respect for the individual and the willingness to train him, to set reasonable and clear expectations . . . and to grant him practical autonomy to step out and contribute directly to his job."<sup>40</sup>

## ■ MAINTAINING SAFETY FOR EMPLOYEES, PRODUCTS, AND THE ENVIRONMENT

A productivity and quality improvement strategy and motivated workers are key ingredients for business success. But these can be diminished if the company shows little regard for the environment or sacrifices safety. It is important to improve productivity and quality without jeopardizing the well-being and future of the employees or the environment.

### Employee and Product Safety

Chapter 3 had a detailed discussion of social responsibility. Here we will view this issue in relation to the operations and production areas, where many of the most potentially hazardous materials, processes, and products are found. Although safety is part of every employee's responsibility, corporate responsibility for safety is most often delegated to the production and operations manager. Employee safety is mandated by a number of government regulations and laws; the production and operations manager is responsible for implementing these regulations in the plant. Compliance costs time, work, and money that must be provided for in schedules and budgets. Production and operations managers should realize that unsafe practices and contamination of the environment can implicate them through their failure to practice sound management.

Johnson & Johnson, maker of bandages and other health care products, is intent on being known as the number 1 firm in safety.<sup>41</sup> When any workplace accident causes

death or a fracture, injury, or burn resulting in at least one lost day of work, the head of the company unit involved must file a written report to top management within 24 hours. The head must then travel to company headquarters in New Brunswick, New Jersey, and personally explain to a top-level committee what went wrong. Johnson & Johnson slashed its annual lost workday incidence per 100 workers from 1.81 to 0.14 in eight years (1981–89). Corporate worker's compensation expenses now average about \$50 billion annually.<sup>42</sup> It pays to be as safe as possible.

Not only must employees have safe working conditions, the goods produced must be safe for the consumers who ultimately buy them. Product safety is the specific responsibility of the quality control department. Growing consumer consciousness of the issue has increased efforts to make accident-proof products. Automatic testing devices tug and pull plastic eyes and noses on toy rabbits to make sure they won't come off in eager two-year olds' mouths. Medicine bottles are made tamperproof, and sharp products such as paring knives bear brightly colored labels to prevent consumers from cutting themselves accidentally.

The United States regulates production more than any other nation. Compliance, a production cost, has become increasingly expensive. The increased expenditures show that most companies and employees at all levels have begun to take safety issues seriously. Consumer accidents receive greater attention and investigation today than they did a decade ago.

Monsanto, the United States' fourth largest chemical producer, has developed a program to promote safety and help clean up the environment. Table 17–2 reproduces its pledge.

## Globalization of Environmental Pollution

In 1992 leaders from 170 countries met in Rio de Janeiro for the U.N. Conference on Environment Development, which focused international concern on some alarming issues. The atmosphere's ozone layer is thinning. The U.S. National Aeronautics and Space Administration, along with scientists from several institutions, reported that the ozone layer over some regions, including the northernmost parts of the United States, Canada, Europe, and Russia, is depleted by as much as 50 percent.<sup>43</sup> Sulfur dioxide pumped into the air by manufacturing and power plants mixed with air has created rain with a high acid content (acid rain) which damages forests and lakes. Of the 6,750,000 square miles of the earth's original forests, only about 40 percent remains. Global forest destruction extends from the U.S. Pacific Northwest to the tropical forests of Brazil and Malaysia.<sup>44</sup> In the former Soviet Union, millions breathe toxic air while factories pump sewage into lakes and toxins into the air.<sup>45</sup> The Ethics Spotlight on the next page examines the threat the Commonwealth of Independent States (CIS) poses to the rest of the world.

Individuals, firms, the government, and special-interest groups are trying to solve these problems. Many firms are making products and containers that can be recycled,

TABLE 17-2

### The Monsanto Pledge

- Reduce all toxic releases, working toward a goal of zero.
- Ensure that no Monsanto operation poses undue risk to employees and communities.
- Work to achieve sustainable agriculture through new technology and practices.
- Ensure groundwater safety—making our technical resources available to farmers dealing with contamination, even if our products are not involved.
- Keep our plants open to our communities, bringing the community into plant operations. Inform people of any significant hazard.
- Manage all corporate real estate to benefit nature.
- Search worldwide for technology to reduce and eliminate waste from our operations, with the top priority being not making it in the first place.

## ETHICS SPOTLIGHT

## A NEW THREAT FROM THE EAST

The Cold War is over; communism is dead. But after 74 years of mismanagement, the Soviet regime has left behind a legacy of environmental damage that threatens much of the world and requires billions of dollars for cleanup. Consider the following:

- Lenin Steelworks in Magnitogorsk, Russia, discharges enough pollution to foul the air over 4,000 square miles, twice the area of Delaware.
- Economic planners, in the process of irrigating arid farmland, nearly drained the Aral Sea.
- Rain drips into the reactor wreckage at Chernobyl, threatening to cause another nuclear reaction.
- Hundreds of factories are pouring waste (including heavy metals, salts, carcinogens, and oil products) into the Neva River, which provides drinking water for St. Petersburg, Russia.

The Soviet empire once spanned one sixth of the earth. The environmental problems it left equal it in magnitude. Soviet industry was built without regard for the environment. Says a spokeswoman for the Washington, D.C.-based Natural Resources Defense Council, "If we don't deal with [Commonwealth of Independent States] environmental problems now, we won't have to worry about dealing with economic problems." Germany and France are pushing the world's leading industrial nations to pledge billions of dollars in environmental aid besides the \$24 billion in economic assistance they have already promised.

Russia and the other former Soviet republics need help not only with cleanup, but also in stopping ongoing environmental destruction. A Western diplomat in Moscow describes CIS as a "big polluting machine." Cars pollute the air with leaded gasoline and their lack of catalytic converters. CIS households, with smaller homes and fewer appliances, use 90 percent less energy than do Western households, but factories and the oil and gas industries produce vast wastefulness and environmental nightmares. Designed without the environment in mind, manufacturing uses more than four times as much energy per unit of GNP as in the United States. Malfunctioning old equipment, lack of spare parts, poor workmanship, and shabby repairs regularly produce immense blowouts, leaks, and spills in the oil and gas industry throughout the former Soviet Union.

A horrendous disaster occurred in March 1992 near Tashkent, the capital of Uzbekistan, when drillers struck oil at a well in the Fergana valley oilfields but could not control the flow. Oil shot hundreds of feet into the air, filling the sky with black slime and smoke for 62 days. After a month, Uzbek officials called in Oklahoma-based Cudd Pressure Control, Inc., to seal off the well. Before it was finally controlled in early May, the well threw out as much as 6.2 million barrels of oil, which soaked into nearby cotton fields or burned off in the air. Uzbek officials never said how severe the damage was, and neither did the U.S. Environmental Protection Agency, which sent a technical team to the site at

the Uzbek government's request. Experts estimate the oil spill to be some 24 times the amount spilled by the *Exxon Valdez* in Alaska. Loss from this well alone cost the Uzbeks around \$130 million while creating untold environmental damage.

The Fergana valley spill, while the worst reported, is but one of many disastrous incidents in recent years. One blowout near the Caspian Sea blazed for a year before it was controlled. A gas pipeline explosion several hundred miles south of Moscow resulted in 607 deaths when sparks from passing trains ignited a leak. In western Siberia a break in a rusted oil line leaked 3 million barrels of oil into the ground and caused 27 wells to be shut down. Moscow officials have admitted that in 1989, 26,000 ruptures occurred, spilling 4.3 million barrels of oil.

Over 370,000 miles of oil and gas pipelines cross through the former Soviet Union. Many stretches of pipeline, as well as compressors, need to be repaired or replaced. Some German consultants estimate that principal gas lines are leaking almost 10 percent of their annual production, and local connecting networks are losing up to 40 percent of their load. That loss far exceeds Germany's entire yearly gas requirement. Leaking pipelines are said to have cost the former Soviet republics some \$8 billion in oil and gas revenues in 1991.

The biggest danger to the outside world lies in the CIS nuclear energy program. Its 37 reactors provide 12 percent of the Commonwealth's energy, but at least 15 are poorly designed and should be taken out of operation. Their slowness to cool during emergencies can cause the core to explode, which happened at the Chernobyl plant in 1986. The aftermath was felt throughout Europe. Nearly \$180 million of agricultural products had to be destroyed in Poland, Germany, Austria, and Hungary; herds of reindeer were destroyed in Finland, Sweden, and Norway; and in Britain, some 1,350 miles away, sale of sheep was banned until radioactive isotopes they may have consumed while grazing had dissipated. The radioactive contamination that fell on Europe is expected to cause about 6,000 more cancer deaths in the next 50 years. Over 2.5 million acres of farmland in Ukraine and Belorussia were never properly cleaned, and radioactive food occasionally shows up in markets.

Even if other nations provide financial aid, the responsibility for the cleanup falls on the businesses and citizens of the former Soviet Republics. But first, the CIS must stop the pattern of environmental abuse that has been taking place for years.

Source: Adapted from Richard C. Morais, P. Pietsch, and Christoph von Schoeller, "Blowout," *Forbes*, July 20, 1992, pp. 65, 68; Paul Hofheinz, "The New Soviet Threat: Pollution," *Fortune*, July 27, 1992, pp. 110-14; and Associated Press, "Sewage Is Found Pouring into River Used for Russian City's Drinking Water," *Herald-Leader*, (Lexington, Ky.), September 17, 1992, p. A8.

slowing the need for more and bigger landfills. In addition to making products that can be recycled, some firms educate consumers and encourage them to recycle. Lyondell Petrochemical (a major refiner in Houston) has started making gasoline from used motor oil.<sup>46</sup> The United States and Mexican governments are working together on the pollution problem inside Mexico's border with the United States, where some factories burn tires for fuel; the region has been described by the American Medical Association as a "virtual cesspool."<sup>47</sup> Economists working for the United Nations and the Environmental Defense Fund are trying to link countries with vastly different economies and environmental laws into a single pollution control system.<sup>48</sup> These are just a few examples, and the results may seem small in comparison to the size of the problem, but they're steps in the right direction. It will take the ongoing participation of every individual and firm plus cooperation from all nations' governments to reverse the current threats to our environment.

In recent years a number of great American companies have surrendered their leadership to foreign competitors.<sup>49</sup> Most recently IBM has gone from industry leader to crippled giant, struggling to restructure itself to be more flexible and responsive. To survive and prosper in the future, firms will have to develop and maintain advanced production technology. To improve productivity, General Electric is investing \$70 million in its 40-year-old Appliance Park—five mammoth factories near Louisville, Kentucky. Although GE is taking a major risk overhauling its old machines, chairman John Welch knows he has no choice.<sup>50</sup>

## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define production and operations.**

*Production* refers to the total process by which a business creates finished goods or services. *Operations* refers to the functions needed to keep the company producing. Functions such as purchasing, materials management, production, inventory and quality control, and maintenance are included. The process and functions needed to produce and/or deliver goods or services make up the production and operations management function.

### **Discuss the evolution of modern manufacturing.**

Fuel energy, scientific management, and mass production were crucial to manufacturing's development. As the United States became increasingly industrialized, American goods were sought throughout the world. But confidence in American goods declined as foreign competitors began making better-quality products. Today American firms are scanning the globe to search for new and better production methods.

### **Explain the role of production and operations managers.**

Production and operations managers are responsible for producing the products that business needs to sell. Typical functions include product planning, site layout and location, inventory control, purchasing and materials management, manufacturing and production, production control, quality control, and plant management.

### **Compare traditional company organizations with cellular organizations.**

The traditional organization emphasizes specialists in areas linked to manufacturing. Cellular organizations have a layout in which workers are grouped into what is called a cell. Groupings

are determined by the operations needed to perform work for a set of similar items. In the cellular arrangement units are completed by a team. The layout speeds up the assembly from start to finish.

### **List the factors that should be considered in selecting a site.**

Many factors should be considered including cost of land or buildings; insurance and taxes; nearness to related industries and other important facilities or services; availability and cost of labor; availability of transportation; proximity to market for goods; air and water conditions; nearness to energy resources; climate and environment consistent with needs; space for expansion; nearness to employees' needs such as housing and schools; and receptiveness of the community.

### **Evaluate computerization's effects on production and operation management functions.**

The computerization's effects have been significant in terms of speed, efficiency, and productivity. CAD and CAE have enabled tremendous flexibility and experimentation. The computer has become a major tool that must be understood by all production and operations employees.

### **Explain the importance of productivity and quality.**

Improvements in productivity and quality have long-term effects on organizations' success. Ignoring either quality or productivity improvements is likely to result in lost markets, layoffs, foreclosures, and general business decay. Consumers are demanding more quality, and companies need to improve the output per labor and technological input.

**Discuss safety's importance to productivity and quality.**

Corporate responsibility for employee safety is often delegated to the production and operations manager. Product safety is the specific responsibility of the quality control department. Pollution, global warming, toxic waste, and preserving the earth's forests are all concerns. The corporation expects the production and

operations unit to oversee environmental matters. Environment-friendly technologies are needed in all areas, especially manufacturing. Production and operations units will be asked to work more on minimizing pollution while still contributing to a firm's profit margins.

**KEY TERMS**

assembly line, p. 470	just-in-time (JIT) manufacturing, p. 478	operations, p. 468
computer-aided design (CAD), p. 481	manufacturing, p. 468	production, p. 468
computer-aided engineering (CAE), p. 481	mass production, p. 470	program evaluation and review technique (PERT) chart, p. 480
computer-aided manufacturing (CAM), p. 482	materials requirements planning (MRP), p. 479	robot, p. 482
flexible manufacturing systems (FMS), p. 483		

**REVIEW AND DISCUSSION QUESTIONS****Recall**

1. What are the functions of production and operations?
2. When is project manufacturing used? Give an example of project manufacturing.
3. What are the advantages and disadvantages of just-in-time inventory?
4. List some responsibilities of the production manager and operations manager.
5. What is PERT? How is a PERT chart created?
6. How can quality and productivity be improved?

If you were going to open a fast-food restaurant like McDonald's, what factors would be important in selecting a site and a site layout?

How have computers improved the production process? Give several examples of how computers are used in manufacturing.

**Application**

1. Review a daily newspaper for one week. Cite examples of American businesses concerned about environmental pollution and safety. Also cite examples of concerned non-American firms.

**Understanding**

1. Trace the evolution of modern manufacturing, highlighting the significant events along the way.

**CASE 17-1****Designing the Boeing 777**

With a 60 percent share of the global market for commercial aircraft, Boeing Co. has dominated its industry perhaps more than any American manufacturer. Its \$92 billion order backlog—some 1,605 aircraft—is near its highest ever. Boeing's four current models (the 737, 747, 756, and 767) all sell profitably. As the nation's largest exporter, it accounted for about 70 percent of new orders worldwide in 1992.

Despite such success, Boeing's vulnerability was exposed when Airbus Industries won a large order from United Airlines. United ordered 50 narrow-body A320s from Airbus and took op-

tions on 50 more. The A320 will replace United's aging Boeing 727. United went with the A320 because of its leading edge technology, range, speed, fuel efficiency, and comfort. Airbus has now signed up 14 of the 17 largest airlines in the world, reflecting its technological excellence. United's purchase gives Airbus even more credibility. According to Stewart Iddler, chief marketing officer at Airbus, "We like to say we are offering a BMW, not a Ford." Pilots seated in an A320 cockpit use joy sticks beside their seats rather than steering wheels; commands are transmitted by computers rather than manually. This so-called fly-by-wire technology keeps the plane on course and takes much of the decision making out of pilots' hands.

In answer to Airbus, Boeing is building a radically designed plane for the 21st century. The Boeing 777 (a twin-engine, medium-to-long-range wide-body) will be the firm's first plane designed entirely on the computer. The 777 is scheduled to go into service in May 1995. Boeing will spend billions designing the new jet. The company hopes to secure its future with technologically advanced aircraft. While Boeing continues to design the best planes in the industry, as a manufacturer it is just average. To compete with Airbus, Boeing will have to make better planes. In the next 14 years, the world's airlines will need 8,500 new jets, and the firm that makes the best planes will be the winner.

Boeing is relying on a computer-assisted design system to build an efficient, economic plane with fewer bugs than new planes usually have. Boeing hopes to save millions it usually spends fixing problems during production and after planes' delivery to airlines. The system also enables the firm to skip the many paper drawings and full-scale markups by going straight from paper images to the actual plane. Rather than coming from the minds of designers alone, the CAD process reflects the views of airlines, mechanics, and others who will build and market the plane.

Boeing is using a digital system called Catio for computer-aided interactive applications. The largest cluster of mainframe computers in the world, eight IBM 3090s are used in the system. Since Catio is three-dimensional and capable of displaying solid objects, the digital system shows how all pieces fit together. If two parts clash, the problem shows up on the screen. For instance, if a tube can't get around a spar, Catio detects the problem. Catio-man, a computer-simulated human, can climb inside the three-dimensional images and show how difficult it would be

for a real human to reach a problem or make a repair. Catio-man discovered that a human mechanic could not reach the red navigation light on the plane's roof to change the bulb.

CAD is not intended to speed delivery of the 777. The objective is to make a better plane from the start. In the past engineers were still designing when manufacturing was begun. Changes were made as problems showed up in the factories or, worse yet, after planes were manufactured. Tools and dies and maintenance manuals had to be reworked; unusable parts were wasted. When the 747-400 went into use several years ago, Boeing had to assign 300 engineers to the plane to get rid of bugs. The CAD system used to develop the 777 should detect these bugs before the plane is made.

The pressure is on Boeing with this project. If it goes, it could mean a beautiful, profitable machine that circles the world for years to come. If it fails, it could cripple a company even the size of Boeing. But Phil Condit, executive vice president in charge of the 777 project, knows Boeing has no choice. "My strong feeling is that you retain your competitive position by continuously improving what you do. Our job is to make sure we keep turning out the best planes in the world."

## Questions

1. Why is Airbus a threat to Boeing?
2. Even though Boeing designs superior aircraft, why is the firm just average as a manufacturer?
3. How does Boeing's CAD system cut costs?
4. What does Boeing hope to accomplish with CAD? What are some benefits of Catio-man?

## ■ CASE 17-2

### Kao Responds to Demand

Kao Corporation is Japan's largest soap and cosmetics company and the world's sixth largest, with annual sales exceeding \$5 billion. According to James Abegglen, chairman of Gemini Consulting-Japan, no company can match the flexibility of Kao's distribution. Goods can be delivered within 24 hours to any of 280,000 shops, whose average order is only seven items. This capability is based on a world-class information system and a wholly owned network of wholesalers. This control enables Kao to get hot-selling items on store shelves faster and to keep smaller inventories than competitors.

Kao's objective is to maximize the flexibility of the entire firm's response to demand. This requires not only flexible manufacturing, but also an information system that links all aspects of the business: sales and shipping, production and purchasing, accounting, R&D, marketing, stores' cash registers, and salespeople's hand-held computers.

Many firms in America and elsewhere rely on point-of-

purchase data in determining production requirements. A manager generally receives information on the previous day's sales. At Kao managers see daily sales, stock, and production figures. They can learn about a competitor's sale within a day and make necessary adjustments. When introducing a new product, information from 216 retailers is combined with a test-marketing program called the Echo System. This system uses focus group interviews and consumer responses through calls and letters to measure customer satisfaction faster than surveys do. Within two weeks of introduction, Kao knows if a product will be successful, who's buying it, whether the packaging is effective, and what needs to be changed. Response to the factory is immediate, and flexible manufacturing allows for instant changes.

Kao's system basically eliminates the lag between a purchase and feedback about the purchase to the factory. This makes Kao less dependent on keeping finished goods inventory. It also allows the firm to smooth out production levels and increase variety without increasing stock. In 1987 Kao made 498 products,

and inventory averaged 9.2 percent of sales. Today Kao makes 564 products, and inventory is down to 8.6 percent.

Flexibility at Kao comes not only from manufacturing, but also from information. A flexible factory is of little use if it can't be exploited. Kao knows what's selling and can respond to this information at the factory quickly.

### Questions

1. How does Kao stress flexibility?
2. Why is information so important to Kao?
3. How can Kao respond to customer demand more effectively than some manufacturing firms?

## ■ APPLICATION EXERCISE

In 1989 the MIT Commission on Industrial Productivity published a book entitled *Made in America*. The book emphasized that some U.S. industries and products have lost 50 percent or

more of their share of world markets since 1960. Which of these industries do you think have lost this share? (Check yes or no.)

	Yes	No	Coming Back
Automobiles	_____	_____	_____
Cameras	_____	_____	_____
Microwave ovens	_____	_____	_____
Machine tools	_____	_____	_____
Optical equipment	_____	_____	_____
Color TV sets	_____	_____	_____
Stereo equipment	_____	_____	_____
Steel	_____	_____	_____
Copiers	_____	_____	_____
Commercial aircraft	_____	_____	_____

Every industry should be checked yes except for commercial aircraft. Each of the other U.S. industries or products listed has lost 50 percent or more of the world market since 1960. The decline of the manufacturing or production part of business is one reason why market share has dwindled.

In which of the above industries do you think the United States has made a comeback? (Check the coming back column.) To verify your answer, go to the library and research these industries.

Also select a single industry, like commercial aircraft, and research it thoroughly, answering the following questions:

1. Has the United States gained or lost market share in this industry since 1990? \_\_\_\_\_
2. Is quality a critical factor in this gain or loss? Explain.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

3. What production and operations techniques (e.g., JIT, flexible manufacturing, CAD/CAE/CAM, benchmarking) are used in this industry by leading competitors?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

4. What must production and operations managers do to maintain and increase market share in this industry?

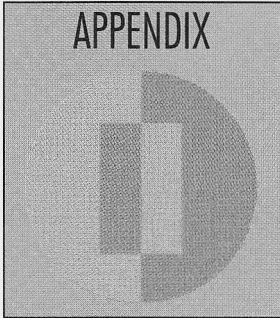
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\_\_\_\_\_



## SEVEN TOOLS OF QUALITY CONTROL



The following seven tools—flow charts, run charts, control charts, fishbone diagrams, Pareto charts, histograms, and scatter diagrams—are basic components of statistical quality control.

### Flow Charts

Flow charts are used to provide a visual description of the steps in a process or work activity. The sequence of events that make up the process are shown. Generally, flow charts begin with inputs, show what takes place to transform these inputs, and end with outputs. Flow charts are especially helpful in visualizing and understanding how things are currently being done and how they can be done differently to improve the process. Figure 17–A1 on the next page shows an example of a flow chart.

### Run Charts

Run charts are used to plot measurements taken over specific time intervals such as a day, week, or month. Usually the quantity measure is plotted on the vertical axis, and time is on the horizontal axis. The run chart can be used to determine how something is changing over time and whether problems are taking place at certain periods of time. For instance, Figure 17–A2's run chart (on the next page) shows that the number of defective units produced goes up as the day progresses. This might suggest that workers grow fatigued as the day progresses.

### Control Charts

Control charts show the results of statistical process control measures for a sample, batch, or some other unit. Such charts can be used to study variation in a process and to analyze the variation over time. A specified level of variation may be acceptable, but deviation beyond this level is unacceptable. For instance, in Figure 17–A3 (on page 499), lower and upper limits are specified for the diameter of a component used in manufacturing computers. Measurements above or below these limits for a sample of parts initiate a search for the cause of the variation.

FIGURE 17-A1  
Flow Chart

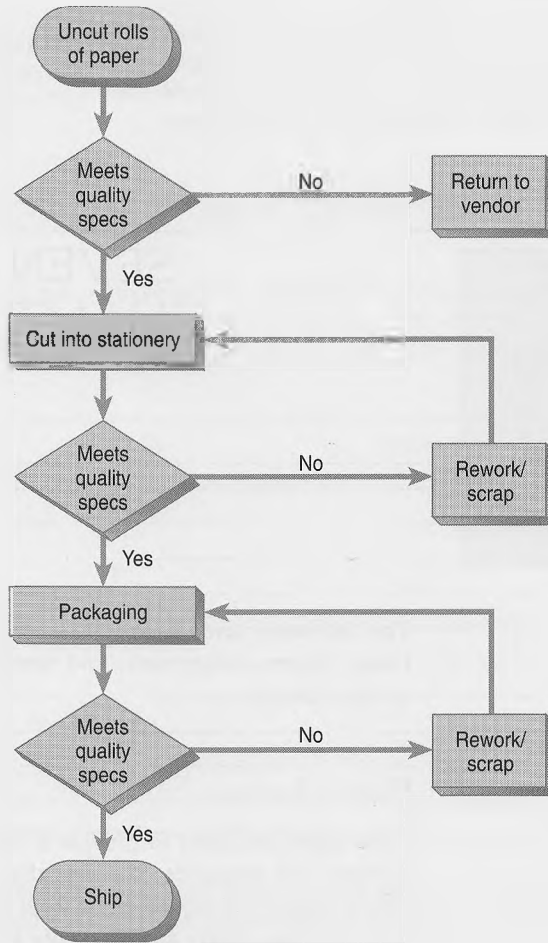
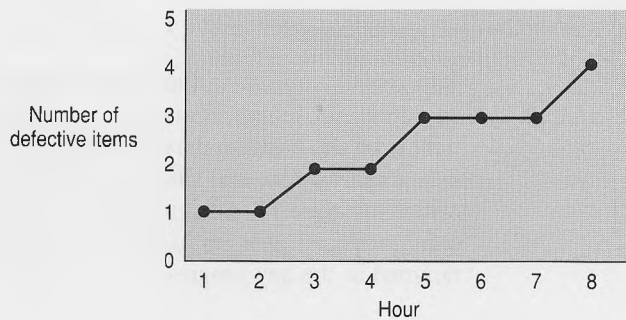


FIGURE 17-A2  
Run Chart



### Fishbone Diagrams

Fishbone diagrams, also called cause and effect diagrams, look like a fishbone. The problem, such as a defect, is defined as the effect. Events that contribute to the problem are called causes. The effect is the “head” of the fishbone, while the causes are the “bones” growing out of the spine (Figure 17-A4). The fishbone chart can be used to see how different causes occur and lead to a problem. Once the causes are identified, corrective measures can be implemented.

FIGURE 17-A3  
Control Chart

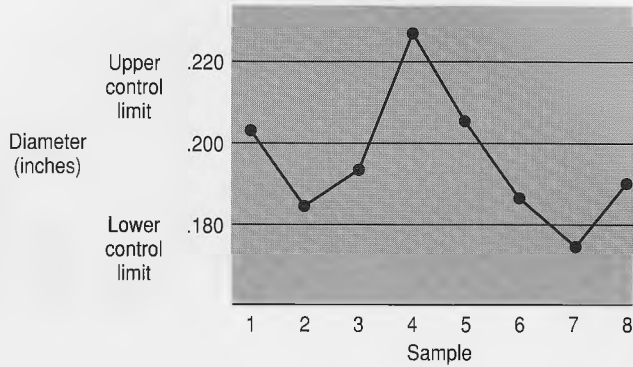


FIGURE 17-A4  
Fishbone Diagram

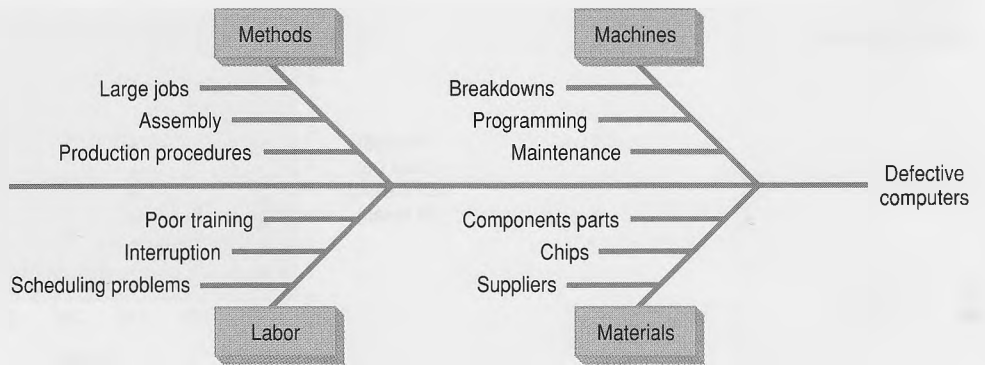
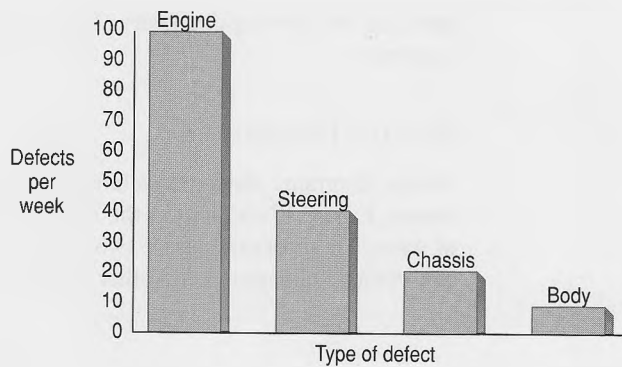


FIGURE 17-A5  
Pareto Chart



### Pareto Charts

Pareto charts are used to display the number of problems or defects in a product over time. Pareto charts are fairly simple to construct, displaying the results as bars of varying length. Figure 17-A5 shows the number of defective cars for each type of error. The basic premise of the Pareto chart is that only a few causes account for most problems.

### Histograms

Histograms (also called bar charts) show the frequency of each particular measurement in a group of measurements. Figure 17-A6 shows the frequency of defects of a compo-

FIGURE 17-A6  
Histogram

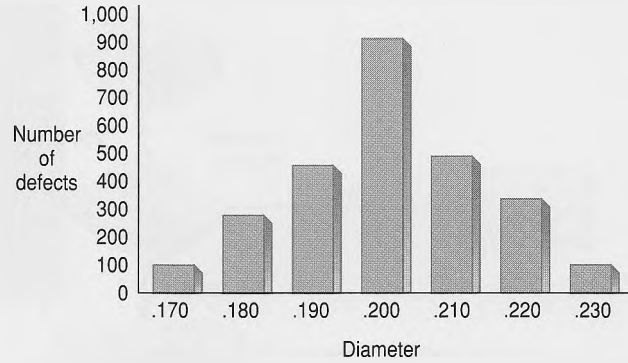
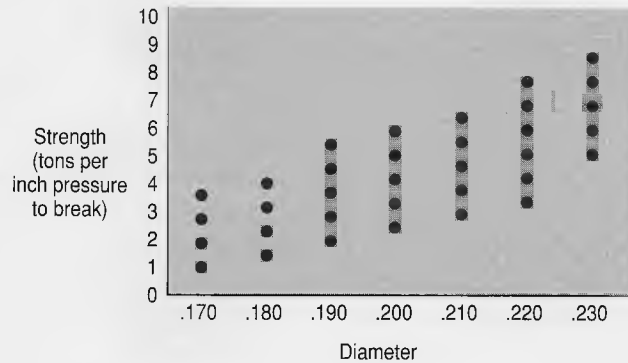


FIGURE 17-A7  
Scatter Diagram



ment part for varying diameters. This information is useful in analyzing the variability in a process.

### Scatter Diagrams

Scatter diagrams show the relationship between two characteristics or events. For instance, Figure 17-A7 shows the relationship between strength and diameter for samples of wires. By measuring these two variables and plotting the results, we can observe how one variable changes as the other changes. In this case strength increases with diameter.

CHAPTER

18

MANAGING SERVICES

*After studying this chapter, you should be able to:*

Define *service*.

Discuss the concept of tangibility as it relates to goods and services.

List four characteristics that distinguish services from goods.

Explain the significance of service quality and productivity.

Discuss how service organizations can improve quality and productivity.

Describe when an organization has a performance culture.

Discuss the components of peak performance.

Explain how organizations can encourage peak performance.

## THE HIGH COST OF POOR SERVICE

The U.S. economy is often labeled a "service" economy. McDonald's has more employees than U.S. Steel. About 70 percent of the nation's output is services. A trend that began in 1956, when white-collar workers for the first time outnumbered blue-collar workers, continues today as the service sector sees the greatest job growth in such fields as: ■ Transportation, communication, and public utilities. ■ Insurance, real estate, and financial institutions. ■ Wholesale and retail trade. ■ Service business. ■ Medical and professional services. ■ Nonprofit organizations. ■ Services are products that involve human effort and are therefore somewhat different than goods. Quality services often require quality efforts from people, and there is a high cost to poor service. By some estimates, businesses rarely hear from unhappy customers. More importantly, the average customer who has a problem with an organization tells 9 or 10 people. According to one expert, "It costs five times as much to get a new customer as to keep an old one." Thus many firms have turned their attention to service quality. ■ At Southwest Airlines the word *customer* is always spelled with a capital C. Frequent flyers get birthday cards, and passengers get personal responses to letters—sometimes several pages long. CEO Herbert Kelleher, who answers many letters himself, responded to a protest that the toilet paper was in-



Doug Milner

Customers come first at Southwest Airlines, and treating customers right is easier when employees treat each other right.

serted upside down in a plane's lavatory: "What . . . were you doing upside down in our lavatory?" Passengers are critical to Southwest's customer-driven culture. Frequent flyers help managers interview and evaluate prospective flight attendants and provide ideas for starting new services or improving old ones. Treating customers right is easier when employees are treated right, so each division at Southwest also identifies its internal customers (other staff affected by its work) and focuses on their needs. For instance, mechanics target pilots, while marketing personnel target reservation agents. Providing quality services to one another makes it easier to provide quality services to

customers. ■ McDonald's too has made quality service a top priority. A recent ad pledges that if customers aren't satisfied, "We'll make it right or the next meal's on us. What you want is what you get. Guaranteed." Other fast-food chains are also trying to improve service. Domino's Pizza is testing a customer satisfaction guarantee to replace its 30-minute delivery guarantee. Bennigan's restaurant chain claims, "You don't have to be a celebrity to be treated special." Burger King provides a toll-free number consumers can call with complaints or suggestions. Vons, a southern California grocery chain, tailors each store to the tastes and demands of the local customers. ■ With product quality close to even, automakers are also focusing on service quality. Infiniti and Toyota USA's Lexus division have established new industry standards for satisfying luxury car buyers. Now General Motors' Saturn division and other companies are redefining how buyers of lower-priced cars are treated. Saturn has attempted to eliminate price haggling and replaced 1,800 cars after a coolant mix-up. Chrysler is investing \$30 million in training to improve how dealers handle customers. GM's Chevrolet division provides a 24-hour roadside assistance program to new car buyers. These companies feel that during the next decade consumers will demand better services and pay more to get them.

Source: Adapted from Toddi Gutner, "Focus on the Customer," *Forbes*, August 2, 1993, pp. 45-46; Raymond Serafin and Cleveland Horton, "Automakers Focus on Service," *Advertising Age*, July 6, 1992, pp. 3, 33; Richard S. Teitelbaum, "Where Service Flies Right," *Fortune*, August 24, 1992, pp. 115-16; and Scott Hume, "Fast-Food Chains Look Up Ways to Improve Service," *Advertising Age*, June 8, 1992, pp. 3, 46.

Producing a service is much different than producing a product. As the opening vignette illustrates, all products have some aspect that is a service. Cars have a service component. The cost of failing to meet customer's expectations of service quality is high in terms of lost customers, bad publicity, or responses needed to rectify customer complaints and win back lost customers.

Managing services has become a critical issue as service firms face many of the same challenges manufacturing firms have experienced—particularly increased competition and consumer demands for better quality. Some experts have pointed to parallels between the U.S. decline in manufacturing and these current challenges facing service firms.<sup>1</sup> The future of service businesses depends upon their ability to deliver quality services. The best service organizations are managed differently from their competition.<sup>2</sup>

This chapter examines how services are managed. First we discuss the nature and importance of services. Then we examine characteristics that distinguish services from other goods. Next we present a scheme for classifying services. Then we look at quality and productivity in service organizations and issues related to developing and managing services. Finally we discuss developing a performance culture.

## ■ THE NATURE AND IMPORTANCE OF SERVICES

**REVIEW**  
An intangible product that involves human or mechanical effort.

A good is a tangible product that consumers can physically possess. A **service** is an intangible product that involves human or mechanical effort.<sup>3</sup> As such, a service cannot be physically possessed. Banks, universities, and airlines provides services for their customers. Table 18-1 lists America's largest service firms.

The opening vignette talked about McDonald's and other firms concerned with services. But doesn't McDonald's make hamburgers and Chevrolet make cars? And aren't these tangible products? If you're confused, you're not alone. This is because few products can be classified as a pure good or pure service; most products contain both tangible and intangible elements. When you order your favorite meal in a restaurant, you're purchasing a tangible product. Yet we often compare and evaluate restaurants on their quality of service. This is an important point. Remember from the opening incident, when different automakers become consistent in quality, then services—the intangible aspect of cars—become a means of comparison.

Figure 18-1 on the next page illustrates the concept of tangibility on a continuum ranging from pure goods to pure services. Salt or some other staple good is an example of a pure good. A consultant is an example of a pure service. Products falling in the middle have a mix of both tangible and intangible elements. Though most products are neither a pure good nor a pure service, one element usually predominates, and this is the basis for classifying a product as a good or service. Air travel is considered a service because it is generally intangible. Pilots, jets, and airports, however, are tangible. As we will show later, these tangible elements are important in managing services.

TABLE 18-1

America's Ten Largest Service Firms

Rank	Name	Industry	Sales (millions)
1	American Telephone & Telegraph	Telecommunications	\$65,101
2	Enron	Natural gas	14,126
3	Time Warner	Entertainment	13,070
4	Fleming	Wholesale	12,937
5	Supervalu	Wholesale	10,632
6	MCI Communications	Telecommunications	10,562
7	McKesson	Wholesale	10,345
8	Sprint	Telecommunications	9,230
9	Sysco	Wholesale	8,892
10	Marriott	Hotels	8,865

GLOBAL EXCHANGE

SERVICES UNDER ATTACK

The world economy has become dominated by services. They now account for about 70 percent of the gross national product and most of the new jobs created in the industrial countries of the world. Nearly 8 of 10 workers in the United States alone are employed by service companies.

The United States is the world's services leader, with 150 companies in the Global Service 500. But with the slowing global economy and rising foreign competition, America is undergoing its next wave of restructuring, this time in the service sector. In the past few years jobs have been lost in many service industries, including banking, insurance, retail, and airlines. Until recently services have been sheltered from competition and had little incentive to increase productivity. But deregulation and foreign investment are challenging the status quo in many service industries. This has led some experts to warn U.S. service companies to prepare for a dramatic change.

Just as the smokestack economy of the 1980s underwent great changes, service industries in the 1990s will strive for increased productivity. And while many experts point to the creation of new jobs as one of the service economy's strengths, this is in fact a symptom of the inefficiencies that plague many service firms. They have hired new workers while neglecting technology and economic efficiency. The result is a bloated, vulnerable service economy. Even though service workers hold nearly 80 percent of the jobs in private industry, the service sector must make those workers more productive to remain competitive. An increased standard of living depends on such a productivity improvement.

Conventional wisdom held that services were immune to foreign competition. People claimed that while cars, TV's, and microwaves could flow freely across national borders, insurance, hotels and banking could not. Unfortunately this is not the case. The United States is the world's richest market for services, so for multinational firms looking to expand, it

offers great opportunities. Foreign competition is forcing domestic service firms to rethink how they do business. Everyday, for instance, seven Boeing 747s loaded with inexpensive carnations and roses fly into the United States from Colombia. The prices help florists as well as low-overhead flower outlets. Retail florists have seen their share of the \$12.7 billion cut-flower market drop from over 75 percent 10 years ago to about 50 percent today, and it's still falling.

Most foreign investment has been in the nonfinancial segment of the service sector, such as retail and wholesale trade, business services, and hotels. Notable foreign acquisitions include:

- MCA by Matsushita (Japan) for \$7.9 billion.
- Columbia Pictures by Sony (Japan) for \$4.7 billion.
- Holiday Inn by Bass PLC (Great Britain) for \$2.2 billion.
- Federated and Allied Department Stores by Campeau (Canada) for \$11.2 billion.
- Farmers Group Insurance by B.A.T. Industries (Great Britain) for \$5.1 billion.
- First Maryland Bancorp by Allied Irish Banks (Ireland) for \$1.1 billion.

Such foreign direct investment may not appear to be much of a threat. Foreign buyers are not likely to run off with the assets of U.S. service companies. But foreign firms' increasing presence in American markets will force U.S. service firms to respond to heightened competition through quality and productivity.

Source: Adapted from Stephen S. Roach, "Services under Siege—The Restructuring Imperative," *Harvard Business Review*, September-October 1991, pp. 82-91; Joshua Levine, "Halloween Boo-quets, Anyone?" *Forbes*, October 26, 1992, pp. 206-8; and Nora E. Field and Ricardo Sookdeo, "Introducing a New List," *Fortune*, August 26, 1991, pp. 166-70.

Services are an important part of the American economy. Service industries account for about 70 percent of the U.S. gross national product.<sup>4</sup> The total number of service jobs increased from 65 million in 1980 to nearly 86 million in 1992. At its peak in the late 1980s 220,000 new service jobs were being added each month, far outpacing manufacturing.<sup>5</sup> This growth in jobs has leveled off in recent years. Several service industries—including insurance and retailing—face intense competition, some from foreign firms. Nonetheless service jobs are expected to grow faster than jobs in other sectors of the economy. The Global Exchange examines foreign competition in service industries.

FIGURE 18-1  
A Continuum of Product Tangibility





## ■ CHARACTERISTICS OF SERVICES

We must recognize the differences between services and goods. These differences impact the manner in which services are produced and managed. Production and management of cars, for instance, is somewhat different than production and management of financial services. This is because financial and other services are distinguished by four characteristics: intangibility, inseparability of production and consumption, perishability, and heterogeneity. Later in the chapter we will examine how these characteristics influence the management of services.

### Intangibility

The major feature that distinguishes services from other products is that they cannot be physically possessed. **Intangibility** is the quality of not being able to be assessed by the senses of sight, taste, touch, smell, or hearing. Intangibility is especially important because services' other three unique characteristics are derived from this trait. Think of some services we have discussed or some you have purchased lately. Can you touch or feel them? Usually not. Services such as hair cuts, banking, medical exams, and the like cannot be physically possessed like a tangible good.

Because services are intangible, they are difficult for customers to evaluate. If you have a physical exam, the best outcome is a clean bill of health. But how do you know you had a thorough physical? A physical exam cannot be evaluated in the same manner as a tangible product. A car can be taken for a test drive, the tires kicked, and an opinion formed.

While it is hard to evaluate a service, it is not impossible. Before selecting a physician, you could visit her office, look at the facilities, talk to nurses and doctors, and observe the clinic's atmosphere. These are *tangible cues*—they are used to evaluate an intangible service. This also illustrates that many services have a tangible element, just as goods have an intangible element. Airlines have pilots and planes, banks have tellers and facilities, and clinics have doctors and nurses. Management of these tangible elements is critical to services' success.

### Inseparability of Production and Consumption

Services are also characterized by **inseparability** of production and consumption, meaning they are produced and consumed at the same time. Goods can be carefully designed, produced, and consumed at a later date. This is not the case for services. Inseparability has two important implications. First, the *service provider* plays a critical role in delivery of services and may in fact be the service. The teller is the bank, the pilot or flight attendant is the airline, and the hair stylist is the styling salon. Second, because production and consumption occur simultaneously, the *customer* also has an important role in service delivery.<sup>6</sup>

Most services cannot be performed unless the customer is present or directly involved in the production process. The customer must be present to get a hair cut, fly on a plane, or see a movie. In some cases the customer actually shares part of the responsibility for delivering services. Many gas buyers pump their own gas, bank customers operate automatic teller machines (ATMs), and (as Figure 18–2 illustrates) some restaurant customers even cook their own meals. (Note how the price increases if the house chef cooks the steak.) Similarly, a sightseer who interacts with local residents is involved in the production and consumption of a city's tourism services. Likewise a patient must tell a doctor an illness's symptoms before treatment can be prescribed.

Because customers often play an active role in producing services, the service customer must have the ability, skill, training, and motivation needed to engage in the production process. The service encounter can't be completed unless customers have the

The quality of not being able to be assessed by the senses of sight, taste, touch, smell, or hearing.

A situation in which services are produced and consumed at the same time.

FIGURE 18-2

Customer Involvement in the  
Production of Services



**THE STEAKS**  
*The Butcher's Special Cuts*  
14 oz Filet Mignon  
20 oz Ribeye  
25 oz Strip (Bone On)  
24 oz Top Sirloin  
28 oz T-Bone  
20 oz Shish-ke-bab

**THE PRICE**  
\$16.95 If You're the Chef,  
Two Bucks Extra for the House Chef.  
Steak Dinner for Two \$11.50 Per Person  
By Sharing A Steak

**THE CHICKEN**  
MARINATED CHICKEN BREASTS  
*Two boneless breasts of chicken  
marinated in our special sauce  
and grilled over the  
open charcoal pit. \$12.95*

All Entrees served with baked potato, salad and bread.

<p><b>THE EXTRA</b> Sautéed Mushrooms . . . . . \$4.25 <i>Sautéed in butter, garlic, wine and seasoning. Served sizzling in a hot skillet. Enough to share.</i></p>	<p><b>THE DESSERTS</b> Katie's Delight . . . . . \$3.50 <i>Layers of whipped cream, cream cheese, and fudge pudding, then topped with chocolate chips, and pecans</i> Cheesecake . . . . . \$3.50</p>
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A 15% gratuity will be included on checks for parties of seven or more.  
*Other Locations: Chicago, Memphis, Little Rock, Knoxville*

skills needed to participate in the transaction. This makes management of services even more complex. A TV is poor quality because it's made that way; a bank may be poor quality because the customer never learned how to use the ATM card.

### Perishability

**Perishability** results from the inseparability of production and consumption; it means that unused service capacity can't be stored and used at a later date. As we noted in Chapter 17, manufacturing firms use inventory control methods to resolve this problem. Service organizations can't handle this problem in the same way. If a movie theater is

Unused service capacity can't be stored and used at a later date.



Yamaguchi/Sygma

Movies are perishable—unused seats cannot be stored for a later showing.

half empty for the matinee, seats can't be stored for the crowded evening show. Services must be produced and consumed simultaneously; any unused capacity is wasted.

Many service organizations have tried to deal with this problem through pricing. Airlines offer deep discounts, knowing that unused capacity can't be recovered. Movie theaters drop prices for the matinee. In some cases the bulk of a firm's service activities must be performed at one point in time. Accounting firms are busiest in April when taxes are due. Heating repair firms can't handle all the calls they get on the first cold day of fall. Because services cannot be stored, such fluctuations in demand are a challenge to managers.

## Heterogeneity

Robots are fairly consistent in their performance, but services are often performed by humans—and people are not always consistent. **Heterogeneity** refers to the inconsistency or variation in human performance. Two different service providers can be inconsistent in their performance, as can a single provider from one service encounter to another. For example, you may have a favorite hair stylist who you feel performs better than anyone else. But on a given day, even your favorite stylist may be inconsistent, for one reason or another, and do a below-par job. Services are simply more difficult to standardize than tangible goods.

Managers must attempt to provide consistent services, while at the same time satisfying customers' different needs. At Disney World, little is left to the imagination. Each time you take the Jungle Cruise you hear a similar story and probably experience similar emotions, even though the leader may be different. Training leaves little room for variation. On the other hand, we must recognize that some customers have different needs. That is why airlines provide different levels of service in first, business, and coach class. But on a given day the level of service in business class should be consistent, whether the flight is crowded or late, or whether there is a new flight attendant or an experienced one.

### heterogeneity

The inconsistency or variation in human performance.

## ■ CLASSIFYING SERVICES

It is important to develop a classification scheme for services. Not only do such schemes help managers understand customer needs, they also provide insights into the management of services.<sup>7</sup> For instance, a categorization scheme for services answers questions such as:

- Does the customer have to be present to initiate or terminate the service transaction?
- Does the customer have to be present for the service to be delivered?
- Does the customer participate in the service transaction?
- Is the customer or target of the service changed in some way after the service transaction is completed?
- Is there a high degree of labor intensiveness?
- How much skill is required of the service provider?

Answers to such questions help managers enhance service quality. Consider taking a car to an auto repair shop. If customers have to drop off the car to initiate the service, their satisfaction with the service will be determined, to some extent, by their interactions with the personnel, their success in explaining their problem, and getting satisfactory results. On the other hand, using an ATM card requires little contact with the bank. The ATM must work and the transaction must be satisfactory, but how the money gets into the machine—the process—is of little interest to customers. Table 18–2 provides a scheme for classifying services.

Services are classified according to the type of market or customer (consumer or organizational) they serve. This distinction is important because the buying decision process differs between organizations and consumers. Consumers purchase (and consume) services to satisfy personal needs and wants. Industrial services are used (1) to produce other goods and services or (2) in an organization's ongoing operation. For example, both consumers and organizations need insurance, accounting services, and perhaps lawn care. But the nature of these needs is usually quite different between the two

**TABLE 18-2**  
**Classification of Services**

Category	Examples
<b>Type of market</b>	
Consumer	Life insurance, car repairs
Organizational	Lawn care, management consulting
<b>Degree of labor intensiveness</b>	
Labor-based	Repairs, executive recruiting
Equipment-based	Public transportation, air travel
<b>Degree of customer contact</b>	
High contact	Hotels, health care
Low contact	Dry cleaning, motion pictures
<b>Skill of the service provider</b>	
Professional	Legal counsel, accounting services
Nonprofessional	Taxi, janitorial
<b>Goal of the service provider</b>	
Profit	Financial services, overnight delivery
Nonprofit	Government, education

groups. An accountant may help consumers prepare their income tax returns, while an organization must maintain a complex set of records for tax purposes.

Services are also classified by degree of labor intensiveness. Many services—including repairs, education, and hair styling—depend heavily on service providers' knowledge and skills. Others such as telecommunications, gyms, and public transportation rely more on equipment. Labor-intensive (people-based) services are generally more heterogeneous than are equipment-based services. Consumers tend to view providers of people-based services as the service itself. As we said earlier, flight attendants represent an airline to many people. Consequently service providers must pay special attention to the selection, training, motivation, and control of employees. Labor-intensive services are especially difficult to standardize.

The third way to classify services is by degree of customer contact. Health care, hotels, real estate agencies, and restaurants are examples of high-contact services. With high-contact services, actions are generally directed toward individuals. The consumer must be present during production; in fact, the consumer must often go to the production facility. The service facility's physical appearance may be a major factor in the consumer's overall evaluation of a high-contact service. With low-contact services (such as repairs, dry cleaning, and mail services) customers generally do not need to be present during service delivery. (For example, consumers do not wait at a dry cleaner while their clothes are being laundered.) As a result, physical appearance is not as important for low-contact facilities.

A fourth way to classify services is by the service provider's level of skill. Professional services tend to be more complex and more highly regulated than nonprofessional services. In the case of a doctor's physical exam to diagnose a medical problem, consumers often don't know what the actual service or its cost will be until the service is completed because the final product is situation-specific. Also doctors and surgeons are regulated by laws and by professional associations. Even less-skilled service providers, such as airline pilots, undergo extensive training and retraining, and must comply with a host of regulations and policies. However, clerks in movie theaters' concession stands need lower skill levels to carry out their jobs.

Finally, services can be classified according to the service provider's goal: profit or nonprofit. There are several differences between profit and nonprofit services. Nonprofit organizations' objectives are not stated in financial terms, and nonprofit services' benefits are not measured by profit or return on investment. In addition, nonprofit organizations usually have two audiences: clients and donors. A public school system is targeted to families with school-age children but also relies on the general public for support through taxes. Many nonprofit services, such as legal aid, are targeted to low-income segments. Public perceptions of nonprofit organizations impact their ability to raise funds, as the Ethics Spotlight shows.

## ■ QUALITY AND PRODUCTIVITY IN SERVICE ORGANIZATIONS

Two major challenges facing service organizations are to improve quality and productivity. At the heart of many service management strategies are productivity improvements. Unfortunately overworked employees may deliver lower-quality services. Additionally efforts to increase or standardize services may meet with customer resistance. For example, some consumers are alienated by computerized answering systems. They prefer to speak directly to a person, even through the computerized system may be more efficient.

### Service Quality

Only the customer can judge the quality of services. Thus **service quality** is the conformance of the service to customer specifications and expectations.<sup>8</sup> To a medical clinic's

#### service quality

A service's conformance to customer specifications and expectations.

## ETHICS SPOTLIGHT

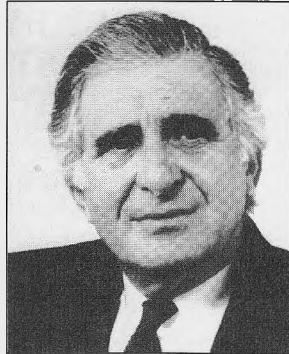
## SCANDAL OF UNITED WAY OF AMERICA

Months after the scandal erupted at United Way of America (UWA), local United Way organizations are still feeling the impact. On February 28, 1992, allegations of lavish spending and mismanagement forced UWA President William Aramony to resign. Though the unethical behavior may be limited to Aramony himself, the affair has tarnished the long-time charity's image. Says Robert O. Bothwell, executive director of the National Committee for Responsive Philanthropy, "The scandal has tarred and feathered United Way's motherhood-and-apple-pie image." It has also raised serious questions about fundraising. Should Corporate America promote employee payroll deductions for charities? Is there adequate oversight of charity organizations by boards of directors and outside auditors?

UWA's problems are well documented. Aramony received an annual compensation package of \$463,000, flew first-class, and routinely hired family and friends for jobs at United Way affiliates. Since then United Way has tried desperately to restore public trust. Elaine L. Chao, former deputy secretary of the U.S. Dept. of Transportation, was hired as president and vowed, "The old way of doing things has got to change." Representatives from local United Ways have been placed on UWA's board. New financial controls were initiated to calm local affiliates, which protested the national organization's problems by holding back dues.

Just how much trust has been restored is unclear. In 1991 the 2,000 local United Way organizations raised \$3.17 billion, an increase of 1.9 percent from 1990. Many local organizations do not expect to do as well in 1992, but

attribute reductions to the weak economy. In the meantime there is a growing trend toward letting donors direct their contributions to specific causes and groups. Some of the largest United Way organizations in New York and Los Angeles are rethinking the way funds are distributed.



AP/Wide World Photos

Former United Way of America President, William Aramony.

The scandal has also opened Corporate America's door to other charities. Some large firms like Citibank and Nike have included Earth Share, an environmental group, as another option in giving through payroll deduction. At American Telephone & Telegraph, employees in New York can also use payroll deductions for Black United Funds. In Massachusetts, Polaroid and Lotus Development let workers donate to Community Works. And almost everyone agrees that firms that permit charity drives should eliminate arm twisting, which is resented by most employees.

Charity organizations are at a critical juncture. Government cuts and increased unemployment place a heavy burden on charities. Modern charity organizations need to go back to the basics: What is our mission, who is our customer, and are we meeting their expectations? Public trust in charities in general has declined, according to a survey conducted by Independent Sector. If this trend continues, United Way and other charities face a difficult future.

Source: Adapted from Ron Stodghill II, Christina Del Valle, Greg Sandler, and Lois Thernien, "United They Stand?" *Business Week*, October 19, 1992, p. 40; Pamela Sebastian, "Unemployment and Unforgotten Scandal Work against United Way Campaigns," *The Wall Street Journal*, October 21, 1992, pp. B1, B12; and Susan B. Garland, "Keeping a Sharper Eye on Those Who Pass the Hat," *Business Week*, March 16, 1992, p. 39.

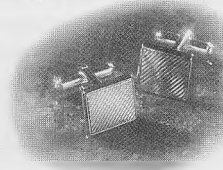
administrators, service quality is often viewed as physicians' credentials; consumers, however, are more concerned with waiting time and interactions with doctors and staff members than with where doctors obtained their degrees.<sup>9</sup> We are moving into a time when service organizations do not merely produce they perform, and customer value is the focus of competitive advantage.<sup>10</sup> Service organizations must determine what benefits customers expect to receive and must then develop service products that meet those expectations. Performing the wrong functions for customers isn't service quality. Only by meeting customer expectations on a consistent basis can an organization deliver service quality.

True service quality rarely goes unnoticed. But providing service quality is easier said than done. Evidence of poor service is increasing: planes are late, restaurants provide slow or inefficient service, sales clerks are rude. Such occurrences have led humorists to call poor service a growth industry.<sup>11</sup>

To improve the quality of its services, a service provider must first understand how consumers judge service quality. Intangibility makes service quality hard to evaluate. Because the service itself is intangible, consumers generally make quality judgments based on *how* the service is performed. Several studies have reported that reliability is the most

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LENT HIS CUFF LINKS  
TO A GUEST FOR  
A CRUCIAL MEETING.  
INSTANTLY  
WE KNEW WE HIRED  
THE RIGHT GUY.”**

*Bill Marston*



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Service quality is not an accident. At Marriott, employees are the critical link to the customer.

important determinant of service quality.<sup>12</sup> Building a zero defects culture is as important in service industries as manufacturing. But doing it right the first time is more difficult for services because of (1) the inseparability of production and consumption and (2) heterogeneity.

Service quality is difficult to improve. In some cases companies simply do not recognize that service quality problems exist. Many dissatisfied customers never complain to the company. For example, in a survey of airline passengers, a consumer group of 100,000 frequent fliers ranked airline food lowest among 14 airline services. But passengers usually do not complain to airline companies about the food.<sup>13</sup> Service quality is also difficult to manage. One airline employee may interact with hundreds of customers every day. Managers can't possibly observe each of these encounters and evaluate services' quality especially if unhappy customers do not complain.<sup>14</sup> Nonetheless studies have shown that customers tell twice as many people about bad service experiences as they do about good ones.<sup>15</sup> Customers left unhappy, whether they complain or not, may destroy a service organization.

Service quality is not an accident. It definitely can be nurtured and improved through total organizational commitment. First, managers must take quality seriously. Without commitment to quality at the highest levels of the organization, lower-level employees cannot be expected to follow suit. Next, all employees must be committed to quality. Organizations must develop specific service guidelines that are communicated to employees and enforced by management. Finally, high-quality service must be recognized and rewarded. Washington, D.C.-based corporate travel business Travelogue, Inc., generates \$40 million a year in revenues. Travelogue competes against travel industry giants like American Express and Carlson Travel by providing highly personalized service at no extra cost. Above all else, owner Osman Siddique and his people are polite and accommodating.<sup>16</sup>

QUALITY BENCHMARK	
CRITERIA USED TO JUDGE SERVICE QUALITY	
Criteria	Examples
Reliability: Consistency in performance and dependability.	Accuracy in billing. Keeping records correctly. Performing the service at the designated time.
Tangibles: Physical evidence of the service.	Physical facilities. Appearance of personnel. Tools or equipment used to provide the service.
Responsiveness: Employees' willingness or readiness to provide service.	Mailing a transaction slip immediately. Calling the customer back quickly. Giving prompt service (e.g., setting up appointments quickly).
Assurance: Employees' knowledge and ability to convey trust and confidence.	Knowledge and skill of contact personnel. Company name or reputation. Personal characteristics of contact personnel.
Empathy: Caring and individualized attention to customer.	Learning customers' specific requirements. Providing specialized individual attention. Consideration for the customer.

Source: Adapted from Leonard L. Berry and A. Parasuraman, *Marketing Services: Competing through Quality* (New York: Free Press, 1991), p. 16; A. Parasuraman, Valerie A. Zeithaml, and Leonard L. Berry, "A Conceptual Model of Service Quality and Its Implications for Future Research," *Journal of Marketing*, Fall 1985, p. 47; and A. Parasuraman, Valerie A. Zeithaml, and Leonard L. Berry, "SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality," *Journal of Retailing*, Spring 1988, p. 23.

In any service organization the front-line workers—bank tellers, flight attendants, receptionists—are the most critical resource. Part of what a service firm sells is its employees.<sup>17</sup> A rude flight attendant is a rude airline; an incompetent receptionist is an incompetent doctor's office. Unfortunately these front-line employees are often the organization's least-trained and lowest-paid members. Before it can improve service quality, a firm must realize that its employees are the critical link to the service customer.

## Service Productivity

According to Peter Drucker, managers' single greatest challenge is to raise knowledge and service workers' productivity.<sup>18</sup> This involves getting the most out of people. Like manufacturing productivity, **service productivity** is the output per person per hour. Productivity improves in services when the volume or value of output increases relative to the volume or value of inputs. This can be accomplished by working employees harder; recruiting and training more productive workers; reducing worker turnover; buying more efficient equipment; automating the tasks performed by service employees; eliminating bottlenecks in the production and delivery of services that lead to downtime; and standardizing the process and the services output.<sup>19</sup>

Productivity in the service sector has shown little growth in recent years.<sup>20</sup> Because it is nearly twice as large as the manufacturing sector, the low productivity growth in services pulls down the national average. Nonetheless capital spending in services has increased steadily for several years. Additionally foreign trade data show the United States with large surpluses in services—\$35 billion in 1990 and \$43 billion in 1991.<sup>21</sup> These figures reflect a more healthy picture. Some economists suggest that service productivity is understated because no data is available for services that employ about 70 percent of the people in service jobs.

The major way to improve service productivity is to invest in people.<sup>22</sup> Frederick Taylor used the term *working smarter* to describe a means for increasing productivity

service productivity  
Output per person per hour.



without working harder or longer. Working smarter is critical in service jobs. Productivity can be increased by defining the service task and eliminating unnecessary work. Since services are often human performances or at the very least involve humans, service workers must be trained and retrained; continuous learning must be part of productivity improvements.

ServiceMaster completed its 21st consecutive year of record revenues and profits. The firm mops floors, washes laundry, or runs lunch rooms for businesses and institutions. Its subsidiaries kill pests (Terminix), fertilize lawns (TruGreen), and clean homes (Merry Maids) for consumers. To increase productivity ServiceMaster invests in labor-saving tools like a pump-oriented soap-dispensing sponge for washing walls. But the firm's major investment is in its workers, who are trained diligently to perform routine tasks like mopping floors and spreading fertilizer.<sup>23</sup>

Some organizations, as a result of increased competition and a stagnant economy, have attempted to increase productivity by doing more with less. This involves trimming the number of workers and increasing the remaining employees' efficiency through training and labor-saving technology. Retailers eliminated thousands of positions after purchasing computerized cash registers. But there's a danger with this strategy, and managers must ensure that service quality doesn't fall. Carlson Travel Network, one of the nation's largest travel agencies, cut 17 percent of its travel agents in a campaign to increase productivity. The remaining agents were asked to do some new jobs. One important client had to unexpectedly return to Minneapolis from Japan; a travel agent with no experience in international travel forgot to advise the client that he needed a visa to enter Taiwan.<sup>24</sup>

Many other service organizations have had similar experiences trying to increase productivity. But by cutting back in the right places and making the remaining workers more efficient—whether through training or new technology—productivity can be increased. Carlson Travel, for instance, handled the same number of transactions with fewer agents, and improved accuracy from 96.1 to 97 percent; customers' perception of service quality also increased.

## ■ DEVELOPING A PERFORMANCE CULTURE

Obviously performance is important for all businesses, but performance is especially important for service businesses. Service businesses do not *produce*, they *perform*; they don't sell things, they sell performances. And these performances are often labor-intensive, meaning the service is a human performance. The human performance is the actual product that customers buy. If human effort is unresponsive and incompetent, so is the product. The majority of complaints that come into Toyota or IBM are aimed at products; the majority of complaints that come into service businesses are aimed at people.

Managing services is difficult because they are intangible, inseparable, perishable, and heterogeneous. Service productivity and efficiency, as we already noted, can be increased by investing in people. One such investment is developing a performance culture. An organization has a **performance culture** when everyone can do his or her best work. Managers are responsible for developing a culture in which service employees have the training, knowledge, and freedom to meet customers' needs. Many organizations make the claim that they are "customer-driven," but, as we will soon see, it takes much more than rhetoric or good intentions to develop a performance culture.

performance culture  
A work situation where everyone  
can do his or her best work.

### The Components of Peak Performance

A customer walked into a post office and asked to buy 10 rolls of stamps and counted out \$290. After looking in his drawer, the employee said he could only sell the customer sheets. The customer explained that sheets would cause a great deal of unnecessary work

for his assistant and that rolls were exactly what he needed and wanted. The employee said that if he sold him 10 rolls he would have none left in his drawer. “That’s great,” the customer said. “You’re having a good day. You’ve sold out.”

“No,” the employee said, it was policy that he couldn’t sell all of his rolls because he wouldn’t have any for other customers later in his shift. The customer noted that a recurring fantasy of every businessperson he knew was to sell out. When that didn’t work he suggested that he buy four rolls, come back later (perhaps in disguise) and buy three more and so on.<sup>25</sup>

We can learn several important lessons from this story. First, customer satisfaction was not the organization’s objective. Second, a company policy stopped the employee from doing his job. Third, the customer was penalized by a policy he knew nothing about until he engaged in the transaction.

On the first hot day of May a woman with a 1983 model car found that the air conditioner was broken. Even though the car was over 10 years old, it had only been driven 35,000 miles, had never had a single problem, and would cost over \$20,000 to replace. So, deciding to get the car repaired, she took it to the dealership where she bought it. The dealer agreed that the car was in great shape and was worth repairing, gave her a ride to work, and promised the car for later that day.

The problem was diagnosed as a faulty o-ring that was causing the freon to leak out. Though the part was inexpensive, the labor bill was over \$100. The car was ready as promised, and the air conditioner worked like a charm—for two days. Unfortunately the mechanic missed the real problem, a more serious one with the condenser. When the woman returned, the man working at the counter offered to put the amount already paid toward replacing the condenser, but the customer did not want to invest another \$400 in the car even though it was in good shape. The employee asked her, “What would you like us to do?” She replied “Refund my money.” She left with a check five minutes later.

There is something to be learned from this scenario. First, the service department at this dealership was customer-oriented. Second, service quality is delivering what you promise when you promise it. And third, even though some problems cannot be prevented, organizations can recover from them. Recovery training should be employed to teach service workers how to make decisions on their own and to help them develop an awareness of customers’ concerns.<sup>26</sup> Without the authority, the ability, and a sense of the customer’s feelings, the service employee wouldn’t have refunded the money.

The first episode illustrates an organization that lacks the culture to enable employees to perform at their best. The second episode illustrates a peak performance. The postal worker was operating at a minimum, the worker at the service garage at a maximum. Interestingly both workers chose to do what they did. But in one case the worker voted in favor of the customer—probably because leaders of that organization had established a performance culture.

The foundation of all peak performances and the development of a performance culture is **discretionary effort**, the difference between the minimum amount of effort a worker must expend to keep from being penalized (acceptable performance) and the maximum amount a person can bring to a job.<sup>27</sup> Discretionary effort is that effort over which workers have the most control and over which managers have the least control. As Figure 18–3 shows, jobs highest in discretionary effort are customer contact jobs and knowledge jobs. As we move from the manufacturing sector to the service sector, jobs’ discretionary content increases. Assembly line workers don’t bring much discretionary effort to their jobs because machines dictate workers’ output. Teachers or consultants, on the other hand, bring a great deal of discretion to their jobs.

**Peak performance** (the highest level of performance a worker can achieve) is the sum of acceptable performance and discretionary effort.<sup>28</sup> Returning to our two episodes, workers become or fail to become peak performers when their work requires discretionary effort, the “choose-to-do” part of their job and not the “have-to-do” part of their job—acceptable performance. Thus discretionary effort is the common denominator of peak performance, and the critical element for managers who wish to develop a high-performance culture in their organizations.

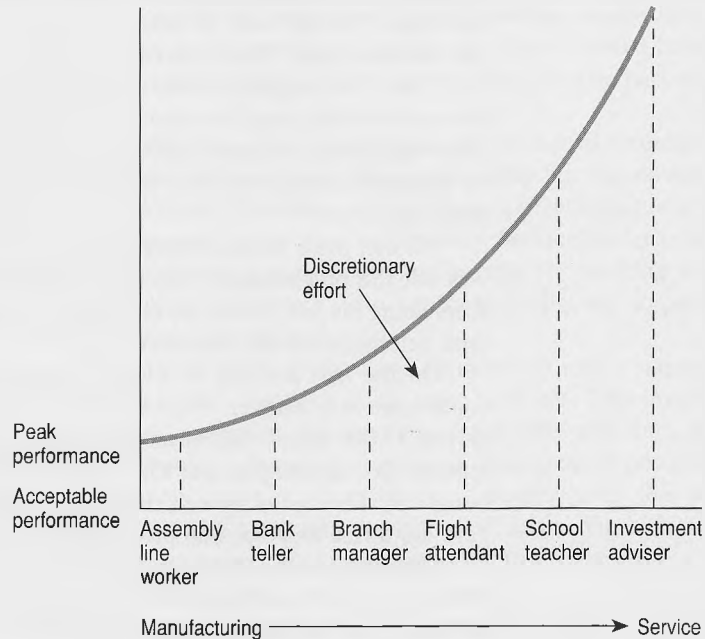
#### discretionary effort

The difference between the minimum amount of effort a worker must expend to keep from being penalized and the maximum amount a person can bring to a job.

#### peak performance

The highest level of performance a worker can achieve.

FIGURE 18-3  
Discretionary Effort Component  
of Different Jobs



## Achieving Peak Performance

Naturally firms want to encourage peak performance. But this is quite difficult because discretionary effort—the key to achieving peak performance—is not easily controlled by managers. Some service workers are satisfied with acceptable performance, which their customers come to accept. But the reality of today's highly competitive global economy is that acceptable performance is not acceptable. There may be little difference between products offered by various banks, such as checking accounts, auto loans, and savings accounts. But one bank may provide better service than another. When services are the same, a firm wins or loses with service. The challenge facing managers is to unleash workers' discretionary effort.

Empowering employees to make decisions and take action without management's approval increases the likelihood that discretionary effort will be exercised. Employees who fear the consequences of making a mistake or who, because of policies, cannot make a decision on their own, are less likely to exercise discretion. The postal worker couldn't sell the stamps in rolls because of a policy, and either didn't care about the customer or (more likely) was afraid to break the policy. Service managers have begun to empower workers and encourage them to exercise discretion, realizing this has a positive impact on service quality and customer satisfaction. But empowerment alone does not ensure that a performance culture is created.<sup>29</sup> Managers must be committed to developing a responsive organizational structure that encourages performance, and employees must be motivated and committed to the organization's goals.

**Management Commitment** In Chapter 9 we said that an appropriate organizational structure reinforces and rewards behaviors that accomplish the organization's goals. It's management's job to articulate these goals and develop a structure that facilitates achieving them. If managers aren't committed to customers, workers are likely to behave in the same way. Thus managers must identify performances that enhance the organization's efficiency and effectiveness. In many service organizations managers and workers alike spend an inordinate amount of their time, energy, and resources performing activities that aren't critical. Managers must identify those activities that are most critical and focus the organization's attention on being the best in the world at these activities.<sup>30</sup>

Managers should also tie rewards directly to performance that enhances the work's efficiency and effectiveness. Recognition should be given to individuals who perform

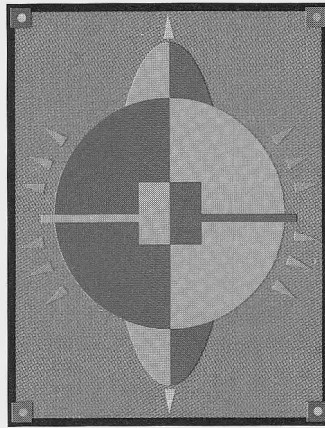
## REFLECTIONS BY PHILIP B. CROSBY

## MANAGING SERVICES

I had a chat with two hotel managers in an airplane. They were anxious to tell me about their service program that ensured that guests were getting what was needed. They worked for the same chain and were on their way to a corporate management meeting. They planned to present the results of their jointly developed program to this session.

The key to their program was an assistant manager at a desk in the hotel lobby. In each room was a tent card stating that the hotel had a “quality hot line.” If guests had a problem they punched the hot line number on their telephone and the assistant manager answered. If she was off on a mission then the call would be transferred to the front desk. The call and its result were logged into the computer system and the resident manager could have an instant printout. They had some of these with them.

Guests’ most common complaint referred to the time it took for room service. The second most common had to do with items in the room, such as towels, being missing or inadequate. One hotel averaged 23 calls per day on the hot line; the other averaged 34. The number range was pretty standard over the six months that the program had been in effect.



“We are really giving our guests great service,” said one manager. “They get their problem fixed within 20 minutes and we have a goal of 15 minutes by the end of this year.”

I said that it appeared to me that the same problems happened over and over. There didn’t seem to be much effective corrective action. What they had was a very expensive way of fixing things temporarily.

They were crestfallen and repeated the story to make certain that I had not misunderstood.

“How about installing that system on this airplane,” I asked. “If we run out of gas, we can call a hot line and they’ll send some up. I think I wouldn’t like that.”

“What would you suggest?” one said.

“Prevention, prevention, prevention. Use each problem as a way of learning how to never let it happen again. Guests really don’t want to talk to the hot line. They would prefer to just go about their

business.”

They were disappointed.

“You’re saying that what we call service is just another name for rework?” he asked.

“True,” I said. “The best way to serve your customers is to not make them part of the problem.”

beyond the acceptable level. Employees should be encouraged to participate with management in defining goals and standards against which individual performance can be judged. In short, if there is no incentive to perform above acceptable levels, individuals likely perform at minimums rather than maximums. Managers must be fully committed to a performance culture; their every action must clearly demonstrate this commitment to subordinates. The worst thing a manager can do is talk performance culture but take actions that convey a much different message to workers.

**Employee Commitment** By now it is clear that services are much different than goods. In many instances the service is a human performance. Unfortunately the front-line worker is often the lowest-paid and least-trained member of the organization. With new technologies in banking—automatic teller machines, direct deposit of pay checks, direct withdrawal of bills and other payments—we rarely have to go into a bank. This has led some bankers to conclude that service encounters with the bank are becoming less important when the opposite is actually true. With all this technology, a customer only visits a bank personally with a special problem or need. Service contact personnel at the bank now take on increased significance as machines complete the more routine tasks. The same can be said for many other services.

Organizations can encourage employee commitment by investing in service workers. Most performance cultures are characterized by a high degree of training. Workers are not only trained to perform their job, they are trained to solve problems, to deal with irate customers, and to deal with other members of the organization. Knowledge is important—knowledge of how one job fits into the overall scheme of the organization, knowledge of other jobs, knowledge of the organization's goals, and knowledge of the customers. The conditions under which quality service can be provided must also be present. When a service worker needs operational support or advice to help a customer, the support must be readily available. Without training, knowledge, and support, a worker cannot be truly empowered. Unfortunately some managers believe empowerment merely means telling workers that they are free to make decisions; training and knowledge are needed to make the right decisions.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Define service.*

A service is an intangible product that involves human or mechanical effort.

### *Discuss the concept of tangibility as it relates to goods and services.*

Consumers can physically possess a tangible good. A service cannot be physically possessed because it is intangible. Most products are neither a pure good nor pure service, but a mix of tangible and intangible elements. One element usually predominates, which is the basis for classifying a product as a good or service.

### *List four characteristics that distinguish services from goods.*

Services can be distinguished from goods by intangibility (services cannot be assessed by senses of sight, taste, touch, smell, or hearing), inseparability of production and consumption (services are produced and consumed at the same time), perishability (unused capacity cannot be stored and used at a later date), and heterogeneity (inconsistency or variation in human performance).

### *Explain the significance of service quality and productivity.*

Service quality and productivity are at the heart of many service management strategies. Service quality is the conformance of the service to customer specifications and expectations. Only by meeting customer expectations on a consistent basis can an organization deliver service quality. Productivity in services is the output per person per hour. A major challenge facing service organizations is to raise service workers' productivity.

### *Discuss how service organizations can improve quality and productivity.*

Service quality can be improved only when managers take quality seriously. But all employees must be committed to quality.

Organizations must develop specific guidelines that are communicated to employees and enforced by management. High-quality service must be recognized and rewarded. The major way to improve service productivity is to invest in people. Defining the service task, eliminating unnecessary work, and training service workers must be part of productivity improvements.

### *Describe when an organization has a performance culture.*

An organization has a performance culture when everyone can do her best work. Managers are responsible for developing a culture in which service employees have the training, knowledge, and freedom to meet customers' needs.

### *Discuss the components of peak performance.*

Peak performance—the highest level of performance a worker can achieve—is the sum of acceptable performance and discretionary effort. Acceptable performance is the minimum amount of effort needed to not be penalized. Discretionary effort is that effort over which workers have the most control and managers have the least control.

### *Explain how organizations can encourage peak performance.*

Peak performance can be achieved by empowering workers to make decisions and take action without management's approval. Managers must be committed to developing a responsive organization structure that encourages peak performance. Employees must be motivated and committed to the organization's goals.

## ■ KEY TERMS

discretionary effort, p. 515

heterogeneity, p. 508

inseparability, p. 506

intangibility, p. 506

peak performance, p. 515

performance culture, p. 514

perishability, p. 507

service, p. 504

service productivity, p. 513

service quality, p. 510

## REVIEW AND DISCUSSION QUESTIONS

### Recall

1. What is a service? Name five different services.
2. What characteristics distinguish services from goods?
3. Describe a classification scheme for services, giving an example for each category.
4. What is service quality? How can it be improved?
5. Explain what is meant by a performance culture.
6. How do you calculate peak performance? Define each component of the formula.

### Understanding

7. Explain how a manager may use a classification of services.

8. Why is service productivity important to our economy? How can efforts to improve service productivity reduce service quality? Give an example.
9. What makes an individual perform at the minimum? What can an organization do to encourage workers to perform at maximums?

### Application

10. If an airline president asked you to put together a program for improving service quality, how would you respond? Be sure to explain why your program would improve service quality.

## CASE 18-1

### Carnival Cruise Lines

With 20 percent of the North American cruise market, Carnival Cruise Lines became the biggest line in the world through execution, not innovation. Carnival wasn't the first cruise line on network TV or the first to use the "fun" slogan. The firm's success comes from delivering a consistent message and product. Says one major competitor, "Carnival's . . . approach has been brilliant. Nobody has been able to truly compete in their niche."

Carnival was founded in 1972 by Ted Arison, whose idea was to make the ship itself the product. Whereas most major cruise lines emphasize the ports of destination rather than the shipboard experience, Arison decided to make the ship the destination. To achieve this, he made Carnival's ships resorts on water, equipped with pools, casinos, and plenty of food. Passengers enjoy being on the ship as much as landing at some exotic Caribbean port. Ship names (like *Mardi Gras* and *Fantasy*) and everything else about Carnival connote fun.

To reinforce the idea that the ship is the destination, Carnival provides superior service. Whereas some competitors provide room service 16 hours a day, Carnival provides it around the clock. Three full meals, with two settings for each, are served daily. In addition there are two midnight buffets plus snacks available regularly beginning at 6:30 A.M. Room stewards are always around to keep cabins clean, help with luggage, and even turn down beds. Waiters who serve passengers on the pool deck learn beverage preferences and serve refills before being asked.

Carnival's cruises are priced competitively; many are priced 20 percent below those of competing lines. Its pricing has allowed Carnival to target cruises at people who previously could not afford them. Carnival passengers' average annual household income is in the \$25,000–\$50,000 range. The popular seven-day Caribbean cruise on the *Jubilee* costs \$1,200, including air

fare to Miami (the port of departure), food, and entertainment. Many passengers aboard the *Jubilee* are young, blue-collar entrepreneurs.

The way in which cruises are sold is limited because of inseparability of production and consumption. Nevertheless Carnival is the industry's most forceful firm in terms of selling cruises. By using travel agents to help facilitate the transaction, Carnival has established an effective sales mechanism. It encourages travel agents to let vacationers know that cruises are an alternative to a trip to a theme park like Disney World. To enlist travel agents' cooperation, Carnival employees pay personal calls on them. Carnival also gives cash awards to some agents who recommend Carnival. The company strategy works—most Carnival passengers say that a travel agent recommended the cruise line.

Although cruises' popularity is growing, only 5 percent of Americans have taken a cruise. This leaves a huge potential market for the cruise industry. Carnival is currently building three of the largest passenger ships in the world (the *Fantasy*, the *Ecstasy*, and the *Sensation*) at a total cost of \$600 million. Carnival hopes these three ships will tap into the huge potential market. The firm has also established a joint venture with Club Med, the French chain of vacation villages. The companies plan to have a cruise ship in the Mediterranean by 1993 and will explore the idea of starting cruises in the Asian market.

### Questions

1. What product does Carnival Cruise Lines sell?
2. What are some tangible elements associated with cruises?
3. Why is service quality critical to Carnival's strategy?
4. Do you think Carnival has a performance culture? Explain.

Source: Adapted from Bradley Johnson, "Carnival," *Advertising Age*, July 6, 1992, pp. 5–22; Michael J. McCarthy, "Carnival Plans Europe Venture with Club Med," *The Wall Street Journal*, May 19, 1992, pp. B1, B12; Faye Rice, "How Carnival Stacks the Decks," *Fortune*, January 16, 1989, pp. 108–16; Fran Durbin, "Carnival Plans to Use Fantasy on Short Trips," *Travel Weekly*, October 27, 1988, pp. 1–2; and Stephen Koepf, "All the Fun Is Getting There," *Time*, January 11, 1988, pp. 54–56.

## ■ CASE 18-2

### British Airways: Part II

The spirit of airline competition in the 1990s can probably be best described as service or else. Having lost billions of dollars in recent years, carriers are desperate to raise fares, and some feel better service will make higher fares possible. So rather than competing on price, airline companies are focusing on service. At the top of the heap stands British Airways, named in *Euro-money* magazine's annual poll of business travelers as the airline providing the best service.

In 1991 British Airways' profits were an industry-high \$496 million. Its average revenue per passenger, \$396, was also among the best in the industry. In terms of passengers carried and passenger miles flown, British Airways has become the world's largest international airline. All this from the airline that lost an industry-record \$1 billion in 1982.

When Sir Colin Marshall took over as CEO of British Airways in early 1983, the company was the laughingstock of the industry. Comedians referred to the company, known by its initials BA, as "Bloody Awful." Employee morale had hit rock bottom; thousands of employees had just been laid off, and those remaining were embarrassed to work for the worst airline in the world. Marshall's first challenge was to restore pride. To send a clear message to both employees and potential customers, he ordered newly designed uniforms for all personnel. The fleet of planes was also repainted with bright stripes and the motto "To fly, to serve." With this motto, the service era was born at British Airways.

Words alone do not guarantee quality service, so Marshall launched a major campaign to change employees' attitudes toward service. He surmised that many passengers, especially those traveling on business, desired better service from airlines. Marshall required that all BA employees attend a two-day seminar called "Putting People First." Its purpose was to put airline employees in the customers' shoes. Employees were asked to think about some of their own bad experiences with service.

Obvious problems—dull, tasteless food, poor cabin service, cramped leg room—were remedied immediately. But Marshall also scrutinized the less obvious details. For example, research had shown that passengers like to be called by name, so BA employees spent several months observing passengers on flights from London to Glasgow and Manchester. When ticket agents addressed passengers by name, customer satisfaction scores went up approximately 60 percent. Now BA agents call customers by name whenever possible. Troubleshooters who speak several languages were placed at London's Heathrow Airport to provide passenger assistance. Booths were set up at JFK Airport in New York City for BA passengers to videotape comments about service. Flights were scheduled for the convenience of customers, not the airline.



BA also changed its Concorde service. Marshall decided to treat the firm's seven Concorde, which were losing money, as a symbol of a revitalized airline. The planes were redecorated, and prices were raised substantially. The new price is 30 percent higher than first-class fares on a conventional jet. But because the Concorde can cross the Atlantic Ocean in half the time it takes other jets, BA developed a new advertising theme to emphasize time's importance to business travelers. As a result the Concorde began flying at over 60 percent occupancy (the breakeven point) on its transatlantic routes.

Then in early 1989 BA invested \$40 million to improve first-class service. Video terminals were installed at each seat, and cabin interiors were redesigned. A new wine cellar offers an improved selection; first-class passengers may eat when they wish.

These changes are all part of Colin Marshall's service imperative, and managers from other service industries are taking note. Marshall himself likes to recall the famous Twentieth Century Limited, the train that ran from New York to Chicago. Conductors would pay passengers \$1 for every minute the train was late, no matter who or what was to blame. With all the air traffic delays and weather problems, it would be tough for airlines to make the same offer. But, as Marshall says, "We could promise to make the delays completely painless with concentrated service attention. Think how many customers you could acquire for life if and when the guarantee is cheerfully, quickly and easily paid."

Now British Airways is ready to take on the rest of the world. In July 1992 BA finalized an agreement with USAir to form a transatlantic alliance. The firm withdrew its \$750 million bid for 44 percent of USAir when it became obvious that the deal would not be approved by the U.S. government. The proposed deal resulted in loud cries from the big domestic carriers, who claimed it would give the British a leg up in the race to become the first global airline. BA's second bid of \$300 million for 19.9 percent of USAir was approved in March 1993. The two carriers will serve 339 cities in 71 countries.

### Questions

1. Why did Colin Marshall have to change employees' attitudes toward service?
2. How did British Airways use research to help serve customers better?
3. Why would a passenger pay 30 percent more to fly on a Concorde than to fly first-class on a conventional jet?
4. If the alliance between British Airways and USAir is approved, how will it impact service at the major domestic carriers?

### ■ APPLICATION EXERCISE

The purpose of this exercise is to evaluate a service you have recently purchased or experienced, and make some suggestions as to how it can be improved. Refer back to the material in the chapter as you complete the exercise.

Select the service to be evaluated (e.g., airline, insurance, hair cut) and list it here.

Now circle the number that represents your level of agreement with each of the following statements.

	Strongly Disagree						Strongly Agree
	1	2	3	4	5	6	
1. The service is consistent in performance and dependability.	1	2	3	4	5	6	
2. The tangible tools or facilities used to provide the service are in good working order and have a neat appearance.	1	2	3	4	5	6	
3. Workers are willing and ready to provide service.	1	2	3	4	5	6	
4. The workers are knowledgeable and trustworthy.	1	2	3	4	5	6	

5. The workers care about customers and provide individual attention.      1   2   3   4   5   6

Now let's assess the service. Items circled 1 or 2 show poor performance; 3 or 4 show middle-of-the-road or average performance; 5 or 6 show good performance. For each item not marked 5 or 6, how can this service be improved?

Item 1 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Item 2 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Item 3 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Item 4 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Item 5 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



CHAPTER

19

MANAGING ORGANIZATIONAL  
CHANGE

*After studying this chapter, you should be able to:*

Explain why individuals resist change  
in organizational settings.

Describe the differences between outside pressure and  
people-change-technology change agents.

Define *survey feedback* and explain how it's used.

List the six areas used in the chapter's framework  
for managing change.

Compare the depth in team building and  
empowerment techniques.

Describe why it's hard to reshape an  
organization's culture.

Explain the types of diagnosis techniques  
available to managers.

## STEINWAY OR YAMAHA PIANOS?

In his interesting, well-written book, *Icarus Paradox*, Danny Miller proposed that firms like IBM, Chrysler, and Sears have distinct profiles and modes of operation that fit prototypes he designated as Craftsmen, Builders, Pioneers, and Salesmen. In dealing with external and internal forces, these and many other firms take on a certain culture, style, and posture. ■ The Craftsman firm is obsessed with quality and frequently turns into a perfectionist culture which is rigid, unbending, and unresponsive to competitors. Early entrepreneurial Builders tend to become imperialists, overextending what they have abilities to do. Inventive Pioneers become experts, converting their love for innovation into a pie-in-sky, off-the-wall fiasco. And aggressive Salesmen proliferate products, becoming aimless drifters. Miller contends that, even though some firms recover from the problems associated with their prototype, they usually have a difficult time changing when it's necessary and before competition has taken away market chunks forever. ■ An example of a Craftsman prototype firm that has a rigid culture is Steinway, maker of top-of-the-line concert pianos. A total of 12,000 parts and 26 types of glue go



Bob Krist/Black Star

A Steinway piano being made with care.

into making a Steinway grand piano. Its 400 workers produce about 2,500 grands per year. Perfection, care in handling, and specialization of labor are top priorities. ■ Highly automated Yamaha and other piano manufacturers produce about 200,000 excellent-quality pianos a year. These competitors threaten Steinway's control of even its 2,500 pianos-a-year niche. Changes in production, timing, and scheduling are needed to meet the competition. But change of any kind

will be difficult because of Steinway's embedded culture. Each worker has a special set of tasks. What will change do to these tasks and responsibilities? Each worker is a part of a team: what will change do to the team's interaction? Each worker understands the company's expectations about quantity and cost. What will change do to these expectations? ■ Steinway decided that it couldn't hold off its competition much longer so it hired a new chief executive officer. He's the change agent that will attempt to bring about changes that reshape the firm's jobs, expectations, culture, and structure. The new CEO must develop a change strategy and actions that permit Steinway to compete with mass producers of lower-priced pianos. ■ This chapter will show that the kinds of changes that Steinway must make will require a number of interventions that involve training, education, and communication. Resistance to change may come from Steinway employees who are proud and productive perfectionists who can no longer hold onto their way of producing pianos. Overcoming this resistance and reshaping Steinway isn't sure to happen. Steinway, like any firm, can only attempt to make the changes needed to survive.

Source: Adapted from Charles J. Fombrun, *Turning Points* (New York: McGraw-Hill, 1992), pp. 57, 58, 220; Matthew Wald, "Steinway Changing amid Tradition," *New York Times*, March 28, 1991, pp. D1, D8; and Danny Miller, *The Icarus Paradox: How Exceptional Companies Bring about Their Own Downfall* (New York: Harper Business, 1990).

The horse was domesticated around 2,500 B.C., but the stirrup (used to quickly mount the horse and necessary for fighting from it) wasn't invented until 500 A.D.. Imagine a 3,000-year gap. Gunpowder too was slow in making the transit from discovery to application. Five hundred years passed from its first use in 10th-century China to its widespread use in Europe. The pace of change hundreds of years ago could be slow.<sup>1</sup> Sometimes there was a long lead time between discovery and application.

Today the pace of change is almost breathtaking. Lead times have shrunk to a decade, years, or even months. New fiber optic circuits, laser cutting devices, plastics, medicines, food products, and transistors have quickly moved from the drawing board to actual use. Even high-quality pianos can be mass produced, as Steinway found out as it has been forced to compete with Yamaha and others. The planet has seemingly shrunk, and geographic boundaries have been rearranged dramatically.<sup>2</sup> Change is a constant topic of discussion.

In the past decade managers have faced changes such as the following:

- The size of the work force has been reduced. Entire layers of management have been eliminated at General Motors, IBM, and Sears, Roebuck.
- Reward systems are constantly being revised to reflect employees' acquired skills versus their seniority.
- New evaluation methods focus on group accomplishments instead of relying solely on individual evaluations.
- Exciting new approaches to oversee employee involvement in decision making are becoming commonplace in many firms including Weyerhaeuser, Zenith, and Bristol-Meyers Squibb.
- Computer-integrated manufacturing has been used to analyze the value added to a product by a person or a team.
- The United Auto Workers (UAW) union is collaborating with Toyota and General Motors, producing higher-quality and lower-cost cars than ever before.

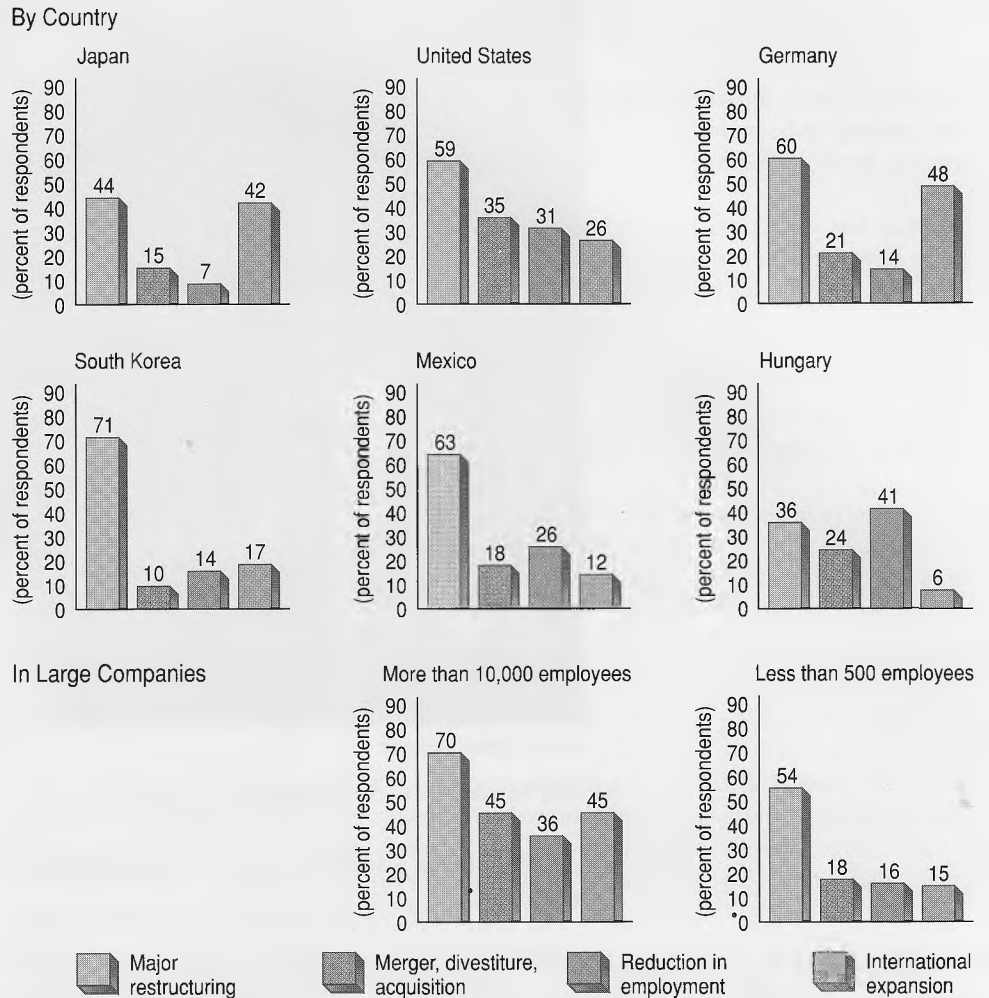
Managers now face these and other rapid behavioral, structural, and technological changes. This chapter discusses some forces of change. It also presents frameworks and models that can serve as blueprints for ordering managerial thinking about change. They serve as a guide for first diagnosing and then managing change. In addition, various organizational development intervention methods are discussed in terms of change. Finally, the ever present cultural and structural factors (such as those facing Steinway's new CEO) that make or break change interventions are discussed in terms of reshaping.

## ■ CHANGE FORCES

Today's organizational domain includes unpredictable and uncontrollable domestic and international forces. Discussions and writings of mergers, regulation, privatization, downsizing, union-management collaboration, high-involvement participation, plant closings, technological re-engineering, managing culturally diverse workers, and environmental protection fill the library shelves, boardrooms, and airways. These and many other forces from outside and inside the organization demand attention.

Organizations around the world have been experiencing increasingly rapid change for much of the second half of the 20th century. With the globalization of markets, worldwide telecommunications, and increasingly rapid and efficient travel over the past decade, the pace of change has reached a fevered pitch. To find out how managers are reacting to these rapid changes, *Harvard Business Review* conducted a survey in November 1990 to explore real-world managers' experiences in 25 countries. The results shown in Figure 19-1, are based on the 11,678 responses to the 91 survey questions.

FIGURE 19-1  
Organizational Changes  
Experienced, 1989–1990



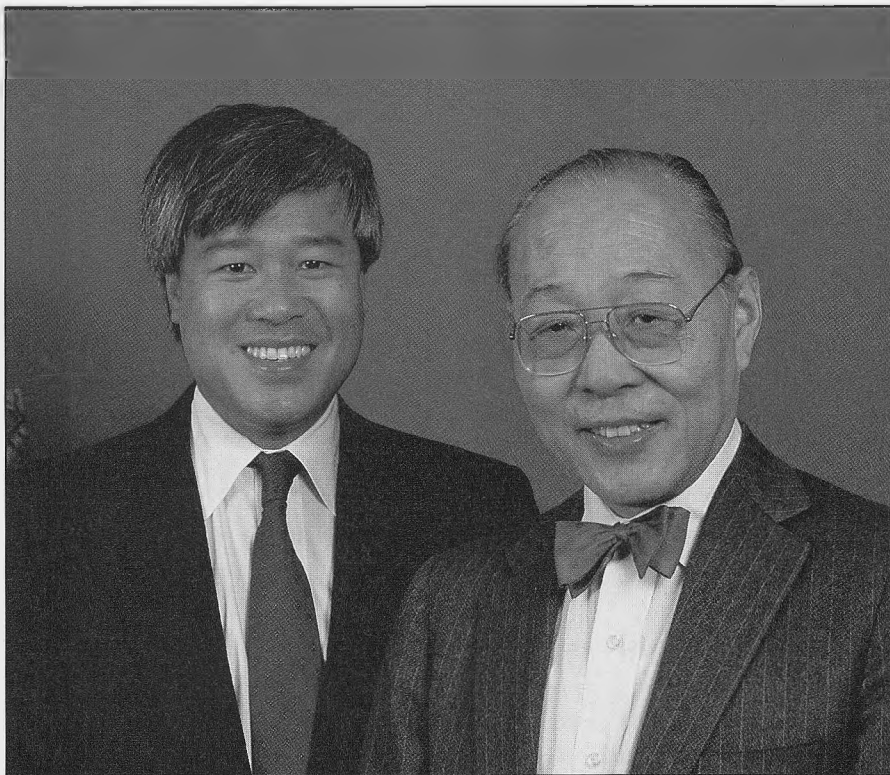
Source: Adapted from Rosabeth Moss Kanter, "Transcending Business Boundaries: 12,000 Managers View Change," *Harvard Business Review*, May–June 1991, p. 154.

Of the findings, Rosabeth Moss Kanter wrote:

*If there is a single message from the survey results, it is this: change is indeed everywhere—regardless of country, culture, or corporation. But the idea of a corporate global village where a common culture of management unifies the practice of business around the world is more dream than reality.<sup>3</sup>*

For example, Wang Laboratories, Inc., filed for bankruptcy in 1992. Ten years earlier Wang had sales of \$1.2 billion and a profit of about \$110 million. The Lowell, Massachusetts, company was a 1982 success story that employed over 25,000 workers. How does a company move in 10 years from being profitable to filing for bankruptcy? A lot of reasons can be cited such as management's inability to accomplish what the firm's founder, An Wang, achieved in the 1970s. Increased competition and delayed reaction to competitors is another explanation.<sup>4</sup> The ever changing mix of competitors—domestic and international—forced Wang to move more quickly than it was capable of doing.

Wang management refused employees' pleas to launch general-purpose computers as archrival IBM was doing. Another mistake was founder An Wang's insisting that his inexperienced son succeed him. This change in the top position was disastrous. The son has now been replaced, but the firm is having a difficult time recovering. Wang has



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An Wang the founder of Wang Laboratories, Inc., and his son.

moved from being a superstar firm to a struggling, disorganized firm that's likely never to recover.

The Wang Laboratories situation shows how internal and external factors can operate. That is, pressure was occurring to act, respond, and cope with suggestions and competitors. These internal and external forces appear to have been largely ignored in Wang's case.

## Internal Forces

### internal change forces

Forces for change that occur within the organization, such as communication problems, morale problems, and decision-making breakdowns.

**Internal change forces** are pressure that comes from a worker, a group, or a department. Sometimes the pressure is the cost of producing a microchip or car. For example, unit cost increases; therefore pricing the product at a reasonable amount to make a sale is a force that may signal a need for change. If the product costs too much to produce, it can't be priced competitively.

Poor worker morale over some inequity in the reward system could be an internal pressure point that a manager becomes aware of and must address. Although attitudes may be difficult to observe directly, increased grievance rates, absenteeism, or turnover may suggest poor or decreasing morale. Identifying internally driven forces for change is sometimes difficult. Is the poor morale caused by the culture, the structure, or the manager, or does the worker bring this attitude to work? It's a difficult question to answer.

## External Forces

External (outside-the-organization) forces can signal us that change is needed. The opening vignette describing the Steinway versus Yamaha piano competition shows how external forces operate. Government regulations such as the Americans with Disabilities Act (ADA) of 1992 or affirmative action requirements could suggest the need to change a

firm's work area layout or recruitment and selection program. Skyrocketing health care costs, now totaling over \$800 billion annually, suggest that organizations may need to change their health care coverage program or the type of fringe benefits provided to employees.

Market competitors and how they reward employees, distribute products, service customers, or form alliances with foreign partners may signal the need to change. Foreign competitors often play by different rules that American firms must learn to cope with and change the rules if they're to survive.

Among nations, Japan, through its Ministry of International Trade and Industry (MITI), has been active in helping companies structure cooperative research with rivals (e.g., U.S. firms), openly acting as the leading sponsor of Japanese industries and defining broad technological policies to follow. The Japanese business community as a whole is structured as a collusive network (*keiretsu*), linking business firms and government regulators. Not surprisingly, foreign competitors have found it daunting to overcome these collusive networks and challenge Japanese firms on their domestic territory. The rules are different for the Japanese firm in the *keiretsu* than they are for French or American firms conducting business in Japan.<sup>5</sup>

The wave of cultural diversity sweeping across America is a powerful external force that necessitates change. Integrating and utilizing the talents of a more diverse work force, and effectively rewarding this culturally diverse work force will require changes in attitude, interpersonal interaction, and perception. Changes in managers' cultural awareness are also needed.

## ■ RESISTANCE TO CHANGE

The corporate entity or organization doesn't respond to internal or external forces of change, but people do react. Unfortunately individuals in key positions or locations may overtly or covertly resist change. Some of this resistance is concentrated enough that it stops change dead in its tracks. This resistance can be caused by self-interest, habit, fear, peer pressure, and bureaucratic inertia.

**Self-Interest** Some individuals resist change because they have a personal self-interest in the way things are done. They enjoy the work flow or their position—and change threatens these. For example, working in an office affords individuals an opportunity to interact socially, compare work situations, and examine problems with others. Edward's Valve disbanded its sales force in such a way that a main office no longer exists. All salespeople work alone from their homes. Once a month they meet to compare notes and projects. The move from the office to the home-based operation was openly resisted for months.

**Habit** The comfort of working the same way day after day has a certain appeal to people. For many individuals, life is a pattern of getting up, going to work, coming home, and going to bed. Steinway piano workers liked to work on specific tasks to produce the best piano possible. People become accustomed to sameness; they get in the habit of doing tasks a certain way. Changes in personnel, work flow, structure, or technology threaten the continuation of a pattern or set of habits.

**Fear** Change introduces uncertainty and a degree of fear. People fear having to learn a new way or to become accustomed to a new leader, and possibly failing. Employees are sometimes provided with an opportunity to relocate and take a different, better-paying job in the firm. But this change is considered risky and introduces the possibility of failing.

**Peer Pressure** Peers often apply pressure to resist change. For example, peers may resist the introduction of automation because they assume, sometimes correctly, that

## MANAGING ORGANIZATIONAL CHANGES

"I had this idea," I remarked at a staff meeting back in 1961. "We spend a lot of time and money checking and finding and fixing. Why don't we concentrate on getting things done right the first time? Then we won't have to check, find, and fix."

As I looked around the room, expecting to see an enthusiastic response to this marvelous thought, I experienced instant disappointment. They gave me that "poor soul" look as if I had suggested we pop in for lunch on Saturn. Instantly I knew how Galileo had felt.

"That would cost a fortune, Phil," said the engineering director.

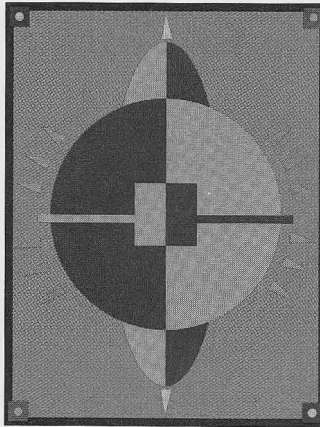
"People would be very upset if we demanded they do everything right every time. We would have psychos on our hands and a strike too," said the personnel director.

"I can't believe you're serious," said our quality expert. "Our acceptable quality levels are at 2 percent now, and that's very rigid. I'd need more inspectors if we're going to not have any defects."

"The employees are just not capable of doing that kind of work," said the production manager. "The school systems don't teach them good hand skills."

"I was thinking that we could train people more than we do. As far as I can see they're capable of doing great work," I replied. "I think the problem is that we've set up a process of doing work and then doing it over."

"That's the way everyone does it," replied the marketing manager. It has been that way for years, and it has been that way because that's the best way to work."



There was a finality to the statement and everyone seemed to nod at that moment for emphasis. Later I realized that each of them was thinking of the drastic revisions that would be necessary in their personal professional lives if these ground rules changed. Doing it right means that requirements must be clear, it means that people must be trained, it means that responsibility must be dropped down the organization chart, it means that some departments won't be as large as they were before, it means going against the conventional wisdom.

I was thinking that such a policy would make things easier. Everyone else was thinking it would be harder.

From this I learned in the final consideration that people aren't against change just because it's change. After all, they alter their own lives regularly. They change personal suppliers, such as restaurants; they change friends; they move; they get new clothes; they do all these things and more without even thinking of

them as change. But in these cases they're the ones who are instigating the action.

In business life, when others start making things different, change is much more threatening. We may not understand the limits of what's going to happen. We may have no strings on it. We may, well, feel threatened. After realizing this I began taking care to explain the concepts of zero defects in a less terminal way, sort of easing into it until the group began to come up with the idea themselves. That way they could see how it would affect them and determine that it would make their lives easier, not harder.

fewer workers will be needed to perform the job. These peers can pressure colleagues who might otherwise emotionally and personally support automation and its potential to improve productivity.

**Bureaucratic Inertia** Large government institutions, educational institutions, and business organizations have a built-in resistance because of the traditional rules, policies, and procedures. The refrain is "This is how we've done things for years." Why change? The Big Three auto manufacturers had a degree of bureaucratically built-in resistance to the smaller Japanese cars that arrived in the 1970s. These smaller, more gas-efficient cars caught the attention of American consumers—especially after the gas shortages of

1973. But the Big Three simply didn't respond in a timely or aggressive fashion. They each were steeped in traditional thinking about small cars—especially Japanese autos.

Inflexible rules, policies, and procedures preclude the use of adaptive changes in any organization. Bureaucracy, red tape, and traditionally built-in ways of conducting business are difficult to overcome. Often managers know they're in a bureaucratic maze, but it's difficult to wrestle through the barriers, delays, and stonewalling that can become common.

## Reducing Resistance to Change

Before changes in organizations can be made, overcoming or reducing resistance and encouraging and building support for changes is needed. There are no simple, always-perfect prescriptions for reducing resistance, but six options may prove useful.

**Education and Communication** Explaining in meetings, through memos, or in reports why change is needed is especially helpful when there's resistance because of a lack of information. Open communication helps people prepare for the change. Paving the way, showing the logic, and keeping everyone informed lowers resistance. This option is usually time-consuming.

**Participation and Involvement** Bringing together those to be affected to help design and implement the change likely will increase their commitment. If individuals feel their ideas and attitudes are included in the change effort, they tend to become less resistant and more receptive. But sometimes their ideas aren't appropriate.

**Facilitation and Support** Being supportive is an important management characteristic when change is implemented. Managers must be supportive (e.g., show concern for subordinates, be a good listener, go to bat for subordinates on important issues) by providing training opportunities and helping to facilitate the change when fear and anxiety are at the heart of resistance. But this approach can be time-consuming and expensive and still fail.

**Negotiation and Agreement** Resistance can be reduced through negotiation. Discussion and analysis can help managers identify points of negotiation and agreement. Negotiated agreement involves giving something to another party to reduce resistance. For example, convincing a person to move to a less desirable work location may require paying a bonus or increasing monthly salary. Once this negotiation agreement is reached, others may expect the manager to grant similar concessions in the future.

**Manipulation and Co-optation** *Manipulation* involves the use of devious tactics to convince others that a change is in their best interests. Holding back information, playing one person against another, and providing slanted information are examples of manipulation. *Co-opting* an individual involves giving him a major role in the design or implementation of the change.

**Explicit and Implicit Coercion** In using explicit and/or implicit coercion, managers engage in threatening behavior. They threaten employees with job loss, reduced promotion opportunities, poor job assignments, and loss of privileges. The coercion is intended to reduce a person's resistance to the management-initiated change. Coercive behavior can be risky because it can generate bad feelings and hostility.<sup>6</sup>

Table 19–1 on the next page shows these six options for reducing the commonly found resistance to change. As illustrated, each of the options has advantages and disadvantages.



TABLE 19-1  
Methods for Reducing Resistance to Change

Approach	Involves	Commonly Used When . . .	Advantages	Disadvantages
1. Education and communication	Explaining the need for and logic of change to individuals, groups, and even entire organizations.	There is a lack of information or inaccurate information and analysis.	Once persuaded, people will often help implement the change.	Can be very time-consuming if many people are involved.
2. Participation and involvement	Asking members of organization to help design the change.	The initiators do not have all the information they need to design the change, and others have considerable power to resist.	People who participate will be committed to implementing change, and any relevant information they have will be integrated into the change plan.	Can be very time-consuming if participants design an inappropriate change.
3. Facilitation and support	Offering retraining programs, time off, emotional support, and understanding to people affected by the change.	People are resisting because of adjustment problems.	No other approach works as well with adjustment problems.	Can be time-consuming and expensive, and still fail.
4. Negotiation and agreement	Negotiating with potential resisters; even soliciting written letters of understanding.	Some person or group with considerable power to resist will clearly lose out in a change.	Sometimes it is a relatively easy way to avoid major resistance.	Can be too expensive if it alerts others to negotiate for compliance.
5. Manipulation and co-optation	Giving key persons a desirable role in designing or implementing change process.	Other tactics will not work or are too expensive.	It can be a relatively quick and inexpensive solution to resistance problems.	Can lead to future problems if people feel manipulated.
6. Explicit and implicit coercion	Threatening job loss or transfer, lack of promotion, etc.	Speed is essential, and the change initiators possess considerable power.	It is speedy and can overcome any kind of resistance.	Can be risky if it leaves people angry with the initiators.

Source: Reprinted by permission of the *Harvard Business Review*. An exhibit from "Choosing Strategies for Change" by John P. Kotter and Leonard A. Schlesinger (March–April 1979). Copyright © 1979 by the President and Fellows of Harvard College; all rights reserved.

## ■ A FRAMEWORK FOR MANAGING CHANGE IN ORGANIZATIONS

Many frameworks can be useful for thinking about change and change processes. Figure 19–2 provides a process-oriented model for managing change that emphasizes six distinct stages in which managers must make decisions. Stage 1, the forces for change, has already been discussed in terms of internal and external factors.

Distinguished psychologist Kurt Lewin introduced the notion of three stages in the change process: unfreezing, changing, and refreezing. The unfreezing phase is designated as stage 2 in Figure 19–2. Managers must recognize that change is needed or that the present state is inadequate. For example, a manager could notice that there are no minority job applicants for vacant positions despite the fact that minorities make up 20 percent of the area's population. A change in the firm's affirmative action program could initiate a flow of minority job applicants. Recognition is made easier if the magnitude of the problems (such as market share losses, more equal employment opportunity discrimination suits, rising turnover, or declining profit margins) are significant. Unfortunately the indicators that change is needed aren't always dramatic. A loss here and there, a complaining group of customers, a disgruntled technician, or a lost contract isn't always an indicator that change is necessary.

Recognition can be made easier by benchmarking (determining how the firm is doing when compared with competitors).<sup>7</sup> Honda looks at Ford, Wal-Mart compares itself to Kmart, and Apple Computer compares itself on various criteria with Compaq Computer.

Stage 3 emphasizes diagnosis. A sound diagnosis can provide invaluable information that helps unfreeze when problems are identified. Diagnosis can also clarify the problem

FIGURE 19-2  
Framework for Managing  
Change

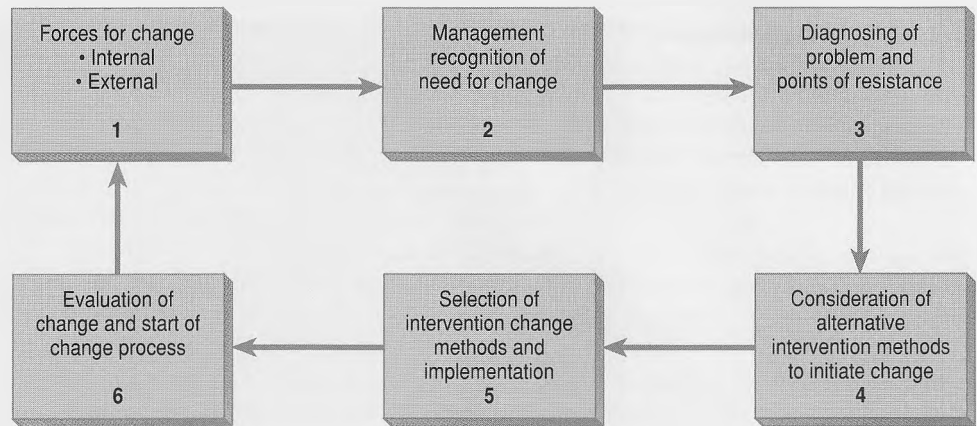


TABLE 19-2  
Different Methods for  
Conducting a Diagnosis

Method	Major Advantages	Major Potential Problems
Interviews	<ol style="list-style-type: none"> <li>1. Adaptive—allow data collection on a range of possible subjects.</li> <li>2. Source of “rich” data.</li> <li>3. Empathic.</li> <li>4. Process of interviewing can build rapport.</li> </ol>	<ol style="list-style-type: none"> <li>1. Expense.</li> <li>2. Bias in interviewer responses.</li> <li>3. Coding and interpretation difficulties.</li> <li>4. Self-report bias.</li> </ol>
Questionnaires	<ol style="list-style-type: none"> <li>1. Responses can be quantified and easily summarized.</li> <li>2. Easy to use with large samples.</li> <li>3. Relatively inexpensive.</li> <li>4. Can obtain large volume of data.</li> </ol>	<ol style="list-style-type: none"> <li>1. Nonempathic.</li> <li>2. Predetermined questions miss issues.</li> <li>3. Overinterpretation of data.</li> <li>4. Response bias.</li> </ol>
Observations	<ol style="list-style-type: none"> <li>1. Collect data on behavior rather than report behavior.</li> <li>2. Real time, not retrospective.</li> <li>3. Adaptive.</li> </ol>	<ol style="list-style-type: none"> <li>1. Coding and interpretation difficulties.</li> <li>2. Sampling inconsistencies.</li> <li>3. Observer bias and questionable reliability.</li> <li>4. Expense.</li> </ol>
Unobtrusive measures	<ol style="list-style-type: none"> <li>1. Nonreactive—no response bias.</li> <li>2. High face validity.</li> <li>3. Easily quantified.</li> </ol>	<ol style="list-style-type: none"> <li>1. Access and retrieval difficulties.</li> <li>2. Validity concerns.</li> <li>3. Coding and interpretation difficulties.</li> </ol>

Source: D. Nadler, *Feedback and Organization Development: Using Data-Based Methods* (Reading, Mass.: Addison-Wesley, 1977), p. 119.

and suggest what changes can solve it. Diagnosis can be conducted using a variety of techniques. Table 19-2 presents four popular methods.

Managers generally use some combination of these and other available methods. Once data are collected and potential solutions are identified, Stage 4 (practical consideration of various alternatives) begins. Various change approaches are discussed later in this chapter.

After evaluating the pros and cons of various change techniques, one or some combination of alternatives should be selected and then implemented (stage 5). Implementation often isn’t given enough consideration in attempts to bring about lasting change (refreezing). Three problems associated with bringing about major change are resistance, control, and power.<sup>8</sup> Resistance to change has already been discussed.

Since change disrupts the normal routine of events, *control* mechanisms are involved. Because of change, normal control or monitoring may be disrupted or not possible. There’s also the issue of power and how it’s impacted by change. The balance of power between groups and the power wielded by individuals may be upset or altered by

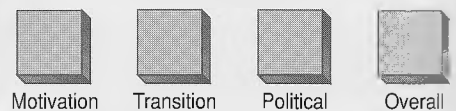
FIGURE 19-3  
Implementation Analysis Guide

	Implementation Practices	Rating	Comments/Explanation
Shaping Political Dynamics	1. Getting the support of key power groups.		
	2. Using leader behavior to support the direction of change.		
	3. Using symbols and language.		
	4. Building in stability.		
Motivating Change	5. Creating dissatisfaction with the status quo.		
	6. Participation in planning and/or implementing change.		
	7. Rewarding needed behavior in transition and future states.		
	8. Providing time and opportunity to disengage from current state.		
Managing the Transition	9. Developing and communicating a clear image of the future state.		
	10. Using multiple and consistent leverage points.		
	11. Using transition management structures.		
	12. Building in feedback and evaluation of the transition.		

Rating is an assessment of the general quality of action in each implementation practice area. Scale for ratings is -----

5 = Very good  
4 = Good  
3 = Fair  
2 = Poor  
1 = Very poor

#### SUMMARY RATINGS



Source: Michael L. Tushman, Charles O'Reilly, and David A. Nadler, *The Management of Organizations* (New York: Harper & Row, 1989), p. 502.

change. Since change introduces some uncertainty, it creates ambiguity. Uncertainty and ambiguity are breeding grounds for political maneuvering and power brokering.

The resistance-to-change problem requires the introduction of methods for reducing resistance. It requires action to gain the support of key leaders or groups. Control problems require motivating change action steps such as having individuals become involved in planning and implementing change. Power problems require the communication of what future relationships will be like, how change will occur, and how individuals will be affected by the change.

Figure 19-3 (an implementation analysis guide developed by consultant David A. Nadler) provides a quick look at three distinct areas that are concerned with resistance to change, control, and power. As an implementation diagnosis device this form provides an indication of 12 implementation action steps. Managers using the guide can provide their own assessment of how good or how poor action has been in these 12 areas.

Stage 6 in the change model points to evaluation and starting the process again. Managers want to learn whether changes have occurred and if so, what has been accomplished. Is the profit margin improved? Has morale improved? Have customers returned

to our brand? It's hard to measure change over time because there are often many uncontrollable changes that influence effects of the original change effort. In the middle of a structural change, a new government regulation may have been passed that directly affects employees in the units undergoing change. Suppose the regulation means that employees must now file additional government paperwork. But employees have continually complained about paperwork. Now, with the new regulation, there's even more paperwork. Did the structural change cause the lower morale that now exists or was it the new regulation? It would be hard to say what lies behind the lower morale.

Generally it's agreed that measuring skills, attitudes, and values before, during, and after change is difficult.<sup>9</sup> But there are attempts to measure reactions (Did you like the change program?), learning (What was learned?), and outcomes (Is quality of output higher, lower, or about the same?).

Based on years of research and attempts to measure changes in reaction, learning, behavior, and outcomes, some general guidelines are useful:

1. Measurements should be conducted over a period of time. Soon after change has occurred, participants may be generally excited and interested because they're being asked for responses. Conducting measurement over a period of time will identify lag effects, extinction effects, and long-term results.
2. When possible, compare groups that have undergone change and those that haven't faced change. Comparisons are a form of internal benchmarking—how does a unit that was changed compare on outcomes or behavior with a unit that wasn't changed?
3. Don't rely only on quantitative measures such as cost, profit, units produced, or defective units. What do participants say? How do participants look? What do participants do without being asked? These types of qualitative measures provide insight into effects of change.

These useful guidelines can be applied to both small and major changes. Unfortunately too many organizations bypass or weakly address stage 6 because evaluation is difficult. But since change is a continual process, starting over requires feedback. The evaluation step can, if done properly, provide feedback that influences stage 1; that is, it becomes an internal-based force for change.

Introducing a change to an organizational culture that fosters and encourages total quality management can benefit from using the type of guidelines in Figure 19–2. This type of major change would need to incorporate each of the six stages just outlined.

## ■ A TOTAL QUALITY CHANGE APPROACH

To achieve change and to convert to total quality management (TQM), there must be changes in attitudes, communication, employee involvement, and commitment. This is a large undertaking in any organization. Because of attitudes' effect on productivity and quality, clearly they must be addressed in any TQM program.

Bringing about a TQM change is difficult, but can be made easier by understanding resistance to change and how to overcome resistance. Too often managers are aware of resistance barriers but don't address fear, inertia, or self-interest factors. An example of a successful major organizational change program is highlighted in the Global Exchange on the following page. Colgate-Palmolive Europe S.A.–N.V. believes that it was able to change its culture.

### The Chief Executive Officer: A Key Player

The power to make change happen is often largely vested in management. It's management that must show the way, articulate the vision, and show by example that total quality is mandatory. Improved communications initiated by management must be a top priority.

## GLOBAL EXCHANGE

## BUILDING QUALITY INTO COLGATE-PALMOLIVE EUROPE S.A.-N.V.

Following a major organizational change in Europe, Colgate-Palmolive Europe S.A.-N.V. introduced total quality as a means to run the business more effectively. Colgate (C.-P.) is a worldwide diversified company with about \$6 billion in sales and 24,000 employees. The European division, headquartered in Brussels, alone has 7,000 employees and 10 plants. The company is the world leader in oral care and a dominant player in body care with a variety of products. Household surface care products, such as Ajax, are number 1 in Europe. Colgate-Palmolive Europe S.A.-N.V. has a niche in scientific pet nutrition under the brand Hills.

"Unity with diversity" is a fitting description for what's going on in Europe within C-P. Recently C-P changed from complete stand-alone units to category-driven, European-sourced, commercially oriented units. Colgate-Palmolive moved away from the classic matrix to an inverted triangle based on processes and projects using teams and quality principles. The triangle will become flatter as C-P progresses, but will still maintain all the teams, processes, and project-driven groups that it currently has. These teams deliver specific "services," such as packaging for Europe or advertising for Europe.

Shortly after C-P's reorganization, it introduced total quality into the organization, but it was clear from the start that the firm didn't want to roll out a big training program in

Europe. Top management went through the training program first, followed by the human resources functions the next week. Top management wanted HR there to make sure C-P had the right processes and mentality from the beginning to facilitate the change and support training and development. Next C-P selected a relatively small group of people (core teams). The first were product category teams, and second were customer service—the two key components that drive the business. Specific countries, where mergers or major restructuring had recently taken place, were also part of the training program. The point of the training wasn't to make employees into theoretical quality experts, but to teach them to apply quality principles to what they actually do.

As a group, C-P managers believe they've learned about processes and are raising them to the European level. Now C-P is about to deeply intervene in the company's culture. The performance management system will now focus on getting feedback from customers on how C-P is delivering products and services instead of having a manager be the only judge of performance. This performance management system more closely mirrors how C-P works in project and process teams.

Source: Adapted from Peter M. Dessau, "Unity with Diversity," in *Changing European Human Resource Practices*, ed. Kathleen M. Carson (New York: Conference Board, 1992), pp. 12–13.

Merely inundating workers with quality information isn't the best approach. Communication must be a two-way process. Everyone must have an opportunity to make inputs into the TQM change and strategy.

The chief executive officer must communicate that she's making a commitment to achieve total quality in everything that's done in the organization. The CEO must commit to establish a companywide communications program that involves managers and workers. The communication must include the following:

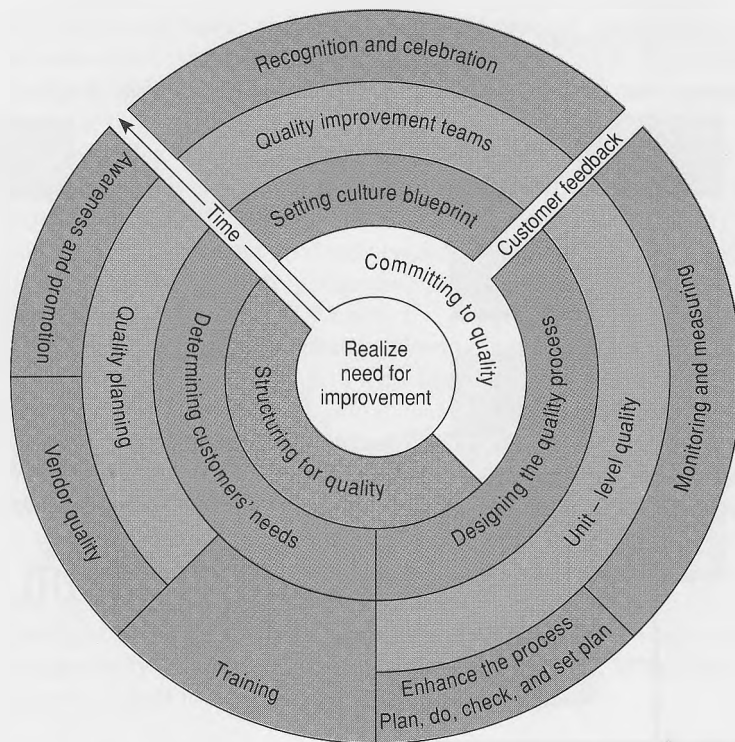
- What's meant by total quality management.
- Why it's important.
- How it will be accomplished.
- Why the CEO is involved and committed.
- What benefits will be achieved.

Management must be prepared for resistance to change of any normal pattern or set of procedures. Doing business as usual is changed when a TQM program is initiated. A TQM change represents a change in culture, and it may take a number of years to become effective and ingrained. Even though TQM can be initiated by a CEO, it must be practiced by staff lower down in the hierarchy.

### A TQM Model

Thomas Berry, a quality management director for the Vanguard Group of Investment Companies, has provided a model that clearly depicts the evolution of change to a TQM approach.<sup>10</sup> Figure 19-4 is read from the inside out, concentric circle by concentric cir-

FIGURE 19-4  
 Total Quality Model: Illustrating  
 Change



Source: Thomas H. Berry, *Managing the Total Quality Transformation* (New York: McGraw-Hill, 1991), p. 40.

cle. The model presents five concentric circles. To move through each circle may take from 2.5 to 4 years. Top management effectiveness in communication, the size of the firm, the existing culture, and implementors' skills will determine how long it takes to change to a TQM approach. Colonial Penn, with 3,600 employees in five locations, took 2.5 years to work through each concentric circle.

Realizing the need for quality improvement is the initial step. Customers want better quality, competitors are improving quality, and government regulations may cause concern about quality. The commitment to TQM must come from the top, the CEO. The firm must establish its blueprint for action. A TQM-influenced blueprint places customers first, highlights teamwork and cooperation, emphasizes long-term improvement, identifies solutions to problems, and empowers all employees to participate.

Organizing for TQM is emphasized in the third concentric circle. Figure 19-5 presents an example of three phases of organization: the beginning phase (the first 4 to 6 months), the 6-to-18-month phase, and the long-term phase (after 12 to 18 months). Phase 3 would occur after the program is on its way.

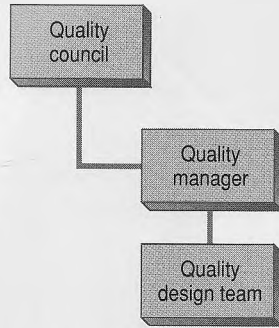
The quality council (usually chaired by the CEO) would include managers and workers. It would develop a mission statement and specific responsibilities. Table 19-3 is an example of a quality council mission statement.

Quality improvement teams, quality planning, and unit-level quality are emphasized in the fourth concentric circle. These activities should involve everyone at the firm; quality planning typically is an upper-management responsibility, and unit-level quality focuses at the operating level.

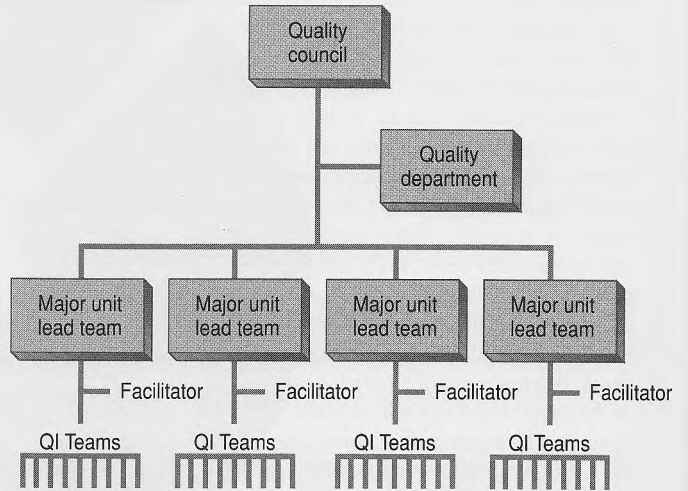
Once the TQM process is in place, it needs to be promoted internally. Awareness is important in bringing about change from old ways and procedures. Recognition for accomplishment also helps to change attitudes and to encourage newly learned TQM behaviors. Concentric circle 5 illustrates the importance of awareness, promotion, and recognition.

FIGURE 19-5  
Three Organizing Phases for TQM Change

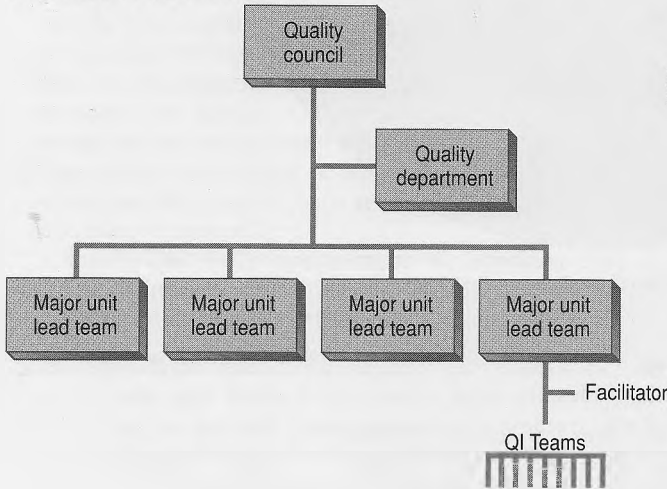
Phase 1: First 4 to 6 months



Phase 3: After 12 to 18 months



Phase 2: 6 to 18 months



Source: Thomas H. Berry, *Managing the Total Quality Transformation* (New York: McGraw-Hill, 1991), pp. 15-16.

TABLE 19-3

Sample of Quality Council  
Mission and Responsibilities

**Mission Summary**

The Abbott Company's quality council will direct, support, and participate in the development, administration, and evaluation of a TQM process. The council will ensure that key decisions regarding TQM are made and that the financial, time, and human resources needed are provided to successfully introduce an ongoing TQM approach.

**Specific Responsibilities**

1. To initiate, communicate, promote, recognize, and guide the TQM process.
2. To establish and direct the activities of company lead teams.
3. To ensure that Abbott reward and recognition systems support and reinforce TQM participation and success.
4. To approve quality project proposals to be pursued by QI teams.
5. To monitor and communicate results achieved through the TQM process.
6. To oversee the quality planning process.
7. To ensure that adequate training is provided all employees in TQM philosophy and practice to establish an environment of continuous learning.
8. To ensure top management's personal and direct involvement in TQM activities, including membership in a QI team, participation in TQM training, and so on.
9. To set TQM goals on an annual basis.
10. To review and provide feedback on all progress of TQM.

The monitoring and measuring steps are crucial. Customer satisfaction must be carefully measured before and during the TQM process. Quality teams' progress must also be monitored. Managers would like to determine what the teams are accomplishing. Workers' feelings about their role in TQM must also be determined. Are they participating? Are they satisfied?

Instituting TQM-type change that's suggested in Figure 19-4 is a major undertaking. The typical resistance to change factors such as self-interest, habit, fear, and bureaucratic inertia are all likely barriers. There's also the quick-fix mentality that many managers and workers have about productivity and quality. Quickly fixing quality isn't likely to be possible. As Berry aptly points out, it will probably require 2.5 to 4 years to move through each part of the TQM model.

Reducing resistance to change, overcoming the quick-fix mentality, and changing the firm's culture will be difficult. Firms like Colonial Penn, Xerox, and Florida Light and Power have achieved major cultural changes and have adopted a TQM approach.<sup>11</sup> Each of their situations has involved total CEO commitment, clear and constant communication, active and full manager and worker involvement, and continual recognition and monitoring activities. Many other firms too have successfully introduced change because of well-formulated strategies that conceptualized TQM as a long-term process.

Jack in the Box, after two customers died tragically after eating contaminated food, now realizes that a total quality approach can mean life or death. The following Ethics Spotlight illustrates that the customer-is-first attitude must become so engrained that it automatically triggers quick responses to a crisis. Jack in the Box learned too late that customers need to be protected at all times.

## ETHICS SPOTLIGHT

### ARE CUSTOMERS FIRST AT JACK IN THE BOX?

Fast-food restaurants depend on repeat customers and image. Any event that takes away customers or image is considered dangerous to the survival of a fast-food restaurant. Jack in the Box was in the news because over 400 people became ill from the bacteria (*E coli*) in contaminated hamburgers. Tainted beef was shipped from Southern California to Jack in the Box restaurants in Washington and Oregon. The company faced a potential tragedy because of this tainted beef and the resulting food poisoning.

Two children died in January and February 1993, and the company didn't appear to handle the crisis properly. Jack in the Box's 12-person crisis team was established to handle such a disaster. The team quickly scrapped nearly 20,000 pounds of hamburger patties prepared at its meat plants—the suspected source of the bacteria. It quickly changed meat suppliers, installed a toll-free number for complaints, and instructed employees to turn up the cooking heat to kill the deadly *E coli*.

The ethical question that must be asked is whether Jack in the Box's response was quick enough to prevent further poisoning. Were customers really placed in the limelight? This issue will be debated for years. There are critics and parents of many sick children who believe that Jack in the Box didn't place its customers first.

Jack in the Box took almost a full week to admit that it was responsible for the poisonings. Even then the admission

wasn't very convincing. The president of Jack in the Box first criticized Washington state health officials for not telling the company about new cooking regulations; then he pointed a finger at Vons Company, which supplied the meat.

In contrast Johnson & Johnson, when faced with a poisoning tragedy, withdrew all Tylenol capsules from the shelf. Jack in the Box didn't close stores in Washington and Oregon. Furthermore victims' medical and hospital bills weren't paid by Foodmaker (Jack in the Box's parent) for two weeks after the first poisoning. The slowness of response and the comparisons with Johnson & Johnson point to concerns about Jack in the Box's customer-is-first philosophy and practice.

The Jack in the Box tragedy suggests that the firm needs to rethink its crisis team approach, the customer-is-first philosophy and practice, and quality control checks and balances. To date, two youngsters have lost their lives and many have become ill. Tainted hamburger meat needs to be identified and discarded before it's cooked and sold at any restaurant or prepared in any home.

Source: Adapted from Bob Sherwin, "E Coli Hits Home as 6-Year Old Struggles," *Houston Chronicle*, February 21, 1993, p. B6; "Jack in the Box Linked to Death of 2nd Child," *Houston Post*, February 21, 1993, pp. 1, 27; and Ronald Grover, Dori Jones Yang, and Laura Holson, "Boxed In at Jack in the Box," *Business Week*, February 15, 1993, p. 40.



## ■ TYPES OF CHANGE AGENTS

### change agent

An individual or team of people whose main responsibility is to initiate, suggest, and even force change efforts within an organization.

### outside pressure (OP)-change agent

An individual or group not employed by a firm that pressures the firm to change.

### people-change-technology

Change agents that use behaviorally oriented change techniques.

A **change agent** is an individual or team of individuals whose responsibility is to practice the stages suggested in Figure 19–2. Typically an outsider (consultant) or someone from inside the organization heads up the change effort. Whether an outsider, insider, or combination change agent leader is best hasn't been determined and may depend on the situation. But four types of change agents have been identified: outside pressure (OP), people-change-technology (PCT), analysis for the top (AFT), and organizational development (OD).<sup>12</sup>

**Outside Pressure (OP)** The **outside pressure (OP) change agent** is an individual or group that isn't regularly employed by the firm but that still applies pressure on the firm to change. An environmental group that doesn't like a firm's actions is an example of an OP. In 1985 Coca-Cola attempted to change its product's taste. OPs from around the United States complained, groups formed, and pressure was put on the firm not to change. A group called Old Cola drinkers staged protests, handed out T-shirts, and threatened a class-action lawsuit unless Coca-Cola brought back the old flavor.<sup>13</sup> After about two months the company brought old Coke back as Coke Classic.<sup>14</sup> Outside pressure was powerful enough to cause Coca-Cola to make a major change.

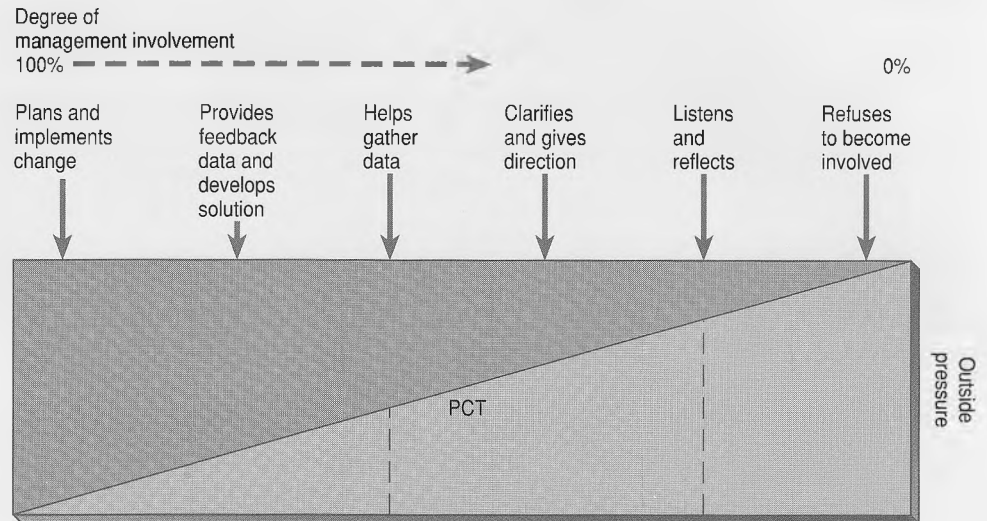
**People-Change-Technology (PCT)** The **people-change-technology change agent** attempts to bring about change via various behaviorally oriented techniques. Suppose management is concerned about cost overruns and poor product quality. A goal-setting program coupled with quality improvement training may be used. PCT agents assume that employees can change their behavior and improve performance. If employees change enough, outcomes for the firm will improve.



S. Kermani/Gamma-Liaison

Protesters exerted outside pressure to bring back old Coke.

FIGURE 19-6  
How Much Management  
Involvement in Change?



Source: Robert E. Callahan, C. Patrick Fleenor, and Harry R. Knudson, *Understanding Organizational Behavior: A Managerial Viewpoint* (Columbus, Ohio: Charles E. Merrill, 1986), p. 415.

**Analysis for the Top (AFT)** AFT emphasizes changing the organizational structure or technology to improve overall performance. Organizational redesign, reshaping the structure, delegation of authority, and redesign and engineering of work operations are popular techniques among AFT agents.

**Organizational Development (OD)** Organizational development focuses on longer-term change that impacts the firm's culture. As Warner Burke explains OD:

*Organization development is a process of fundamental change in an organization's culture. By fundamental change, as opposed to fixing a problem or improving a procedure, I mean that some significant aspect of the organization's culture will never be the same.<sup>15</sup>*

OD change programs and specific interventions are often headed up by outside consultants. They help plan and implement the change, occasionally help evaluate changes, and help the manager become involved with all aspects of the change process.

Which change agent(s) should be used to introduce a total quality management program or a quality of work life program? To some extent the answer rests with the issue of involvement. How much involvement of the change agent is needed to start, sustain, and evaluate the change program? Figure 19-6 illustrates the relationship between the amount of involvement needed from a firm and the type of change agent. If a manager wants to be involved in the change process, then the OP approach would be used.

## ■ INTERVENTION METHODS

### intervention

The method, technique, or means used to change a structure, behavior, or technology.

The term **intervention** is used to describe a method, technique, or means to manage change effectively to improve an individual, group, organization, or all of these. An intervention can respond to forces for change or can create forces that provide the impetus for employees to accept change more readily. Table 19-4 on the next page categorizes the various types of interventions and their main focus: individual, group, intergroup, or organizational change. The exact type of intervention method selected depends greatly on what was diagnosed (stage 3 in Figure 19-2).

The 19 interventions listed in Table 19-4 are only a sample of the large number available for consideration. The type of intervention selected depends on the diagnosis, cost, time available, organization culture, management's confidence in the anticipated

TABLE 19-4

Types of Intervention  
Methods  
by Main Focus

Individual Focus	Group Focus	Intergroup Focus	Organizational Focus
Role analysis	Team building	Third-party	Survey feedback
Coaching and counseling	Empowerment	peacemaking	Management grid
Empowerment	Conflict resolution	Conflict resolution	Technostructural activities
Outward Bound (survival training)	Quality circles	Confrontation meetings	Quality of worklife
Job redesign		Mirroring	
Career planning			
Skill and competency development			

#### depth of intervention

The degree of change that the intervention is intended to bring about.

results, and depth preferred. **Depth of intervention** is defined as the degree of change that the intervention is intended to bring about.<sup>16</sup> A shallow intervention seeks mainly to provide information that's helpful to make improvements. A manager coaching a subordinate is an example of shallow intervention. A deep intervention is intended to bring about psychological and behavioral changes that are reflected in improved job performance. Sensitivity training is an example of deep intervention. With deep interventions, caution and the use of qualified experts should be a top requirements.

Moderate-depth interventions such as team building are intended to alter attitudes and perceptions. Different perspectives are presented and analyzed with the result being better understanding, more tolerance of other viewpoints, and modification of negative stereotypes.

Only five intervention methods will be discussed in this text. However many more methods are available for use in stimulating changes in people, structure, and technology. Again, as is often the case, there's no single method that's perfect or effective in every situation or case.

## Survey Feedback

#### survey feedback

An organizationally focused, shallow intervention method that involves top management, data collection, data interpretation, and feedback of findings to employees which result in the development of action plans.

**Survey feedback** is an organizationally focused, shallow intervention method. This method is typically conducted in four stages.<sup>17</sup> First, a change agent works with top management to design the questions to be used in a survey. This is the planning stage. Second, data are collected from a sample or an entire unit population (department, division, organization). Data may be collected using a survey questionnaire, interviews, historical records, or some combination of data collection techniques. Third, the change agent categorizes, summarizes, and interprets the survey-collected information and prepares reports. Fourth, employees are given feedback, meetings are held to discuss the findings, and action plans for overcoming identified problems are developed and implemented.

The change agent attempts to generate worker involvement across the organization in all phases of the survey feedback intervention. Survey feedback differs from an attitude survey or interviews with a few employees in that it requires involvement of a wide range of individuals. If a person is to be influenced by changes stimulated by the survey feedback intervention, he's involved in the process. Figure 19-7 illustrates major differences between the traditional attitude survey and the survey feedback intervention method.

Survey feedback is a popular intervention method. It's efficient and participatory, and it provides much job-relevant information. As is usually the case, top management's endorsement and involvement are needed to help the survey feedback approach achieve its goals.<sup>18</sup>

FIGURE 19-7  
Two Approaches to Data  
Collection by Questionnaire

	Traditional Approach	Survey Feedback Interpretation
Data collected from	Workers and maybe supervisor	Everyone in the system or subsystem
Data reported to	Top management, department heads, and perhaps to employees through company newspaper	Everyone who participated
Implications of data are worked on by	Top management (maybe)	Everyone in work teams, with workshops starting at the top (all superiors with their subordinates)
Third-party intervention strategy	Design and administration of questionnaire, development of report	Obtaining concurrence on total strategy, design and administration of questionnaire, design of workshops, appropriate interventions in workshops
Action planning done by	Top management only	Teams at all levels
Probable extent of change and improvement	Low	High

Source: Adapted with the publisher's permission from Wendell L. French and Cecil H. Bell, Jr., *Organization Development: Behavioral Science Interventions for Organization Improvement*, 4th ed. (Englewood Cliffs, N.J.: Prentice Hall, 1990), p. 170.

## Team Building

Teamwork is essential for continuous quality improvement. An effective team communicates well, cooperates, stimulates its members, and provides recognition and rewards them. **Team building** is a moderate-depth intervention that attempts to improve diagnosis, communication, cooperation, and the performance of members and the overall team. Effective teams are the ingredients of successful organizations.

The specific aims of team building intervention include setting goals and priorities, analyzing the group's work methods, examining the group's communication and decision-making processes, and examining interpersonal relationships within the group.<sup>19</sup> As each of these aims is undertaken, the group is placed in the position of having to recognize explicitly each group member's contributions, (both positive and negative).<sup>20</sup>

The process by which these aims are achieved begins with *diagnostic* meetings. Often lasting an entire day, the meetings enable all team members to share with other members their perceptions of problems. If the team is large enough, subgroups engage in discussion and report their ideas to the total group. These sessions are designed for expression of all members' views and to make these views public. In this context diagnosis emphasizes the value of open confrontation of issues and problems that were previously discussed in secrecy.

Identifying problems and concurring on their priority are two important initial steps. But a *plan of action* must be agreed on. The plan should call on each group member, individually or as part of a subgroup, to act specifically to alleviate one or more problem. If, for example, an executive committee agrees that one problem is a lack of understanding of and commitment to goals, a subgroup can be appointed to recommend goals to the total group at a subsequent meeting. Other team members can work on different problems. For example, if problems are found in the relationships among the members, a subgroup can initiate a process for examining each member's role.

### team building

A moderate-depth intervention that attempts to improve diagnosis, communication, cooperation, and the performance of members and the overall team.

Team building interventions don't always require a complex process of diagnostic and action meetings. For example, a large manufacturer's CEO recognized that conflict within her executive group was breeding defensiveness among the functional departments. She also recognized that her practice of dealing on a one-to-one basis with executive group members (each of whom headed a functional department) contributed to the defensiveness and conflict. Rather than viewing themselves as team members with a stake in the organization, department heads viewed one another as competitors. The chief executive's practice confirmed their belief that they managed relatively independent units.

To counteract the situation the CEO adopted the simple expedient of requiring the group to meet twice weekly. One meeting focused on operating problems, the other on human resource problems. The ground rule for these meetings was that the group must reach a consensus on each decision. After one year of such meetings company-oriented decisions were being made, and the climate of interunit competition had been replaced by cooperation.

Team building also is effective when new groups are being formed. There are often problems when new organizational units, project teams, or task forces are created. Typically such groups have certain characteristics that may be altered if the groups are to perform effectively. For example, the following combination of characteristics will lead to problems:

1. Ambiguity about roles and relationships.
2. Members having a fairly clear understanding of short-term goals.
3. Group members having technical competence that puts them on the team.
4. Members often paying more attention to the team's tasks than to the relationships among team members.

In such a case, the new group will focus initially on task problems but ignore the interpersonal relationship issues. By the time relationship problems begin to surface, the group can't deal with them, and performance begins to deteriorate.

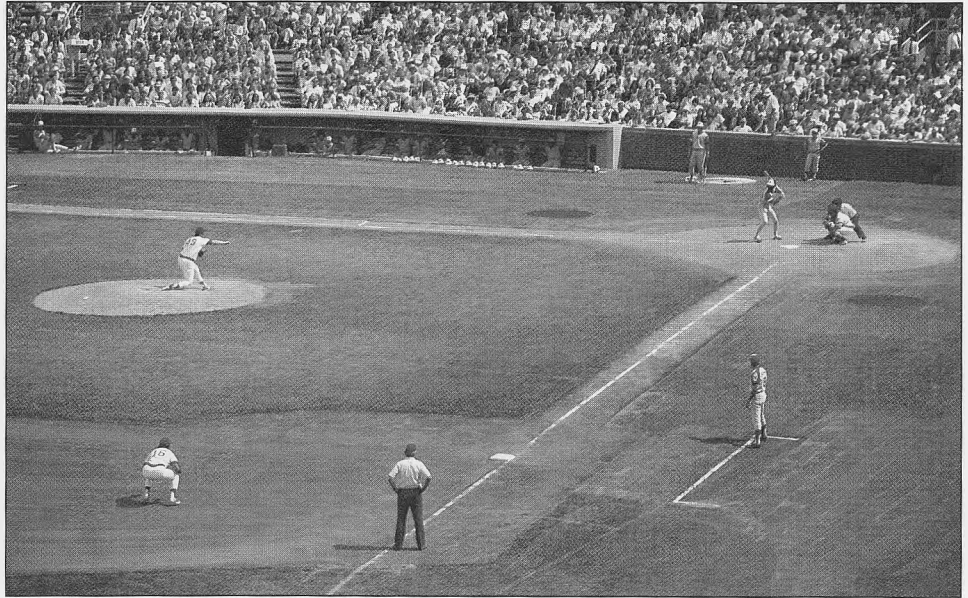
To combat these tendencies, a new group should schedule team building meetings during the first weeks of its life. Meetings should take place away from the work site: one- or two-day sessions often suffice. The format of such meetings varies, but essentially their purpose is to enable the group to work through its timetable and members' roles in reaching the group's objectives.<sup>21</sup> An important outcome of such meetings is to establish an understanding of each member's contribution to the team and of the reward for that contribution. Although reports on team building indicate mixed results, the evidence suggests that group processes improve through team building efforts.<sup>22</sup> This record of success accounts for the increasing use of team building as an organizational development method.<sup>23</sup>

Peter Drucker, management scholar and consultant to many organizations, raises an interesting point about team building.<sup>24</sup> He believes that teams haven't been as successful as they could be and that management should understand that more than one kind of team may have to be built and encouraged. He depicts a baseball-type team such as the one used by Ford Motors to design a new car. The employees play on the team; they don't play as a team.

The second type of team is the football team such as a hospital's emergency trauma unit. The patient with a chest wound enters, and everyone goes into immediate action. Japanese automakers use football-type design teams. Designers, engineers, and manufacturing and marketing people work parallel to each other.

The third type of team is the tennis doubles arrangement. Teammates cover for each other and make adjustments for their partner's strengths and weaknesses as the game is played.

The baseball team is inflexible, the football team is flexible, and the tennis doubles team takes considerable time to gain flexibility. These teams are different in terms of



Milt and Joan Mann/Cameramann International

Peter Drucker believes that teams are not always as successful as they could be because management needs to understand that more than one kind of team may be necessary, depending on the behavior required and the situation. For example, Ford has found a “baseball-type” team to be most effective in designing a new car.

(1) the behavior required to perform and (2) what situation best fits the type of team. Drucker states that it’s very difficult to change from one type of team to another. He believes that teamwork is neither good or bad. Which kind of team to build is a crucial decision for managers.

## Empowerment

An important part of changing an organization to a TQM approach is empowering managers and workers. As noted earlier, empowerment is a process that increases people’s involvement in their work (design, flow, interactions, decision making). Empowerment can occur for individuals or for groups (teams).

Chrysler has empowered its employees. Catherine Diethorn of Chrysler Financial designed a self-calculating branch cash system on her personal computer that saves the firm about \$525,000 annually. A 12-person cross-functional paint analysis team worked on and developed a method to improve paint quality that saves Chrysler about \$115 million annually.<sup>25</sup>

Empowering people working for a person is difficult. It suggests a shift downward of power. Some individuals will resist such sharing or delegation of power. Also some individuals prefer not to be empowered. Not everyone wants the power or freedom to act.

## Third-Party Peacemaking

Third-party peacemaking is a moderate to shallow intergroup intervention. Here the change agent attempts to resolve intergroup conflict. In the 1992–1993 conflict in Bosnia-Herzegovina (previously Yugoslavia) the United States, Britain, and the United Nations all served as the third party attempting to bring the Serbians, Croats, and Bosnia-Muslims conflict to a peaceful resolution. Whether any form of third-party success can be achieved remains to be seen in this centuries-old intergroup conflict.

In organizations the change agents lead meetings among groups. To be effective, the following attributes must exist:

1. *Motivation:* Groups must be motivated to solve the problem(s).
2. *Power:* There must be a balance of power among the groups.
3. *Timing:* No group should be able to gain an information advantage over another group.
4. *Emotional release:* Meetings should permit individuals to express negative emotions. Both negative and positive expression can be productive.
5. *Openness:* The change agent must help create an atmosphere that stimulates open communication.
6. *Stress:* There must be enough stress on group members to seriously solve the problem.<sup>27</sup>

An important aspect of third-party peacemaking is the establishment of neutrality by the third party. Taking sides or creating the impression of favoritism will significantly decrease the chance that third-party peacemaking will succeed. There's also the need for patience since reaching agreement could take a few or many meetings.

## Grid Training

One of the most publicized OD programs was designed by Blake and McCaule. Called the *Leadership Grid*, it's a moderate-depth program intended for the entire organization.<sup>28</sup> The basic premise of the **grid training** approach is that developing managers to have concern for both production and people will improve performance. Completing the six-phase Grid program typically requires three to five years.

The *Grid OD* program is built upon a framework for understanding managers' leadership styles. The Grid depicts five different patterns of leadership, although 81 cells represent the two leadership concerns (production and people). Each person completes a questionnaire, resulting in a determination of his or her leadership style. Blake and McCaule propose that the best way to lead is to be a 9, 9, which typifies high concern for both production and people. The Grid appears in Chapter 14.

The Grid OD program's specific objectives are to:

- Study the organization as an interacting system and apply techniques of analysis in diagnosing problems.
- Understand the rationale of systematic change.
- Gain insight into the Grid OD's strategies for increasing performance.
- Examine the documents and forms used in different phases and simulate their application to the participant's own situation.
- Evaluate the leadership styles and participation techniques that are most likely to produce high-quality results.
- Assess the effort and expense required and risks involved relative to the potential of increased profit and human effectiveness.<sup>29</sup>

These objectives are accomplished, according to Blake and McCaule, by following the six-phase program.<sup>30</sup>

Phase I: *Study of the Grid*. Concepts about the various leadership styles are taught. The participants' styles are evaluated and reviewed. Fifty hours of problem-solving tasks and exercises are completed.

Phase II: *Team Development*. Participants spend time analyzing their leadership styles and group skills. The key objective in the first two phases is to build trust and respect within the teams.

### grid training

A leadership development method proposed by Blake and McCaule which emphasizes the necessary balance between production orientation and person orientation.

Phase III: *Intergroup Development*. Emphasis is on intergroup relationships. Joint problem solving is used in simulated situations.

Phase IV: *Developing an Organization Model*. The emphasis is on strategic planning and bringing together top- and lower-management groups. Linking the top and lower levels by establishing a framework is one result of this phase.

Phase V: *Implementing the Model*. Groups are given tasks to implement the model developed in Phase IV. Structural, process, and personnel plans are established to use the model.

Phase VI: *Evaluation*. Evaluation of the overall Grid is part of this phase. Modifications are made, and the program is critiqued. A standardized 100-item questionnaire is part of the evaluation in order to examine such areas as individual behavior, teamwork, intergroup relations, problem solving, and corporate strategy.

Full implementation of the Grid program requires many changes. Critics call it a “canned” approach that’s not specific or focused enough to help any organization. How can an approach used at Procter & Gamble have any value or use at a small tool and die maker’s fabricating shop? Grid critics argue that canned programs simply have no flexibility.

Despite the criticism, the Grid has been adopted totally or in part by thousands of organizations and hundreds of individuals. Much of the support for Grid OD comes from its founders.<sup>31</sup> But a comprehensive review of OD does give some support to claims about the usefulness of the Grid approach.<sup>32</sup> It has been found to have a positive impact on intergroup relationships and teamwork as well as on performance and satisfaction. But, as is true with most training and development techniques, Grid OD needs to be researched more. Managers considering the use of Grid OD must cautiously weigh potential costs and benefits of this popular technique.

## ■ RESHAPING CULTURE AND STRUCTURE

The intervention methods available to managers for implementing change are impressive. But their impact is often limited by two aspects of organizations: culture and structure. Interventions can be attempted at either a shallow or deep level, but, ultimately, culture and structure significantly influence what changes occur.

In July 1991 the Bank of England led a seven-nation effort to seize the assets of the Bank of Credit and Commerce International (BCCI). According to the governor of the Bank of England, BCCI was guided by a “criminal culture.” This culture and the hierarchy of managers at BCCI shaped how the employees viewed and interacted with the world. Through a web of financial transactions, bribes were apparently paid, drug money laundered, political dictators supported, and terrorists financed.

The BCCI mode of operation was supported by many employees. Changing their style, perceptions, and behaviors would have been difficult. In his testimony to the U.S. House Banking Committee lobbyist Clark Clifford described how BCCI’s culture and structure were so deceiving:

*[I]n BCCI there were really two banks. There was this outside facade thing. That’s the one we dealt with. In all these years, we didn’t encounter a single suspicious circumstance. And I think the reason is because they had that second inside bank, and that’s the one that was engaged in what we’ve read about so much in the paper. . . . Apparently we were deceived. I don’t know that it’s any comfort, but the Bank of England was deceived. My judgment is questionable. I guess I should have in some way sensed it. I did not. Others perhaps should have sensed it. . . . I want to know how it can be prevented in the future, and that is a main aim of mine.<sup>33</sup>*

BCCI managers’ values influenced how the bank operated. Shared perceptions and interpretations of events resulted in the creation of a “criminal culture” that apparently operated unethically and illegally. This culture was so embedded that changing it before the scandal broke would have been extremely difficult.



## Cultural Reshaping

Organizations' cultures are rooted in the national cultures of their countries of origin. Domestic firms cope with local characteristics of a society.<sup>34</sup> Since organizational culture consists of rules, rituals, and procedures, creating an ideology that helps direct employees' everyday experience and customs, it influences how change is received and coped with in terms of outcomes. History informs us that, as U.S. firms expanded overseas, host nations' national cultures, a diverse work force, and new competitors helped shape internal cultures. Changing the internal organizational culture of a domestic or international firm is extremely difficult, if not impossible. Recall the Steinway Piano culture and the firm's difficulty in thinking about mass producing pianos. Steinway's culture was in place so long that even lost sales to Yamaha wasn't enough to bring about change without a strong leader applying pressure. Reshaping, altering, or modifying long-standing rules, procedures, rituals, and ideology is a better way to present change objectives.

Reshaping the internal culture is best achieved by focusing on (1) reward systems, (2) educational systems, and (3) socialization systems.<sup>35</sup> The reward system can serve as a powerful motivation device if it's well designed, responsive, equitable, and clearly communicated. The firm's educational system, by use of training and development interventions, can be dedicated to improving skills. Employees who can apply these improved skills can then earn better rewards.

Employees are socialized into a firm's culture by a wide variety of practices. Shared meals, rituals, dress codes, and group membership result in socialization. By encouraging extensive interaction among employees, organizations help them become more attuned to the culture.

To reshape cultures to fit employees' mood and thinking, managers have moved toward a reward system that focuses on individual and group contributions to productivity rather than seniority, loyalty, and friendships. To counter the potentially negative consequences of individually based merit pay rewards, an increasing number of firms are using companywide or group-based profit sharing and bonus plans. Chapter 11 discussed such plans.

Changes in society and in perceptions among employees have pointed out some significant inequities in distribution of rewards, opportunities to learn new skills, and power within organizations.<sup>36</sup> The widely publicized golden parachutes that in many cases overrewarded senior managers involved in mergers and acquisitions, the green mail collected by raiders, and managers' large paychecks have alienated many employees, lowering their productivity and commitment. Encouraging and practicing more equity within the culture can, if done effectively, result in positive attitudes and feelings being transmitted during employees' socialization.

Where cultural features support past ineffective or failed strategies, they can constrain change. Generating change involves (1) understanding the powerful force of culture, (2) aligning culture with positive ethical and equitable values, and (3) devising sound reward, education, and socialization systems. In a growing number of firms, managers realize that reshaping culture requires reshaping structures.

## Structural Reshaping

Structural reshaping requires an understanding of power, authority, and personal interactions in organizational settings. Simply looking at an organization chart won't provide an accurate view of how an organization works. For example, Merrill Lynch has reorganized so that its two largest operating groups, consumer markets and capital markets, were eliminated. Now the firm operates with six product divisions.<sup>37</sup> This **structural change** decentralized authority by removing an entire layer of management, cut administrative overhead, and eliminated duplicate jobs. This major change was intended to help the firm respond more quickly to competition.

### structural change

A planned change of the formally prescribed task and authority relationships in an organization's design.

QUALITY BENCHMARK

JURAN'S BREAKTHROUGH SEQUENCE

1. [Urge a] *breakthrough in attitudes*. Managers must first prove that a breakthrough is needed and then create a climate conducive to change. Data is collected to show the extent of the problem; the most convincing data are usually cost of quality figures.
2. *Identify the vital few projects*. Pareto chart analysis is used to distinguish the vital few projects from the trivial many and to set priorities based on problem frequency.
3. *Organize for breakthrough in knowledge*. A steering group and a diagnostic group are established. The steering group, composed of people from several departments, defines the program, suggests possible problem causes, gives authority to experiment, helps overcome resistance to change, and implements the solution. The diagnostic group, composed of quality professionals and sometimes line managers, analyzes the problem.
4. *Conduct the analysis*. The diagnostic group studies symptoms, develops hypotheses, and experiments to find the problem's true causes. It also determines whether defects are primarily operator or management controllable. The diagnostic group then proposes solutions to the problem.
5. *Determine how to overcome resistance to change*. The need for change is established in appropriate terms for people involved. Logical arguments alone are insufficient. Participation is required in both the technical and social aspects of change.
6. *Institute the change*. Departments that must take corrective action must be convinced to cooperate. These departments need to know the size of the problem, alternative solutions, the cost of recommended changes, expected benefits, and efforts taken to anticipate the change's impact on employees. Time for reflection and adequate training are important.
7. *Institute controls*. Controls are set up to monitor the solution and keep abreast of unforeseen developments. The control sequence provides follow-up to monitor and correct sporadic problems.

Source: Adopted from V. Daniel Hunt, *Managing Quality: Integrating Quality and Business Strategy* (Homewood, IL: Business One Irwin, 1993), p. 79.

The organization blueprint is the organization chart. Unfortunately charts present a firm's structure as fixed and rigid. This, of course, isn't how most real interactions occur. Firms must use a dynamic approach to structure so that they can respond to changing conditions. Viewing the structure as a temporary, fluid, and flexible blueprint is more compatible with today's world than establishing a set structure and using it for an extended period of time.

As changes become more intense and rapid and as competition becomes more innovative, managers must be more responsive and astute at modifying their structures. Table 19-6 summarizes how key environmental forces affect firms' structures. The **technological change** force is ever present as new ideas are turned into innovative products. Competition in technology has become fierce and revolves largely around such features as product quality, production costs, and the ability to deliver product in a timely manner.

To derive the highest quality, managers must stimulate line employees' cooperation, problem-solving ability, and commitment. This means more employee involvement in decision making. Use of teams such as quality circles is a structural change that has been a

**technological change**  
A planned change in the machinery, equipment, or techniques used to accomplish organizational goals.

TABLE 19-5 Environmental Change and Structure	Environmental	Pressure to Improve	Capabilities	Controls
	Efficiency	Timing and productivity	Automate, just-in-time	Centralize, specialize
	Customer responsiveness	Quality and service	Customize, differentiate	Networking, delayering
	Technological change	Innovation and speed	Build skills, invest in R&D	Flatten pyramid, decentralize

Source: Adapted from Charles J. Fombrum, *Turning Points* (New York: McGraw-Hill, 1992), p. 215.

response to the need for higher quality. Generating a bottom-up flow of ideas is easier with a decentralized structure.

The disintegration of large, tightly centralized bureaucratic structures continues. Large organizations still exist, but with reshaped structures. For example, Bellcore, a large research and development consortium, was created after the breakup of AT&T in 1984. It's the research arm of the seven Baby Bells (organizations created after AT&T was deregulated).<sup>38</sup> Originally a committee review structure was used and unanimous rule was the chosen procedure for getting products developed and marketed. The result was the failure to deliver cutting-edge products, cost overruns, missed schedules, and poor morale. Upon his arrival, the new CEO cut down the bureaucratic red tape. He prioritized projects, eliminated the need for unanimous approval on products, and cut back on the bureaucratic layers that a proposal must travel through. He reshaped to be more efficient and faster moving.

Such reshaping in structures proves that progressive managers are eliminating layers of administrators, decentralizing decision making, encouraging employee involvement, and improving communication. These processes are easy to state but often difficult to implement because of old fixed cultural norms, policies, rituals, and ideology. The productivity loss due to fixed, rigid, and culturally bound structures is incalculable. We can safely assume that these structures are costly in terms of lost efficiency, customers, and global competitiveness.

The costs of rigidity, inflexibility, and cultural boundaries are highlighted by the case of once all-powerful IBM.<sup>39</sup> In the 1980s IBM's computer market share dropped from 36 to 23 percent. At the end of 1991 the centralized, paternalistic, dress code- and ritual-loaded giant drastically restructured. Product-based operations were pushed down and decentralized into nine autonomous subsidiaries. The subsidiaries had full profit/loss responsibility. The new IBM resembles a holding company and not the centralized, controlling power-concentrated giant it once took pride in being. The philosophy of "cradle to grave" employment that was a vital part of the culture was struck down by staff reductions of over 65,000. Excessive problems with efficiency, customer defections, and competitors beating IBM to the market have shaken this once proud giant. Organizational decay at IBM wasn't even considered in the 1970s. But decay led to inflexibility—a problem in many organizations.

## ■ SUMMARY OF LEARNING OBJECTIVES

### *Explain why individuals resist change in organizational settings.*

Reasons include self-interest, habit, fear, peer pressure, and bureaucratic inertia. The inertia exists because of people holding on to old ways of conducting business.

### *Describe the differences between outside pressure and people-change-technology change agents.*

Outside pressure (OP) is an individual or group that doesn't work for the firm but exercises influence over how the firm is operated. The furor over the changing Coca-Cola's taste is a good example of OPs' power.

### *Define survey feedback and explain how it's used.*

Survey feedback is an organizationally focused, shallow intervention method that typically follows a four-step sequence. First, a questionnaire is designed after consulting with top management. Second, data are collected from a sample or population. Third, survey data are categorized, summarized, interpreted, and

used in a report. Fourth, informational feedback is given and action plans for solving problems are developed.

### *List the six areas used in the chapter's framework for managing change.*

A framework that can be used to manage change includes six steps: identifying forces for change, recognizing the need for change, diagnosing the problem(s) and points of resistance, considering possible alternative intervention methods, selecting methods of intervention and implementation, and evaluating change and restarting the process.

### *Compare the depth in team building and empowerment techniques.*

Depth is defined as the degree of change that the intervention is intended to bring about. Team building is considered to be of moderate depth, while empowerment techniques such as delegation, increased participation in decision making, worker evaluation of managers, and self-managed work teams can range from moderate to deep intervention.

**Describe why it's hard to reshape an organization's culture.**

Culture is so historic, embedded, and pervasive that it's usually not considered amenable to change. At best, the rituals, procedures, and ideology or segments of culture are discussed in terms of reshaping.

**Explain the types of diagnosis techniques available to managers.**

Tools of diagnosis include interviews, questionnaires, observations, and unobtrusive measures (e.g., the wear and tear on a rug or chair). Each method has advantages and disadvantages.

**KEY TERMS**

change agent, p. 538  
depth of intervention, p. 540  
grid training, p. 544  
internal change forces, p. 526  
intervention, p. 539

outside pressure (OP) change agent, p. 538  
people-change-technology, p. 538  
structural change, p. 546

survey feedback, p. 540  
team building, p. 541  
technological change, p. 547

**REVIEW AND DISCUSSION QUESTIONS****Recall**

1. What do employees fear when a change is being considered?
2. Explain how outside pressure can be so significant that it blocks or encourages changes with a firm.
3. Why is neutrality important in third-party peace-making interventions?

**Understand**

4. Why is survey feedback considered a shallow change intervention?
5. Why does the grid training approach take a long time to become a part of an organization?
6. What point is Drucker making when he states that managers must consider different kinds of teams?

7. Do you think that IBM's structural reshaping will help it meet its stiff competition? Why?

**Application**

8. Conduct your own diagnosis of a situation at your school, at home, or at work. Based on your diagnosis, what kind of change is needed?
9. Review some OD and training literature. Look at the most recent five years of a journal such as *Training*, *Training and Development*, or *Organizational Dynamics*. How many articles or pages in the most recent five-year period are directed to evaluating change programs? Why do you think this is the case?
10. Interview two or three human resource managers. Ask what framework or method their firms use to manage change.

**CASE 19-1****StorageTek's Change Formula**

As W. Edwards Deming stated in *Out of the Crisis*, "Statistical methods are not enough. He that starts with statistical methods alone will not be here in three years." With over 20 years behind it, Storage Technology Corporation (StorageTek) plans to compete in the data storage industry long into the next century. That's why its quality strategy, called Excellence through Quality, puts its more than 9,000 employees in locations throughout the world on a quality track that's meaningful and all-encompassing.

A Fortune 500 company, StorageTek boasts over \$1 billion in revenue. The company designs, manufactures, markets, and services high-performance, large-capacity information storage and retrieval subsystems for midrange and mainframe computers. Its primary manufacturing operation is based at the corporate headquarters in Louisville, Colorado, and is supported by satel-

lite manufacturing locations in California, Florida, Puerto Rico, and England. Subsidiaries and distributors ensure that the products serve customers worldwide.

StorageTek used a top-down approach to introduce quality into its culture. The first step was to form a team, called the corporate quality advisory group, which carved out the Excellence through Quality strategy over a year's time and continues to meet weekly to steer the effort. The group developed five change mechanisms—communication, education, a management network, a quality improvement process, and reward and recognition—which are closely monitored by StorageTek operations worldwide. These mechanisms are similar to the Total Quality Model in Figure 19-4.

The first of these five change mechanisms is to communicate the Excellence through Quality strategy and the importance of quality improvement to all employees. The quality advisory

group develops communication plans, which are implemented throughout the corporation.

Ryal Poppa, StorageTek's chairman, holds quarterly meetings with managers. The Excellence through Quality strategy has been the first item on his agenda for these meetings. In addition, managers hold regular employee communication meetings to report the progress of implementing the strategy in their departments.

In an international corporation, communication across several languages can be a major problem. Therefore StorageTek publishes its basic quality policy and strategy in several languages.

The corporation encourages key employees to participate in conferences. It also promotes communication of quality improvement to focus groups of key customers and suppliers.

All employees must have the skills and knowledge necessary to continuously improve quality and customer satisfaction. StorageTek is providing an Excellence through Quality core curriculum for all its employees. Through a cascade approach, top-level managers go through the course twice—first with their supervisors to learn and then again with their staff members to teach, coach, and facilitate. Managers must not only learn the tools, techniques, and processes themselves, but also be able to teach them to their staff members. StorageTek trains key people to act as facilitators after training takes place. The three-day core curriculum is reinforced with phase-2 courses that address specific areas such as statistics, facilitation, process understanding, and measurement. A benchmarking course was made available in 1992 because StorageTek's research showed that benchmarking against best-in-class companies is far better than benchmarking against its own past practices.

StorageTek recognizes its suppliers' achievements in quality improvement at an annual supplier symposium. StorageTek also plans to share its quality improvement processes with its customers at their request.

StorageTek has formed a management network to implement Excellence through Quality throughout the entire corporation. The corporate management committee process improvement council is its highest-level council; its primary responsibility is steering the effort. At the next highest level are process improvement councils made up of vice presidents and directors. Eventually there will be manager-level councils.

Each major corporate organization has a quality officer who reports directly to his or her organization leader. Quality officers meet weekly to help steer the effort. Regional and subsidiary quality officers have direct contact with the headquarters' corporate quality organization and meet regularly to discuss implementation efforts.

Each quality officer uses workbooks that include indexes to help document implementation of the processes throughout the corporation. Workbooks closely follow the Malcolm Baldrige National Quality Award criteria.

The three-day core training described previously concentrates on helping employees understand each step of StorageTek's nine-step quality improvement process:

Step 1: Develop process flows.

Step 2: Identify customer requirements. Everyone in the organization is asked to identify inputs from suppliers and the requirements associated with those

inputs, outputs to customers, and specific customer requirements. It's important to think in terms of both internal and external customer-supplier relationships.

- Step 3: Identify quality costs. StorageTek uses the classic cost-of-quality definition and the flowcharts mentioned in step 1 to help identify waste, restarts, rework, and basic costs. It uses the categories of prevention, appraisal, and failure.
- Step 4: Prioritize improvement opportunities using data from flowcharts, customer requirements, and quality costs. It's important to prioritize the opportunity for improvement before launching any meaningful improvement activity.
- Step 5: Organize teams. Once the improvement areas are prioritized, teams are organized to develop plans to tackle improvement opportunities. These teams use all methods for problem solving, including the principles behind quality action teams, quality circles, and design-for-manufacturability teams.
- Step 6: Present the plan to management to gain its approval and support.
- Step 7: Implement the plan.
- Step 8: Maintain solutions. Once the plan is implemented, the process is monitored to ensure that improvements are ongoing.
- Step 9: Reward and recognize employees for their efforts.

In addition to the Chairman's Quality Award, there's a rewards and recognition group that meets weekly to benchmark against other companies and formulate improvement recommendations for the quality advisory group and the highest-level quality council. The group is working toward rewarding teams as well as individuals.

The firm's five change mechanisms serve as great agenda items for quality council meetings. Careful tracking of the mechanisms allows for quick diagnosis of strengths and weaknesses so the group can concentrate on bolstering the weaknesses.

StorageTek's major quality measures have improved dramatically and have been verified by outside agencies. Its product reliability has increased sevenfold, and product life has improved from 700 months in 1988 to 1,200 months in 1992. Its objective is a 2,200-month product life by 1995. All financial indicators have increased over the past four years: Total revenue is up 29 percent, revenue per employee is up 51 percent, operating profit is up 66 percent, income from continuing operations is up 101 percent, earnings per share is up 66 percent, and the debt-to-equity ratio improved 63 percent.

## Questions

1. Would you describe StorageTek's total quality approach to be a quick-fix program? Why?
2. What features in StorageTek's total quality approach are similar to the total quality concentric circle model in Figure 19-4?
3. What types of total quality measurement are being used at StorageTek? Are these sufficient or should additional measures be used?

## ■ CASE 19–2



### Volkswagen: A Return to Proven Methods

The official unification of the European Economic Community (EEC) on December 3, 1992, has created a sense of urgency in the European business community. How will business need to adapt? What new opportunities and threats does the new, expanded market hold? Who'll win? Who'll lose?

Volkswagen AG has been a leader in European auto manufacturing since the 1930s. Presently the company is headed by Carl H. Hahn. Since he became chairman of the board of management in 1982, Hahn has set a rapid pace of expansion with manufacturing plants now located in Mexico, China, Spain, Czechoslovakia, and Germany.

Hahn believes that the EEC will become a new platform for global competition, rather than an economic fortress as some Western economists fear. Within this new platform, he hopes to convert Volkswagen into a “federated” community. That is, each of the various plants and operating units will be granted autonomy to achieve excellence.

Besides the quality imperative that lies behind the federated structure, Hahn points out that smaller operating units enable the company to satisfy narrower and narrower groups of customers. He says, “We want integrated factories and design centers to offer customers the touches they really want. We want a network of various dealer organizations, in various locations, selling makes of various character, addressing various markets.”

At the same time, it's important to Volkswagen's overall success to maintain the traditional quality standards customers have come to expect. On this point Hahn points to the company's failed effort to manufacture in America:

*Our U.S. manufacturing venture proved to be quite problematic. Our basic mistake was to entrust the design adaptation of the Golf—you knew it as the Rabbit—to “American” thinking: too much attention to outward appearances, too little to engineering detail. . . . We gave American customers a car with all the handling characteristics—one might say, the smell—of a U.S. car. We should have restricted ourselves to our traditional appeal, aiming at customers who were looking not for an American style but for a European feel.*

The secret to success in the new European market, Hahn believes, is to be more aggressive about offering and learning to

cope with variety. Niche marketing and increasingly individualized customer–manufacturer relationships will be critical to success. Hahn thinks that Volkswagen and other EEC businesses can learn much from the Japanese. He laments that, for years, Western business leaders have complained that Japanese success in manufacturing was due to unfair trade practices or, from a western point of view, an uneasy alliance between government and business. In reality, he says:

*The Japanese have simply reexamined the rules of manufacturing. They have had to overcome a reputation they have had for making junk, so they applied the lessons of certain American experts that most everybody else was ignoring. We have to realize their achievement, grapple with it, and change our attitudes. We have to go and learn, we Germans, we Europeans.*

Hahn's federated vision for Volkswagen mirrors the transformation that Europe itself is going through. Although the new EEC will be one large market, possibly with a common currency, the thrust is toward the individual, or at least toward small ethnic and/or racial enclaves. Volkswagen's goal is to grow along with a united Europe and create in its burgeoning, integrated market a base of operations for global competition. Hahn plans to do this by playing to the unique tastes of the various enclaves that are sure to remain a part of the European landscape despite economic unity. He envisions smaller plants capable of turning out 1,000 to 1,500 cars per day instead of the typical 4,000. “The point” he says, “is to deemphasize capital and automation and reemphasize the flexibility of the human being.”

### Questions

1. Volkswagen's effort to build cars in America failed because its cars were too “American.” Explain what this means.
2. Has Volkswagen conducted what you consider to be a thorough diagnosis to determine what changes needed to be made? Explain.
3. What structural reshaping is Hahn going to use to return Volkswagen to better performance?

Source: Adapted from Bernard Avashai, “A European Platform for Global Competition: An interview with VW's Carl Hahn,” *Harvard Business Review* 69 (July–August 1991), p. 113; and William Dunn, “The Move toward Ethnic Marketing,” *Nation's Business* 80 (July 1992), pp. 39–41.

## ■ APPLICATION EXERCISE

### The Beacon Aircraft Co.

#### Objectives

1. To illustrate how forces for change and stability must be managed in organizational development programs.
2. To illustrate the effects of alternative change techniques on the relative strengths of forces for change and forces for stability.

### The Situation

The marketing division of the Beacon Aircraft Co. has gone through two reorganizations in the past two years. Initially its structure changed from a functional form to a matrix form. But the matrix structure didn't satisfy some functional managers. They complained that the structure confused the authority and responsibility relationships.

In reaction to these complaints, the marketing manager revised the structure back to the functional form. This new structure maintained market and project groups, which were managed by project managers with a few general staff personnel. But no functional specialists were assigned to these groups.

After the change some problems began to surface. Project managers complained that they couldn't obtain adequate assistance from functional staffs. It not only took more time to obtain necessary assistance, it also created problems in establishing stable relationships with functional staff members. Since these problems affected their services to customers, project managers demanded a change in the organizational structure—probably again toward a matrix structure. Faced with these complaints and demands from project managers, the vice president is pondering another reorganization. He has requested an outside consultant to help him in the reorganization plan.

### The Procedure

1. Divide the class into groups of five to seven who will take the role of consultants.

2. Each group identifies the firm's driving and resisting forces. List these forces below.

#### Driving Forces

#### Resisting Forces

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

3. Each group develops a set of strategies for increasing the driving forces and another set for reducing the resisting forces.
4. Each group prepares a list of changes it wants to introduce.
5. The class reassembles and each group's recommendations are presented.

PART

VI

## GROWTH, TECHNOLOGY, AND INNOVATION



CHAPTER 20

Entrepreneurship and Growth

CHAPTER 21

Innovation and Technology





*After studying this chapter, you should be able to:*

Define *individual entrepreneurship* and *collective entrepreneurship*.

■  
Explain the term *entrepreneur*.

■  
Discuss the risks associated with becoming an entrepreneur.

■  
Explain people's motivation to become entrepreneurs.

■  
Describe the phases of the four-stage growth model.

■  
Discuss why a person would prefer to purchase a franchise instead of starting up a new business venture.

■  
Explain why it's valuable to carefully prepare a business plan.

■

## THE URGE TO START SOMETHING

Starting a business has always been exciting, dangerous, and risky. It has never been safe in any location, industry, or time period. Today America's business founders are more diverse. People like sales manager Julie Logue and her veterinarian husband Kitson have sold their car, taken their savings, quit their jobs, and started a dietary dog treat business in South Bend, Indiana. Susan Michaels gave up her TV talk show host job in Seattle to start her

own retail shop for women. Ed Bettinardi started his reading aid business at the age of 55. ■ The 1980s ushered in profound changes in the kind of people starting businesses. The number of minority-owned companies jumped 64 percent. Hispanics increased their business ownership by 80 percent. Large numbers of corporate refugees, pushed rather than pulled into new businesses, have taken destiny into their own hands. A lot of new, ambitious entrepreneurs have entered a new chapter in their lives, confident that they can succeed. ■ An increasing number of new entrepreneurs are experienced in management



© Andy Goodwin

Kitson and Julie Logue.

and business practices. Kitson Logue didn't just drop in on the dietary dog treat business and become a veterinarian. He spent a decade in the animal industry, including several years in marketing. His experience helped him recognize a neglected niche in the market, which he and his wife Julie seized. He knew the market, the channels of distribution, and the potential competitors. ■ Susan Michaels overcame her lack of business experience by working for 18 months on perfecting her business plan. The plan

inspired her and guided her to seek a line of credit. Susan was clever enough to know the importance of preparing a business plan. ■ Ed Bettinardi (a vice president at Manville Corporation) was confident in his idea to start Innoventions in Littleton, Colorado. He had experience, a dream, and a plan to make a reading device for the visually impaired. He knew how to research the market, cost the product, woo suppliers, handle regulators and sell.

Why not start a business? ■ Kitson Logue, Susan Michaels, and Ed Bettinardi come from different backgrounds. They have different views of how to operate, finance, and position a business. But what they have in common is a desire to blend working and hiring according to their own values. Working for someone else didn't fit their ability to blend, to be entrepreneurs. Each of these entrepreneurs' work is difficult and requires long hours. But each is not ready to give up and rejoin the corporate world or work for someone else. An entrepreneurial value system is powerful and hard to debunk.

Entrepreneurship is one of the four pillars of a free enterprise society: land, labor, capital, and entrepreneurship.<sup>1</sup> The word *entrepreneurship* is derived from a 17th-century French word, *entreprendre*, which was defined as a person who undertook the risk of a new enterprise. Richard Cantillon, a French economist of Irish descent, popularized the concept of entrepreneurship in economics. In 1755 he described an entrepreneur as a person who pays a certain price for a product to resell it at an uncertain price, thereby making decisions about obtaining and using resources that consequently assume the risk of enterprise.<sup>2</sup>

The entrepreneur can be considered in terms of being a creator. For our purposes, an **entrepreneur** is a person who

*assumes the major risks of creating incremental wealth by making an equity, time, and/or career commitment of providing value to a product or service. The product or service itself may or may not be new or distinct, but value is added by an entrepreneur.*<sup>3</sup>

This definition emphasizes (1) the creation of incremental wealth, (2) providing value, and (3) taking risks. It can fit the individual entrepreneur, collective entrepreneurship or corporate intrapreneurship. Henry Ford (who created the assembly line process for automobiles and took risks at introducing this technology) was an entrepreneur. Art Fry (whom we already discussed and who invented the Post-It Note and worked diligently to make his discovery known) is an entrepreneur who operates within 3M, a large corporation. Anita Rodderick (who launched the Body Shop in Brighton, East Sussex, England, to use naturally based ingredients to make cosmetics) is an entrepreneur. Steven Jobs and Stephen Wozniak (who created Apple Computer, the first successful personal computer company) are entrepreneurs.

Entrepreneurship has emerged in the 1980s and early 1990s as a important topic and career choice. New ventures are cited as the source of new wealth, new jobs, and new careers. The opening vignette's discussion of the Logues, Susan Michaels, and Ed Bettinardi shows the kinds of new careers that are possible. Major corporations are attempting to capture what's referred to as entrepreneurial spirit in the organization as a whole. Entrepreneurs are viewed by many as the individuals who can give the economy the boost it needs to compete globally, create new products and jobs, as well as initiate new forms of business.

Today, if there's one clear message that's accepted, it's that new jobs are being created in much greater numbers in entrepreneurial firms. The Fortune 500 giants that we so often hear about aren't the new job creators. In fact, Fortune 500 firms have lost 3.7 million jobs in the past decade.<sup>4</sup> In 1992 the Fortune 500 employed only 11 percent of America's nonfarm work force.

This chapter looks at entrepreneurs and their growing role in global business and management transactions. In the years since the 1973 oil shortage with its long lines waiting for gas, the United States has created as many new jobs as in any other period twice as long. The near collapse of the smokestack industries and three sizable recessions haven't slowed this unique creation of jobs. Nothing in history has happened like it in any other country. The chapter examines the uniqueness of entrepreneurship, entrepreneurs, and how management principles are used by these individuals who are responsible for job creation.

## ■ THE ENTREPRENEURIAL ENVIRONMENT

A nation's environment has a significant impact on the degree of its entrepreneurship.<sup>5</sup> The United States has long held values and practiced traditions that encourage entrepreneurship. For example, the writings of Ralph Waldo Emerson emphasized concepts such as self-reliance, independence, and self-determination.<sup>6</sup> Individual entrepreneurship as a part of the American experience is stated as follows:

*Americans believe that their country is great because it is good; . . . they believe it is good because it is entrepreneurial. And so the controversy over what entrepreneurs are is*

### Entrepreneur

A person who assumes the major risks of creating incremental wealth by making an equity, time, and/or career commitment to provide value to a product or service. The product or service itself may or may not be new or distinct, but value is added by the entrepreneur.

*far more than a debate about how to run a business. It is about how to lead and who is to lead. It is a discussion, as discussions about business always are, about what Americans are.*<sup>7</sup>

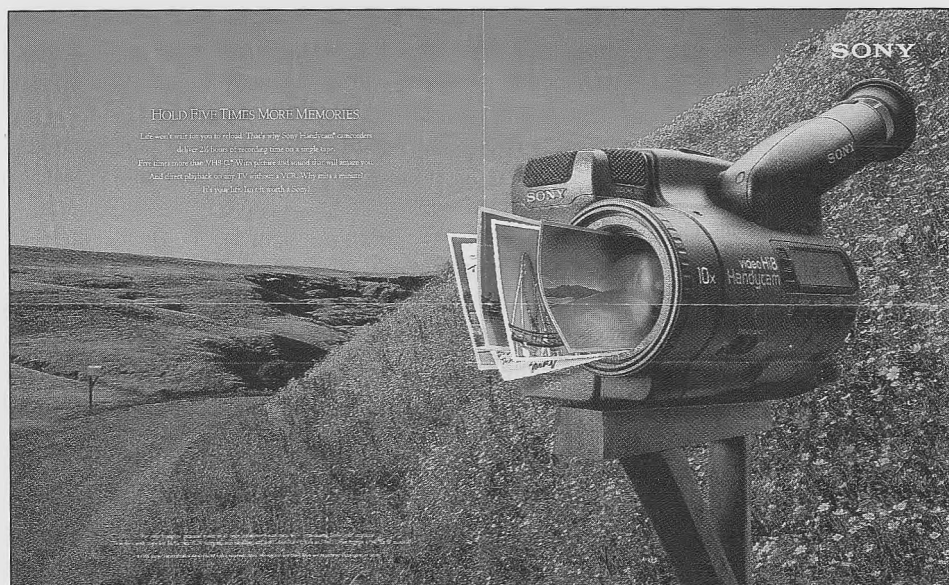
Horatio Alger's writings discussed the triumphant individual hero who won riches and rewards by hard work, creative thinking, self-determination, faith, and some good luck. Alger's rags-to-success stories personified freedom and creativity. His book titles (*Bound to Rise*, *Luck and Pluck*, and *Sink or Swim*) captured the spirit of entrepreneurship. These stories gave the country a noble ideal—an environment in which imagination and effort resulted in rewards.

John McCormack, chairperson of Visible Changes, left the New York City police force to work on Wall Street and quickly became a millionaire. Just as quickly he lost everything and went into debt. McCormack fought back, joined up with his wife, Maryanne, and built Visible Changes (a hair salon company), a computer software company, a hair products and supply company, and a host of real estate holdings. McCormack is a Horatio Alger character with a sense of humor, a flair for entrepreneurship, and a New York accent.

But the current American environment for entrepreneurship may be changing. The concept of a more team-oriented entrepreneurial spirit is now being offered as a new way of practicing American entrepreneurship. There's still room and even general preference for individual entrepreneurship similar to the Alger storyline. But a number of changes in the environment have suggested another theme—the team-oriented entrepreneur.

In today's rapidly shrinking world, the big creative ideas pioneered by American entrepreneurs travel quickly to foreign lands. In the hands of global competitors, these ideas can undergo modification and improvement. Ideas, technology, and creativity travel and migrate overseas. As ideas migrate overseas, the resources needed to implement these ideas migrate as well. Workers in other parts of the world are usually cheaper than workers in the United States. This results in underbidding American labor.

An example of how the world uses ideas is the case of solid state transistors. Americans invented the solid state transistor in 1947.<sup>8</sup> In 1953 Western Electric licensed the technology to Sony for \$25,000—and the rest is history. A few years later RCA licensed several Japanese companies to make color TVs—and that was the beginning of the end of color TV production in America. In 1968 Unimation (a U.S. firm) licensed Kawasaki



Courtesy Sony Electronics Inc.

A Sony developed product that was spawned from technology advancement.

things happen in spite of bureaucracy. Pinchot describes the corporate entrepreneur (intrapreneur) as someone who violates policy, ignores the chain of command, defies established procedures, and may come up with a new product or service. Management's challenge is to create a supportive environment that sustains these intrapreneurs' enthusiasm. Here we'll define an **intrapreneur** as someone inside an organization who pursues an innovation and champions it over a period of time.

#### intrapreneur

A person inside an organization who pursues an innovation and champions it over a period of time.

Art Fry, the 3M engineer who invented Post-It Notes, is an example of a corporate entrepreneur. He first thought of semisticky paper as a church choir director and wanted to have page markers for hymnals that would neither damage the books nor slip out easily.<sup>11</sup> He worked on the idea during his spare time. After years of experimenting, he finally came upon a glue and a pad concept with tear-off edges. Today hundreds of millions of dollars of Post-It Notes are sold.

Different types of entrepreneurship evolve within organizations.<sup>12</sup> There's no one best type, but recognizing the difference in them is informative and helpful in using each type effectively. Effectively using or supporting each type can result in being more competitive within an industry. The use of a **champion** (a highly enthusiastic or committed individual who's willing to ensure the success of an idea or innovation) is important in each of the following five types of corporate entrepreneurship.

#### champion

A person who's highly committed and enthusiastic about an idea or innovation. The person continues to present and defend the idea or innovation.

**Administrative Entrepreneurship** In administrative entrepreneurship the champion supports research and development and provides or helps secure needed resources to develop ideas and move them from the lab to the market. The administrative champion may be in the R&D unit or be a manager in another unit who views the idea or concept as important enough to invest his time, energy, or creativity. The Sony Walkman was invented by an R&D team at Sony, but a marketing team championed the Walkman system and pushed it to where it's now the industry standard.

**Opportunist Entrepreneurship** Providing freedom to champions to seek and take opportunities is how firms such as Tupperware, Mary Kay Cosmetics, and insurance company A. L. Williams & Associates (ALW) operate. ALW's 200,000-person sales force sells more term insurance than any other firm in the United States. Individuals join the firm as training reps. After they complete the company licensing and training program and observe field training sales transactions, they become reps. By selling and obtaining more training, the individuals continue to be promoted and earn more incentives. ALW isn't just selling insurance—it provides opportunities for salespeople to become financially independent.<sup>13</sup> Sales personnel are able to build their own businesses.

**Acquisition Entrepreneurship** Some firms encourage a strategy to court other firms that have knowledge, ideas, or promising products. General Electric, IBM, General Motors, and others have created joint ventures or new subsidiaries or have added innovative product lines to their portfolios through acquisitions. In spite of some uncertainty, acquiring other firms or establishing new joint ventures requires entrepreneurial thinking and action.

**Imitative Entrepreneurship** This form of entrepreneurship takes advantage of and extends the use of other firms' ideas, products, and technology. The Japanese are cited as being experts at this form of entrepreneurship. They've studied American products, found ways to improve on them, produced them at a lower cost, and exported them to American markets. The VCR is an example of Japanese imitation.

Imitation may be flattery, but Anitox Corp. of Buford, Georgia, wasn't pleased when other companies tried to copy the formula for its premier product, a mold inhibitor called MonoProp. The imitations were sold at a lower price. Anitox adopted a philosophy to maintain a high standard of quality.<sup>14</sup> To reinforce this philosophy in its product, Anitox established strict quality standards. By holding its high quality standard position, Anitox was able to win back many customers it had lost to cheaper and less effective imitators. The return customers found that the long-term savings from using MonoProp more than offset the imitator's price advantage.

Hearing Industries to make industrial robots. The Japanese took the technology, kept improving it, and now are the robot manufacturing leaders in the world. Americans have seen this pattern occur again and again with videocassette recorders, basic oxygen furnaces, microwave ovens, integrated circuits, and automobile stamping machines.

To compete with the changing environment, collective entrepreneurship must be added to the country's love affair with individual entrepreneurship. Collective entrepreneurship involves close working relationships among many different people at all stages of the invention, implementation, marketing, and modification processes. Individual skills must be integrated into a group. The collective group learns about each other, and the group's overall capacity becomes something greater than the sum of its parts.

The collective entrepreneurship concept applied to Steven Jobs' story would change the conclusion. It would state that Jobs didn't and couldn't single-handedly create, sustain, and advance Apple Computer. A team of self-determined, hard-working people joined together to lead the company and to make it a formidable competitor.

The U.S. environment isn't likely to discourage the notion of a rags-to-riches story. Individual entrepreneurs will continue to be written about and used as role models. There's also likely to be more attention paid to group or collective entrepreneurship. The changing makeup of world markets and the interest in entrepreneurship in Japan, Europe, and the previously Soviet-dominated countries indicate that competition will continue to increase.

A number of other ingredients point to the continual growth of an entrepreneurial environment around the world. Large firms, facing stiff new competition, are searching for innovative ways to survive and respond. To survive, large firms must recruit and retain the best human resources. However today more and more of the brightest are deciding to start their own firms or to join small firms. An entrepreneurial career is now a viable alternative that college graduates are seriously considering. Thus competition for the best and the brightest—or the entrepreneurial-oriented—will rise.

The reduction in forces at Fortune 500 firms has placed individuals with extensive experience in the job search market. These talented people are often going to other, usually smaller firms or creating their own firms. This infusion of talent is dramatically affecting existing firms as well as newly formed businesses.

In the past a company that sold its products or services to other businesses faced a choice: It could sell to the Fortune 500-sized companies or it could rely on the slow-moving small businesses. As more smaller firms became fast-moving, adaptive, and creative, businesses faced new options. No longer did businesses have to turn to the giants. The entrepreneurial boom provided options. The smaller firms often provided top-quality products or services at a competitive price on time. The result is a new enthusiasm for finding the best deal. The best may be at giant IBM, at medium-sized Compaq, or at Dell Computers, the small, fast young firm.

The Blue Chip Enterprises Initiative is sponsored by Connecticut Mutual Life Insurance Co., the U.S. Chamber of Commerce, and *Nation's Business*. It was begun as a way for small businesses to help each other learn from one another's experiences. Each year hundreds of firms file an application for the Blue Chip awards. Their stories typically emphasize quality management's role in succeeding against all forms of competition, in economic downturns, and with limited resources. The suggestions of Crosby, Deming, and Juran have been put into practice, and their application clearly reflects each firm's quality improvement story. In 1993, 198 small businesses received the coveted Blue Chip Enterprise award and designation. The common characteristics found in each of these Blue Chip winners are a concern about quality and the practice of sound total quality principles.<sup>9</sup>

## ■ CORPORATE ENTREPRENEURSHIP

The term *intrapreneurship* was covered by Gifford Pinchot in his book *Intrapreneuring*.<sup>10</sup> In his view intrapreneurs are like corporate commandos who form teams (skunk-works) that bootleg company resources to work on their own pet projects. They make

**Incubative Entrepreneurship** The incubative version of entrepreneurship involves subjecting a new idea, technology, or innovation to experimentation and testing. Does it really work? Is it good? What risks are involved? The incubative champions are considered a semiautonomous new venture development unit that can either take the product from development to market or stop it from moving.

The classification system to describe corporate entrepreneurship (*intrapreneuring* in Pinchot's words) shows that opportunities to be self-reliant and creative can exist in most firms. The challenge for corporations is to attract, retain, reward, and support the commandos who can move products from the idea state to commercialization. A firm's entrepreneurial environment will have a lot to do with whether successful innovations occur. Large companies are becoming smaller, more responsive to change, and more tolerant of champions who push the routine and pattern of doing business. Entrepreneurs are welcomed now not only in the form of the Horatio Alger character, but also within the corporate walls. Global competition will probably encourage even more of the five types of corporate entrepreneurship.

After discussing entrepreneurship, intrapreneurship, and five categories of corporate entrepreneurship, we might conclude that there's no one best description of an entrepreneur. Peter Drucker described the entrepreneurial role as one of gathering and using resources, but he added that "resources" to produce results must be allocated to opportunities rather than to problems.<sup>15</sup> Redirection of resources is an important concept in illustrating how entrepreneurs differ from traditional managers.

## ■ THE ENTREPRENEUR OUTSIDE THE LARGE CORPORATION

Entrepreneurs create a business to build for growth and profit. They usually use a deliberate, planned approach that applies strategic management concepts and techniques. Entrepreneurs are also highly innovative, creating new products and markets and applying creative strategies and ways of managing.<sup>16</sup>

Bill Gates, cofounder of Microsoft®, is an example of an innovative, growth-oriented entrepreneur. When IBM was fast developing its first personal computer in 1980, it asked 24-year-old Bill Gates to quickly write a software program that would provide the PC with an operating system. Believing his small company wasn't up to the task, Mr. Gates declined and suggested a competitor. But within days he reconsidered. He then found a Seattle programmer who had written a program called Q-DOS (the "Quick and Dirty Operating System") and bought the program's exclusive rights for \$50,000. Mr. Gates gave the software a new name, MS-DOS®, purchased a tie, flew to IBM's PC headquarters, and secured a contract.

That bit of luck and ingenuity put Mr. Gates and his company, Microsoft Corp., on the map. MS-DOS became the industry standard for personal computers. It's the operating system used by about 60 percent of all PCs sold in the United States and provides Microsoft with half of its yearly revenues. But unlike many software firms, Microsoft's fortunes aren't solely reliant on one product.

Rather, Microsoft provides most of the computer languages that professional programmers use on IBM and Apple computers. As a result the company has set industry standards for many programming languages, for programs that manage PC peripheral devices and networks, and for the inner workings of all 10 million IBM PCs and countless compatibles. This has made Mr. Gates the most powerful individual in the personal computer industry. His 45 percent share in the company is worth about \$3 billion. His net worth of \$6.3 billion makes him the richest man in America.<sup>17</sup>

Observers attribute Mr. Gates' success to his technical genius, limitless energy, obsessive perfectionism, shrewd negotiating abilities, and business acumen. Unlike many founders of computer firms, he possesses the rare combination of technical genius and professional management skills that enabled his company to make a smooth transition from a fledgling start-up to a professionally managed, fast-growing firm.

At Microsoft's headquarters in Redmond, Washington, Mr. Gates leaves management tasks to skilled, professional managers while he focuses on technology, setting the company's strategic direction and overseeing all major product development projects. A tall, bespectacled Harvard University dropout, he's a demanding taskmaster who sets rigorous standards for his programmers. His typical workday runs from 9:30 A.M. to midnight. The company's attitude emphasizes challenge and informality. Many of the 1,500 employees wear jeans and gather frequently for picnics and parties. Although programmers could earn more elsewhere, turnover is less than 10 percent, well below the industry average.

Because Microsoft is so dominant in the PC industry, competitors—and sometimes computer company clients—complain about Mr. Gates' intimate knowledge of many companies' products and long-term strategy that's necessary in developing operations software for a major product. Some claim a conflict of interest exists. Others wonder whether Microsoft, involved in so many projects, has spread itself too thin. But its success shows no signs of ebbing. Mr. Gates is fast pursuing his vision—to bring computing power “to the masses.”<sup>18</sup>

## Risks of Entrepreneurship

At least during the enterprise's early stages the entrepreneur outside the corporation works in the domain of a small business. Combining definitions provided by the Small Business Administration and the Committee for Economic Development, we can define a small business as an organization that's privately owned (usually by top management), isn't dominant in its market, maintains local operations (though it may serve a much larger market), and employs fewer than 500 people.<sup>19</sup> Half of the small businesses in the United States have annual sales below \$500,000 and employ 10 or fewer individuals.

In launching a small business the entrepreneur usually faces substantial *risk* (the chance of not knowing a decision or action's outcome). Such is the case because, although well over 1 million new businesses are started each year (over 1.2 million in 1992), the failure rates of young companies are disturbingly high.<sup>20</sup> According to research by the Small Business Administration, from 25 to 33 percent of all independent small businesses fail during the first two years of operation.<sup>21</sup> Eight of every 10 businesses end within 10 years.<sup>22</sup> Table 20-1 shows the failure rates of businesses in nine industries during 1986.

Besides considerable business risk, entrepreneurs face significant *financial risk* as they typically invest most if not all of their financial resources in the business. They take a *career risk* when leaving a secure job for a venture with a highly uncertain future. They

TABLE 20-1  
Business Failures in Nine  
Industries, 1986

	Age of Company When It Failed		
	5 Years or Less	6 to 10 Years	More than 10 Years
Agriculture, forestry, and fishing	29.1%	23.0%	47.9%
Mining	49.1%	28.7%	22.2%
Construction	43.6%	30.0%	26.4%
Manufacturing	51.5%	23.7%	24.8%
Transportation and public utilities	53.1%	23.4%	23.5%
Wholesale trade	51.2%	24.5%	24.3%
Retail trade	61.5%	22.3%	16.2%
Finance, insurance, and real estate	52.3%	25.3%	22.4%
Services	60.6%	22.0%	17.4%
Total	54.5%	24.1%	21.4%

Source: Dun & Bradstreet's "Business Failures Record." Table reprinted from "Down to Earth Advice for Angels," *Changing Times*, January 1988, p. 72. Reprinted with permission.



also incur *family and social risks* because starting and running a young business require 60- to 80-hour workweeks that leave little time for family and friends. Demands of entrepreneurship often strain marriages and friendships. Entrepreneurs also assume a *psychological risk*—the risk of a deep sense of personal failure if the business doesn't beat the odds and succeed.<sup>23</sup> One highly successful entrepreneur succinctly summed up the considerable personal risks of entrepreneurship by describing the emotions of launching a business as “entrepreneurial terror.”<sup>24</sup>

## Motivations of Entrepreneurs

Given entrepreneurship's sizable risks plus time and energy requirements, why do so many individuals take the entrepreneurial plunge? While potential costs are high, rewards can also be substantial. Entrepreneurs launch businesses because of one or more entrepreneurial motivations: for independence, for personal and professional growth, for a superior alternative to a dissatisfying job, for income, or for security.

**For Independence** “Being my own boss” is a powerful motivator for many entrepreneurs who seek the freedom to act independently in their work. As heads of businesses, they enjoy the autonomy of making their own decisions, setting their own work hours, and determining what they'll do and when they'll do it.

**For Personal and Professional Growth** The challenges of building a business inevitably involve individual growth. To succeed, an entrepreneur must be able to cope with risk, uncertainty, and stress, to handle many different interpersonal relationships, and to manage a business with limited resources. Many individuals become entrepreneurs to experience this growth and the fulfillment gained from building a business into a purposeful, productive entity.

**For a Superior Alternative to a Typical Job** Many entrepreneurs establish businesses as an alternative they perceive as superior to a dissatisfying job. A survey of the CEOs of the Inc. 500 (the 500 fastest-growing U.S. private companies) found that frustration with working in large companies was the primary motivator for starting a business.<sup>25</sup> The CEOs were dissatisfied with slow decision making, bureaucracy, and their limited autonomy as managers in larger corporations. Other entrepreneurs who were plateaued in their previous jobs have launched businesses as a second career, adding to a growing number of “late bloomer” entrepreneurs.<sup>26</sup> These entrepreneurs bring to their ventures years of business experience and professional contacts.

Many female entrepreneurs report poor advancement opportunities as their major reason for launching a business.<sup>27</sup> One third of the female members of the Inc. 500 (twice the percentage of male members) cite their inability to move up as a major motivator for becoming an entrepreneur.<sup>28</sup> Other women have tired of the “corporate grind” that can be exceptionally difficult for women managers with children. They view running a business as ultimately providing the needed flexibility for having both a professional career and children. These trends have contributed to a boom in women entrepreneurship. Today women own 28 percent of all U.S. businesses and account for one third of all start-ups each year.<sup>29</sup> One such entrepreneur, Liz Claiborne, is considered by many to be America's most successful woman entrepreneur.<sup>30</sup>

When Liz Claiborne created her apparel manufacturing company in 1976, her goal was simple: create clothes for the professional woman and develop a small business under the Liz Claiborne label. But her talents and penchant for quality quickly produced something far more than she originally planned. In 11 years, Liz Claiborne, Inc., became a Fortune 500 company, producing annual revenues of over \$800 million. The company

currently ranks fifth among America's 10 most admired corporations according to *Fortunes* prestigious annual survey. Widely considered to be America's most successful female entrepreneur, Ms. Claiborne is frequently called the great pathfinder. The reason: as president and cochairman (she shares the chairmanship with her husband, Arthur Ortenberg), Ms. Claiborne has shown just how profitable an apparel maker can be. Her company's 10.9 percent return on sales is by far the industry's best—four times the average of her top 10 competitors.

Ms. Claiborne's strategy for success is simple: (1) design colorful, fashionable clothes for the professional woman whose figure is full rather than model thin; (2) ensure the clothes are of high quality, timely but not faddish; (3) design for six seasons rather than four so customers can actually buy winter clothes in winter, summer clothes in summer; (4) keep quality high but maintain low prices by contracting all manufacturing to clothes makers in low-labor-cost countries (primarily in the Far East); and (5) exercise strict control over how the clothes are displayed and sold by retailers. Since her clothes sell so well, Ms. Claiborne exercises far more control in this regard than do other top apparel designers.

Because her company has boomed in size, Ms. Claiborne no longer has time to design. Instead she supervises her team of 14 designers. Described as shy and intense, she has built a business by giving her time and making a commitment to design excellence. She believes that risks were certainly worth the independence she has gained by being an entrepreneur.<sup>31</sup>

**For Income** Many entrepreneurs are enticed by the hefty profits that a highly successful business can provide, although the odds of such considerable success are slim. Others are motivated by making their own money in business. But, surprisingly, many entrepreneurs don't rate money as a primary motivator for starting a business. The surveyed Inc. 500 entrepreneurs, for example, ranked money fourth in importance (behind frustration, independence, and controlling one's life).

**For Security** Given the substantial risks and uncertainty of entrepreneurship, personal security may seem an unlikely motivator. But in a time of much corporate downsizing and layoffs, some entrepreneurs view running their own business as a more secure alternative, especially those in the middle and latter stages of their corporate careers.

## Entrepreneurial Characteristics

A number of studies have been conducted to determine whether entrepreneurs distinctly differ in personality and other characteristics from managers and the public at large. Drawing generalizations from this research is hard because studies differ in their definitions of entrepreneur.

But assuming a general definition of entrepreneur, some research support exists for a number of characteristics.<sup>32</sup> Studies have found that entrepreneurs possess a significantly greater need for independence and autonomy than do managers. Other studies have pictured the entrepreneur as having a substantial need to achieve and a tolerance of ambiguity—the ability to handle uncertain situations. Many entrepreneurs also have high energy and endurance, substantial self-esteem, and a strong dominance (a need to take charge, control, and direct others). Several studies also found that the entrepreneur has a lower need for social support compared to managers. She's not a team player or joiner. Figure 20-1 on the next page uses the results of surveys and interviews to develop a composite list of entrepreneurial characteristics. Entrepreneurs possessing these characteristics come from around the world. The following description of three businesses and the entrepreneurs that operate them are examples of the universality of entrepreneurship. The Global Exchange on the next page takes a look at entrepreneurs around the world.

FIGURE 20-1  
Characteristics of Successful  
Entrepreneurs

Self-confident and optimistic	Energetic and diligent
Able to take calculated risk	Creative, need to achieve
Respond positively to challenges	Dynamic leader
Flexible and able to adapt	Responsive to suggestions
Knowledgeable of markets	Take initiatives
Able to get along well with others	Resourceful and persevering
Independent-minded	Perceptive with foresight
Versatile knowledge	Responsive to criticism

Source: John A. Hornaday. "Research about Living Entrepreneurs." in *Encyclopedia of Entrepreneurship*, ed. Calvin A. Kent, Donald L. Sexton, and Karl H. Vesper (Englewood Cliffs, N.J.: Prentice-Hall, 1982), p. 28. Adapted with permission.

## GLOBAL EXCHANGE

### ENTREPRENEURS AROUND THE WORLD

Entrepreneurs are from around the world, not just from America. A few examples illustrate that their thinking, risk-taking, behavior, and motivation are similar across the world. Emilio Azcarraga, a Mexican entrepreneur, is known as an opportunity-seeking, risk-taking, action-oriented businessman. In 1987, after nine years of wrangling with the Federal Communications Commission about his firm Televisa's alleged control of U.S. television properties, he sold five UHF stations in the United States and, later, the Spanish International Network to Hallmark Cards Inc. for about \$600 million—a price substantially more than the properties would bring today.

He sold 10 radio stations, a soccer stadium, and 2 soccer teams in 1991 at nearly 40 times predicted 1991 earnings. Yes, 40 times predicted earnings. Who bought? Foreigners mostly, in the United States, Japan, and Europe. Mexico's economic prospects are the best they've been in decades, but selling for 40 times predicted earnings is almost a miracle.

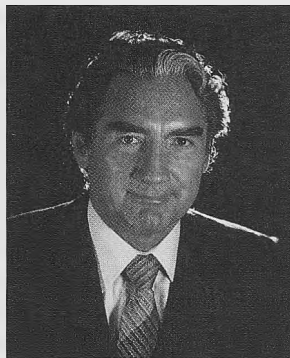
President Enterprises of Taiwan was started as a small food company in 1967. It grew a little each year because the owners, the Kao family, used a controlled growth strategy. In Taiwan it now markets everything from noodles and frozen foods to Kentucky Fried Chicken and Famous Amos Chocolate Chip Cookies. It just bought the Famous Amos brand of chocolate chip cookies for \$60.6 million. President Enterprises plans to expand into China by setting up six joint ventures. China is a vast market that President Enterprises plans to be a part of for many years. The 25-year plan calls

for more controlled growth, some risk taking, and a dream to eventually become one of the biggest food companies in the world.

Andrónico Luksic, Sr., bought his first copper mine in 1954 at age 26. Unable to develop it on his own, he sold it to Nippon Steel. He took his money and built a business empire in Chile. He owns three of Chile's largest copper mines and the Antofagasta Railway. He owns food processing businesses, fisheries, and lumber companies. He also owns 10 percent of Chile's largest publicly held company, Endesa, the electric utility. He calls his theory of operating a business as following the philosophy of the ant; that is, "focus on accomplishing little things, and soon you'll move mountains." Paying attention to detail, properly planning, using rigorous control systems, and leading by example of working hard are Luksic's principles of management.

Luksic hasn't finished expanding his empire. He now has set his sights on companies and industries outside of Chile. A global thinker, he'll invest his money and bring his brand of entrepreneurship to other Latin American countries. Wherever business is, Luksic will be ready to negotiate, make deals, and help create wealth and jobs. He has been a creator of wealth and jobs for almost four decades.

Source: Adapted from Joel Millman, "El Tigre Pounces Again," *Forbes*, January 6, 1992, p. 44; "Famous Amos Gets a Chinese Accent," *Business Week*, September 28, 1992, p. 76; and Joel Millman, "Follow the Philosophy of the Ant," *Forbes*, October 12, 1992, pp. 132-34.



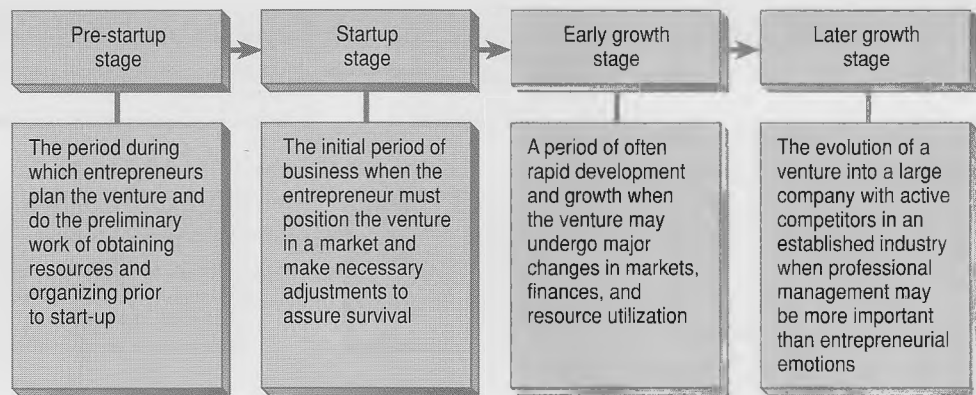
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Emilio Azcarraga.

## ■ THE STAGES OF BUSINESS GROWTH

There are no perfect models on how to succeed as an entrepreneur outside or inside an organization. Taking an idea, working with it, and eventually turning it into a business

FIGURE 20-2  
The Four-Stage Growth Model



Source: Adapted from David H. Holt, *Entrepreneur* (Englewood Cliffs, N.J.: Prentice Hall, 1992), p. 104.

or product usually isn't an orderly process. The steps through the process are often unplanned, are outside the entrepreneur's total control and usually occur haphazardly. The entrepreneurship process is simply frenetic, often unpredictable, challenging, and exciting all at the same time. The sequence of events is different for each product or service for each entrepreneur.

Two examples illustrate the different process steps used by two very successful entrepreneurs.<sup>33</sup> H. Ross Perot founded Electronic Data Systems (EDS) in 1962 with \$1,000. He envisioned computer terminals connected through telecommunication systems and information processing that would link operations on a global basis. Today this interconnected network using integrated circuiting, microcomputers, and software is taken for granted. Perot planned a step-by-step program from design and planning to manufacturing and marketing. He had a strategic vision that was translated into specific action steps.

In contrast to Perot's step-by-step, planned-in-advance form of entrepreneurship and growth, Michael Dell began at age 20 to create Dell Computer, which is today a \$600-million-a-year firm. Dell had a hunch when he was working part-time selling IBM PCs. He believed that he could put together a low-cost clone of the IBM. He assembled his own clone and sold it for under \$1,000. He made more clones and sold them to his friends. He turned a hunch into a business whose demand was based on word-of-mouth comments from satisfied buyers. He only began to plan for growth after demand for his clones exceeded his wildest dreams. He developed strategy as the business grew.

Perot and Dell represent two kinds of managerial approaches. Perot was detailed in how he proceeded. Dell was forced to plan by growing demand for his business. In both cases the entrepreneurs made decisions, took risks, and created value. Perot and Dell represent two poles on a continuum of planning. One end is well-planned, strategic visioning (Perot); the other end is innovative thinking with planning in response to events (Dell).

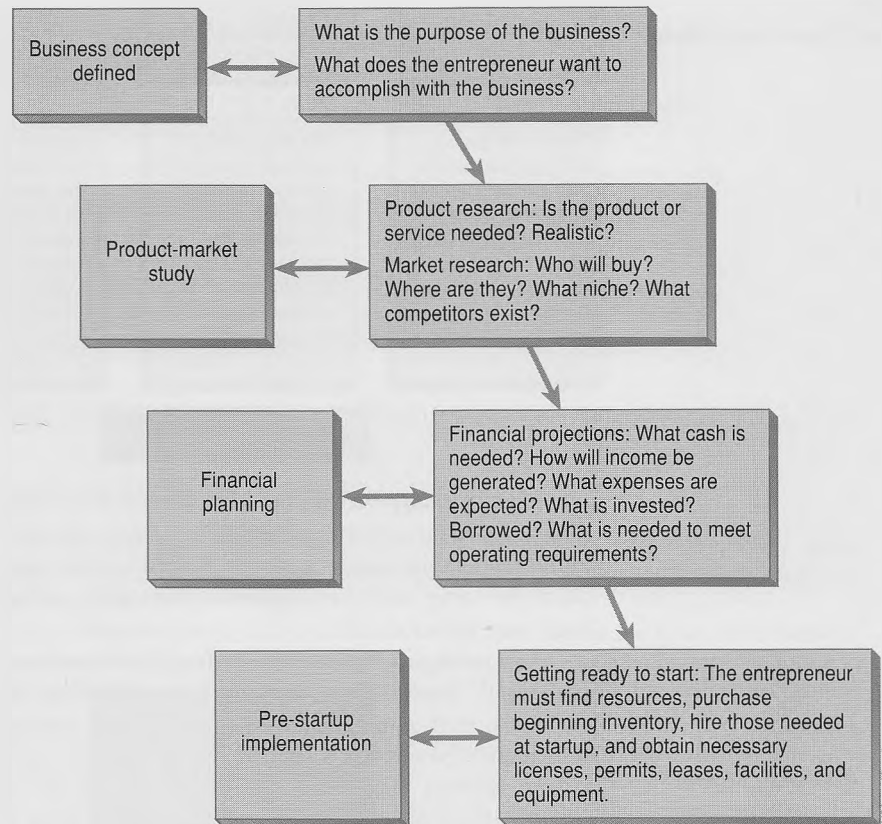
An idea's movement from something a person thinks up to a functioning business can be thought of as a four-stage model. Holt's concise, informative model highlights activities in each of four distinct growth stages (Figure 20-2).

### Pre-Start-Up Stage

Michael Dell, by working part-time and thinking about business, thought that his low-cost, direct-sales clone was possible. He saw a gap or recognized a need and thought that his clone could fill it.

Asking questions about the potential of the product or service is part of the pre-start-up stage. Is the product good? Is the product needed? Four sets of analysis are relevant no matter what the new venture will be. Figure 20-3 on the next page presents these four essential pre-start-up activities: defining the business concept, analyzing the

FIGURE 20-3  
Four Essential Pre-Start-Up  
Activities



Source: Adapted from David H. Holt, *Entrepreneur* (Englewood Cliffs, N.J.: Prentice Hall, 1992), p. 105.

product market, planning the financing, and pre-start-up implementation. If the business is complex, the last of the pre-start-up activities can be extensive. Perot probably carefully went through each of these pre-start-up activities, while Dell eventually went through the steps. The emphasis with Michael Dell was on answering the questions posed, but perhaps in a more unplanned manner.

The four pre-start-up activities point out the need to do (1) product research patent searches to see if others already have filed patents, (2) market research to determine if a market exists, (3) financial analysis that includes making realistic forecasts of profits and cash flow, and (4) the necessary hiring, establishment of an inventory, advertising, and work needed to establish an accounting and payroll system.

### Start-Up Stage

This is the initial period of opening the doors and doing business. The objectives of the start-up stage are to meet the objectives set in the pre-start-up stage. Examples of objectives in terms of sales, growth, and position are:

- Sales: To attain monthly sales volume as forecasted in the pre-start-up stage.
- Growth: To increase monthly sales by at least 5 percent each month during the first year of business.
- Position: To capture at least 10 percent of the market share at the medium-priced end of the market within 15 months of starting the business.

Ideally the business will meet its sales, growth, and position objectives. Meeting these objectives, however, may not mean that a profit will be earned. Losses are usually more common in the first year of a business. Does the business have enough cash or financial resources to cover variable and fixed costs? This is a crucial question.

## REFLECTIONS BY PHILIP B. CROSBY

## ENTREPRENEURSHIP AND GROWTH

I went to have lunch with my old friend Herman Advent while I was in his city on business. Herman had worked in a big corporation and I had gotten to know him when I did some consulting with the firm a few years back. He was now out on his own and had set up a new business. I had assumed that he was doing well but it only took one look at his face to know that the sun wasn't shining everywhere.

After exchanging greetings and ordering lunch we sat quietly while I waited to hear his story. It's much better to just sit smiling rather than begin to interrogate the subject in cases like this. I wasn't disappointed.

"I always thought business wasn't too tough," he said, "but I've sure learned a lot the hard way since starting my own company."

"How are things going?" I asked.

"Not well at all. We're on the edge of going under. The bank isn't interested in extending the line of credit, and the payroll is getting harder to meet every week. We just need more time; I know the business is there, but I'm running out of money.

"You know," he remembered, "that the old man always said the worst thing to do was run out of money."

I nodded.

"Did you have enough money at the beginning?" I asked.

"Apparently not," he replied. "I thought, with my savings and with the money the bank loaned me using my home and stocks as security, that we'd have enough. But there were a lot of start-up costs. A venture group is willing to give me some more but they want a big hunk of the operation. It's back-to-the-wall time."

He sighed.

"What did you spend the start-up money on?" I asked. He looked surprised.

"Why 'starting up,' of course. I needed an office, computers, marketing manager, production people, secretaries, and such. Why do you ask?"

"Well, most beginning companies use money for facilities and things they don't need rather than using it to buy time. The goal needs to be to create a cash flow that pays for stuff rather than trying to be five years old at the start."

He had a puzzled expression.

"But we had a business plan."

"And I suspect that you've met it in every spending aspect, but haven't met the revenue projections. Right?"

He nodded.

"That's what happens, particularly to those of us who come out of big corporations. We think it's just numbers, but it's really blood. Money is nourishment, not a scorekeeping device. Business plans use up all the time and money."

"So what should I do?"

"Get rid of everything that doesn't involve a customer. Sell out of the trunk of your car if necessary. All you need are customers, and when they force you to have an office and all those people, they'll be willing to pay for them.

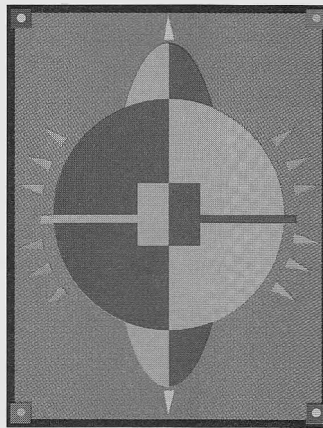
"Don't give up your company to the venture people, and don't plan on increased revenues to save you. Cut the costs, do only what's absolutely necessary. Get real instead of conventional. First the pushcart, then the department store."

"Who said that?" he asked.

"I'm not certain," I replied, "but someone should."

"I feel better and I'm going to go back and do exactly that. We just might make it. As part of this new program I'm going to let you pay for lunch."

"Happily," I said, "happily."



Michael Dell paid close attention to the positioning of his business. He positioned his clone (PC Limited) to sell to small businesses and as stand-alone systems through a factory-direct-market process. He could have elected to position his clones for other market niches, but Dell purposefully considered his long-term growth potential to be best in the small business area.

H & R Block has positioned its accounting services to individuals in need of income tax support. In the beginning in the late 1940s Henry and Richard Block provided

accounting services for small businesses that couldn't afford their own accounting staff.<sup>34</sup> The brothers tossed in tax preparation as an extra service. Today H & R Block completes about 10 million tax returns annually and in over 9,000 franchises throughout the United States.

### Early Growth Stage

Once the venture is positioned, successful businesses will have an early growth spurt. In some ventures the spurt is small and slow; other businesses' spurt is dramatic and rapid. Compaq Computer reached \$1 billion in annual sales within five years after it was started, faster than any company in history. On the other hand, Coca-Cola's growth was slow and steady. Atlanta pharmacist John J. Pemberton invented Coca-Cola in 1886. His bookkeeper, Frank Robinson, named the product after two ingredients: kola nuts and coca leaves (later cleaned of narcotics). By 1891 Atlanta pharmacist Asa G. Chandler bought the company for \$2,300. Today annual sales are over \$6 billion.

Most entrepreneurs don't know exactly where or how big the growth spurt will be when they start the business. Although Mr. Pemberton invented Coca-Cola, his unique product's success was enjoyed by those who bought him out. Entrepreneurs don't always accurately assess market demand, market changes, and resource needs. Managing sales, costs, and resources carefully is important in the early growth stage.

### Later Growth Stage

In the later growth stage the growth rate is usually slower. Active domestic and international competitors frequently enter the market. Often companies that reach this stage sell stock to the public to raise funds. Also the entrepreneur may be replaced with a professional manager or team. Perhaps the most publicized change in an organization's top team took place at Apple Computer. In 1985 Apple cofounder Steven Jobs lost out in a power struggle to John Sculley, a professional manager who had been hired away from Pepsi-Cola to work with Jobs.

An example of how maintaining and promoting quality can be used in the later growth stage is found at Epner Technology in Brooklyn, New York. The small firm's president, David Epner, took over the business from his father, who started it in 1910 when he began bronzing baby shoes. Today Epner is involved with top-quality gold plating. Since infrared light reflects brilliantly off gold, Epner's process is useful in missile parts and auto paint drying ovens.

Epner employs 40 people. In 1972 the business almost went under because of poor-quality products. A contract for an aluminum reflector for Xerox was shipped. However trailerloads of rejects were returned due to low quality. A concerted quality effort was implemented, and quality is still a top priority. Epner's improved quality in the early 1970s, after the Xerox fiasco, resulted in an improved image, new government contracts, and more satisfied customers. U.S. and European carmakers have found that Epner's work in auto drying ovens is of the best quality. Epner's gold plating is used on computer parts and systems for making semiconductor wafers. This late-growth firm keeps moving along by providing high-quality workmanship at competitive prices. Business isn't booming, but it's good enough to employ 40 employees in a depressed neighborhood in Brooklyn.<sup>35</sup>

The four-stage growth model illustrates that attention needs to be directed to different factors at each stage. During the pre-start-up stage attention should be on the business concept, the product or service, financial plans, and implementation activities. The start-up stage requires that attention be directed at positioning. At the early-growth stage proper management of sales, costs, and resources is important. During the later and usually slower growth stage, making the transition from an entrepreneur-managed business to a professionally managed business is the focus of attention.

## ■ ENTREPRENEURSHIP AND THE FUNCTIONS OF MANAGEMENT

Creating and building a successful enterprise requires, above all, effectively performing the four management functions: planning, organizing, leading, and controlling. As research clearly indicates, poor management and management inexperience are the primary causes of new venture failure.<sup>36</sup> To be specific, 9 of every 10 closings have been attributed to inadequate management.<sup>37</sup> Thus knowing the purpose and principles of each function and applying them well is critical to new venture success. By now you're well versed in each function. Therefore our discussion of the four functions focuses on how they apply to the special task of launching a small business.

But before we begin we should briefly discuss the critical first step that precedes planning, the first entrepreneurial task. This first step is the *entrepreneur decision*, specifically deciding whether to purchase an established business or to become an entrepreneur.

Making the right decision requires a clear understanding of entrepreneurship and the requirements for success. Above all, the decision should be based on an accurate self-assessment of individual skills, abilities, and shortcomings. This is so because initially the entrepreneur *is* the business. He makes all the decisions, initiates critical business relationships, and performs the management functions. The entrepreneur's strengths and limitations directly and profoundly affect the enterprise. Take a minute to answer Figure 20-4's questions for a brief self-assessment of your entrepreneurial potential.

Many management observers agree that success requires certain entrepreneurial attributes. The entrepreneur must be motivated to make a profit because profitability (not self-fulfillment, independence, or other motivations) is essential for survival. The entrepreneur must be an effective planner, organizer, problem solver, and decision maker and be able to manage people well. Experience in the business is vital as is are talents for getting along with people and handling stress. The entrepreneur must have nerve, be prepared to bounce back from inevitable setbacks, and be willing to devote long hours to the business.<sup>38</sup> Now count your "yes" answers to the self-assessment quiz. If you gave a "yes" unconditionally six or more times, you have entrepreneurial potential.

### Planning

Of the four management functions, planning probably contributes the most to new venture performance. Planning provides a well-thought-out blueprint of action for the critical first months of the new business. This activity is vital because when resources are slim in the early days of the business, mistakes can be costly or even fatal to the business. Careful planning reduces the chances of major mistakes; it also forces the entrepreneur to examine the business's external environment, competition, potential customers, the

FIGURE 20-4  
Assess Your Entrepreneurial  
Potential

- |   |       |       |
|---|-------|-------|
| 1. Are you a self-starter?                                      | _____ | _____ |
| 2. Do you have a positive, friendly interest in others?         | _____ | _____ |
| 3. Are you a leader? (Do you inspire confidence and loyalty?)   | _____ | _____ |
| 4. Can you handle responsibility? (Do you enjoy taking charge?) | _____ | _____ |
| 5. Are you a good organizer?                                    | _____ | _____ |
| 6. Are you prepared to put in long hours?                       | _____ | _____ |
| 7. Do you make up your mind quickly?                            | _____ | _____ |
| 8. Can people rely on you?                                      | _____ | _____ |
| 9. Can you withstand setbacks without quitting?                 | _____ | _____ |
| 10. Can you adapt to changing situations?                       | _____ | _____ |

Source: S. Norman Feingold and Leonard G. Perlmán, "A Quiz for Would-Be Entrepreneurs," *Nation's Business*, March 1986, pp. 26-27.



strengths, and limitations.<sup>39</sup> But despite the importance of planning, many entrepreneurs don't like to plan because they believe planning hinders their flexibility.<sup>40</sup>

The entrepreneur performs two types of planning. *Start-up planning* occurs before the enterprise opens for business. Thereafter the entrepreneur performs *ongoing planning*, which provides further strategic and operational direction for the established business.

There are a number of ways of entering business. Among the most popular are (1) starting a business, (2) buying out an existing business, and (3) buying a franchise.

**Start-Up** Examples of entrepreneurs who started their own businesses have filled books and magazines. Michael Dell, Ross Perot, Steven Jobs, Stephen Wozniak, Anita Rodderick, and Liz Claiborne have already been mentioned. The start-up is a risky way to enter a business because there's uncertainty, and generally a lack of market information. Figure 20-5's flowchart helps to organize thinking of how to decide which way is best for entering a business.

Unfortunately many start-ups fail because of one factor or a combination of factors. The most cited reasons for failure include:

- Inadequate market research.
- Improper pricing.
- Not enough funds to operate.
- Poor management.
- Lack of inventory control.
- Poor credit control.
- Underestimation of competition.
- Inadequate flow of supplies.

Still many start-ups succeed. The usual case of success involves careful market analysis, realistic goals and decisions about resources needed, hard work, long hours, and seizing the opportunity at the right moment.

**Buyouts** In some cases buying an already existing business is the proper course of action. An advantage of buying out a business is that better forecasts can be made because there's a history to review. An infrastructure is in place that includes policies, credit lines, human resources, reward systems, and objectives. These can be reviewed, retained, modified, and/or discarded.

There's also the firm's goodwill or reputation. This, of course, can be assessed before deciding to buy. It's also possible to buy a business for less than it would take to duplicate the business.

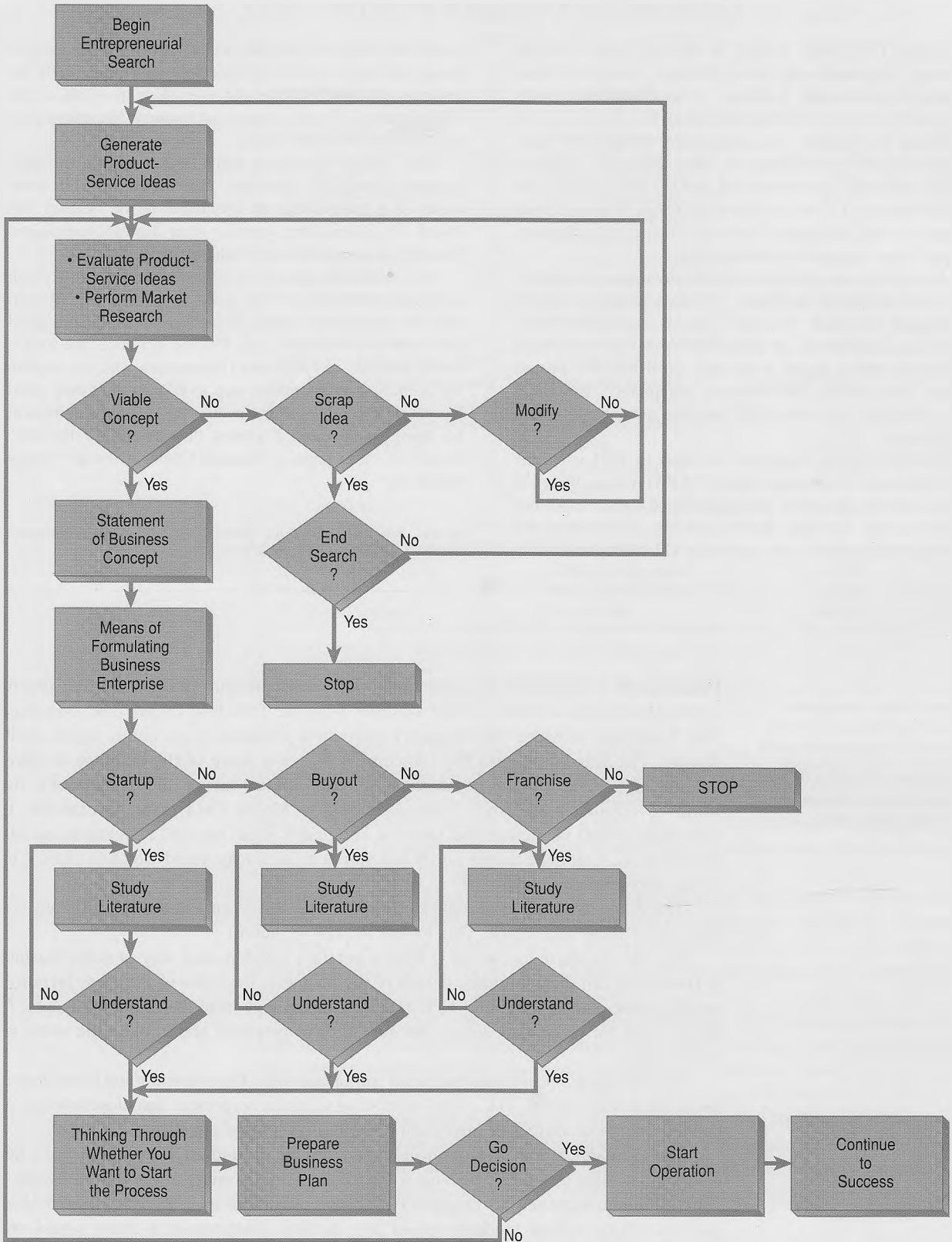
The **leveraged buyout** is a means of acquiring an existing business. A leveraged buyout is the layering of a debt and other securities, which are senior (take precedence) to common owners' equity to finance the buyout. Generally the business being bought is one with a record of healthy cash flow.

Good buyout candidates are hard to find. Locating the right candidate will require a thorough analysis of the company (size, annual sales, expenses, profit), location, type of business and its market niche, management team, financial condition, lawsuit history, asset values, cash flow values, and goodwill. These and other similar factors need to be thoroughly studied and all of the possible legal ramifications must be considered.

One important aspect of buying a firm out is its record of environmental compliance. The Ethics Spotlight on page 572 illustrates that entrepreneurs must know the law and policies about environmental issues. A previous owner may be held liable many years after selling a business.

**LEVERAGED BUYOUT**  
A means of acquiring a business by borrowing money and other securities to buy a company. The borrower's assets are generally used as collateral for the loan.

FIGURE 20-5  
The Entrepreneurial Process: Means of Entering Business



Source: Adapted from John Burch, *Entrepreneurship* (New York: John Wiley, 1986), p. 93.

## ETHICS SPOTLIGHT

## LEARNING ABOUT LIABILITY THE HARD WAY

The June 1992 Earth Summit in Rio de Janeiro brought together individuals with many different viewpoints about solving environmental problems. A small business owner hears the viewpoints but also thinks about how to pay to solve problems. For example, his underground storage tanks have leaked into the surrounding soil. They need to be replaced, and the dirt must be cleaned. U.S. law has changed since the Water Pollution Control Act (now the Clean Water Act) was passed in 1948. Inspections, hearings, rulings, and reckonings impact large and small businesses alike.

Businesses that violate or ignore environmental regulations are subject to stiff fines. Pollution problems haven't developed overnight for small business owners. We're becoming more aware of pollution's short- and long-term effects on human health. For years, small business owners didn't worry about environmental compliance. But times have changed. Now some small business noncompliers have gone to jail.

Marjorie Conley started her business in 1973 when the Environmental Protection Agency (EPA) was a fledgling agency and the term *toxic waste* was found mainly in science fiction novels. Her firm, Nameplates Inc., produced wastes—scrap metal, caustic solis, and ferric chloride were put into

barrels and dropped into deep wells. Now the wells are polluting and there's a bill to clean them up. Conley feels her company is innocent. She did everything possible in the 1970s in terms of waste disposal technology. She doesn't see why she should be held liable.

Gary Trahey operates a small Detroit surface finishing company, Rampart Industries, Inc. He buried his toxic wastes in a manner that all companies in the industry followed. He claims there were no other disposal techniques. Now he's in noncompliance violation and is liable.

It is important to note that entrepreneurs can't claim ignorance of the law. They need to secure help to conduct environmental audits. Experts who conduct a solid audit can be worth their cost. Finding out about the EPA's Small Business and Asbestos Ombudsman who can explain the primary laws is another step to take. It isn't only good business to comply. There's also an ethical requirement for being in business. Claiming "I didn't know the law" doesn't do much good, as Marjorie Conley and Gary Trahey found out.

Source: Adapted from Erika Kotite, "The Cost of Compliance," *Entrepreneur*, October 1992, pp. 150-56.

## franchise

A business whose entrepreneur (franchisee) provides a product or service under a legal contract with the franchise owner (franchisor). The franchisor provides the distinctive elements of the business (e.g., name, image, signs, facility design).

**Franchise** A franchise is a business whose entrepreneur (the *franchisee*) provides a product or service under a legal contract with the franchise owner (the *franchisor*). The franchisor provides the business's distinctive elements (e.g., name, signs, facility design). The franchisee pays the franchisor a fee or a share of the earnings to operate the business. The franchisee is then able to operate using the franchisor's trade name—McDonald's, Domino's Pizza, Benneton, or Mobile Car Doctor, for example. The franchisee is part of a chain and uses the company's logo, layouts, equipment, standard product (e.g., Colonel Sanders herbs and spices at Kentucky Fried Chicken [KFC], uniforms, service techniques).

The franchise type of business offers the franchisee an established product, company advertising, and image. This lowers the risk of failure.

But the franchise can severely limit a person's freedom and way of doing business. A franchisor can dictate minute details of the business: the color of the store layout, the receipt, price, and royalty rate. KFC regular chicken legs taste the same in Lincoln, Nebraska, and Newark, New Jersey, because they're prepared and cooked the same way everywhere.

Identifying the best franchisor is an important step. The International Franchise Association in Washington, D.C., the Chamber of Commerce, present franchise owners, and bankers are good sources of information about a franchisor's quality.

Tom Monaghan created Domino's Pizza from the ground up. Here's a case of a business start-up that eventually became a franchise. Times weren't always so enjoyable for Tom. When he launched his business on a \$900 investment in 1960 near Eastern Michigan University, college students would play pranks. Everyone in a dorm would order pizzas at the same time. Or often, while Mr. Monaghan was making deliveries in a dorm, students would steal pizzas from his delivery truck.

## QUALITY BENCHMARK

## TOP 20 FRANCHISES BY NUMBER OF FRANCHISES, 1991

Rank/Franchise	Business	Franchise fees	Number of franchises
1. McDonald's	Fast-food restaurants	\$22,500	8,619
2. Century 21 Real Estate Corp.	Real estate brokers	14,000-30,500	6,571
3. Subway	Fast-food restaurants	10,000	5,775
4. Kentucky Fried Chicken	Fast-food restaurants	20,000	5,607
5. Dairy Queen	Ice cream stores	30,000	5,298
6. H & R Block	Tax preparation	600-1,200	4,868
7. Burger King Corp.	Fast-food restaurants	40,000	4,652
8. Jazzercise	Dance fitness centers	325-650	4,638
9. Servicemaster	Commercial cleaning services	8,400-19,400	4,214
10. Domino's Pizza	Pizza delivery and takeout	6,500	3,805
11. Baskin-Robbins Ice Cream	Ice cream stores	0	3,374
12. Electronic Realty Associates (ERA)	Real estate services	16,900-18,900	3,096
13. 7-Eleven Convenience Stores	Convenience stores	Varies	3,058
14. Budget Rent A Car	Car rental	15,000	3,049
15. Jani-King	Commercial cleaning services	6,500-14,000+	2,780
16. Chem-Dry	Carpet, upholstery, and drapery cleaning	6,670	2,772
17. Little Caesar's Pizza	Takeout pizza	20,000	2,493
18. Hardee's	Fast-food restaurants	15,000	2,479
19. Wendy's	Fast-food restaurants	25,000	2,451
20. Dunkin' Donuts	Donut shops	40,000	2,400

Source: *Entrepreneur*, January 1992, p. 33. Reprinted by permission.

Mr. Monaghan's tenacity paid off. After years of steady expansion (and a comeback from near-bankruptcy in 1970), Domino's Pizza today is the world's largest home delivery pizza chain. Of its 4,300 outlets, two thirds are franchises. Many observers credit the company's success to several factors, notably Mr. Monaghan's unrelenting energy and optimism plus his keen understanding of what it takes to deliver a hot, good-tasting pizza and make a profit.

During his over 30 years in business Mr. Monaghan has maintained a simple business concept. Domino's Pizza sells only one basic pizza (three sizes with up to 11 toppings) and Pepsi. The company has no sit-down service and guarantees a 30-minute delivery or provides a discount on the pizza. (Drivers meet the guarantee on 90 percent of the orders.)

The company works to keep its franchises efficiently run and the franchise owners, store managers, and employees well-trained. Only store managers may apply for a franchise. If they qualify, they're rigorously trained in all aspects of franchise management at one of Domino's regional training centers. Employees are trained on the job by store managers equipped with a variety of training aids provided by the corporate training staff, including videocassette training tapes that are upbeat and musical (MTV-style). Performance standards are demanding (e.g., the order taker must answer a call within three rings and take the order within 45 seconds, the oven tender must cut and box one pizza by the count of 15).

Mr. Monaghan also rewards his managers well. Senior executives drive company-provided BMWs; top-performing store managers and franchise owners take weekend cruises on the company's million-dollar yacht, receive trips to Hawaii, or spend time at



© The Stock Market/George Disario 1991

Domino's continues to compete against all comers.

the company's plush corporate retreat. Any manager who exceeds the company's weekly sales record (currently about \$62,000) receives a \$12,000 Swiss gold wristwatch, the same style that the CEO wears. Mr. Monaghan once bet an overweight vice president that the man couldn't run a marathon by the end of the year. Mr. Monaghan lost the wager—and paid the runner \$50,000.

Monaghan is still a bit of a maverick. A child who lived many years in an orphanage and foster homes, he spends his money rather than accumulating it. In 1983 he bought the Detroit Tigers baseball team. He sold the team in 1992 for \$85 million to the owner of Little Caesar's Pizza, Mike Ilitch.<sup>41</sup> He maintains an \$18 million collection of classic cars and once threw a \$1 million, three-day Halloween party for friends and associates. He generously donates to charity. One of his several projects is the development of a small community in the mountains of Honduras. Monaghan has funded a Catholic mission, medical clinic, and factory there—and opened a Domino's Pizza outlet.

## Organizing

As Chapters 9 through 11 said, the organizing function involves developing an organizational structure via job design, departmentalization, determining span of control, and delegating authority. Ideally these tasks provide a structure of relationships and authority that effectively coordinates the organization's efforts.

Although organizing activities are obviously important, they're often neglected by entrepreneurs in the early stages of the start-up. With limited resources and personnel, entrepreneurs focus on the immediate demands of generating sales and producing the product or service to meet demand and to earn income. Organizational issues seem less important—especially when the business is small.

When entrepreneurs explicitly address organizing tasks, the results are often more informal and flexible than in larger organizations. This informality is often intentional. For example, one study of successful growth-oriented entrepreneurs found that most of the founders intentionally avoided developing written job descriptions for their employees in the early stages of the firm's development. In more than two thirds of the cases, oral descriptions were maintained through the company's first major expansion.<sup>42</sup>

Written job descriptions were avoided because the entrepreneurs felt they would constrain employees' potential contributions and growth while the firm was still small. None of the entrepreneurs wanted employees' motivation and development to be hemmed in by the boundaries of a written description. The strategy also enabled the entrepreneurs

to quickly change major job responsibilities when needed, which happens frequently when the organization is still taking shape.

Many entrepreneurs in the sample prepared an organization chart, but the chart was viewed as a dynamic, continually changing picture of the company's structure. The chart served another important purpose—it was a tool for continually assessing and reevaluating the company. As the study's researcher summed up the entrepreneurs' use of the organization chart, "It was more a means of thinking through key activities . . . a way to identify gaps and new needs—a tool for *thought*."<sup>43</sup>

As the firm grows in the number of employees, function, and size of work groups and departments, then job design, descriptions, and the overall structure of the business gradually become more formalized. But initially organizing emphasizes informality and flexibility to accommodate the dynamic change and adjustments that usually occur in a new enterprise's early stages.

## Leading

Entrepreneurs' leadership task is identical to that of any CEO of a large corporation. They must encourage employees to work to achieve the business's goals by effectively communicating the tasks to be done, rewarding good performance, and creating an environment that supports employees' efforts and individual needs.

Still important differences exist between how small business entrepreneurs and corporate CEOs perform the leadership function. First, in the newly launched business the entrepreneur is solely responsible for effective leadership. There's no cadre of managers who share leadership responsibilities. Usually the entrepreneur is the organization's single boss. Leadership—effective or not—depends totally upon the entrepreneur.

Second, although leadership is a critical activity of the corporate CEO, quality of leadership is even more vital for the entrepreneur because there are no extra resources to compensate for the adverse effects of poor leadership (employee absenteeism, poor workmanship). Moreover the entrepreneur's relationship with each employee bears a considerable impact on the firm. Consider that in a 10-employee company each employee provides an average of 10 percent of the firm's output. Therefore the quality of the entrepreneur's personal or business relationship with an employee can have a major effect on the overall venture. Every individual's effort is critical to the firm.

In performing the leadership function, the entrepreneur usually must deal with one primary disadvantage. Given the firm's very limited financial resources, he usually can't offer employees the salary and benefits that larger, more established firms can provide. Given the uncertainty of any new business, neither is long-term job security assured. These disadvantages may prevent entrepreneurs from obtaining the quality of employees they prefer.

But entrepreneurs often possess two important advantages. First, they're in a unique position to create an atmosphere in the company that promotes effective performance. Unlike the corporate CEO, the entrepreneur doesn't have to deal with prior company traditions and policies that may hamper motivation and performance. There are no established traditions, practices, or preexisting norms of behavior. The venture is new, and the entrepreneur is the firm's creator—and, if he chooses, promoter and nurturer of employee excellence.

A second factor facilitates the entrepreneur's efforts in this regard. In the early days of a new, small business, the venture's employees often comprise a small group. Especially when the company's product is new and promising, camaraderie and cohesiveness develop among members. Under a strong leader, the company's purpose is clearly communicated—make the product a success and put the venture on the map. In this type of highly challenging, stressful, and familial environment, employees can become highly motivated, driven by the sense that "anything is possible." Such is particularly the case when part of employees' income is tied to company profits. Perhaps this is one reason why 96 percent of the Inc. 500 companies include some sort of profit sharing as part of employee compensation.

Entrepreneurs can create a climate of excellence and productivity in large part by setting a personal example in how they work and approach the business, customers, and employees. Tom Watson of IBM, James Lincoln of Lincoln Electric, and Steven Jobs, cofounder of Apple Computer, are among those utilizing daily personal example to motivate employees.

Although resources are limited, some entrepreneurs are creating innovating ways to facilitate effective leadership and motivation. Original Copy Centers, Inc., a reproduction service in Cleveland, Ohio, assessed the needs of its 76 employees, who are mostly under age 30 and single. The company established a laundromat, exercise room, game room, and kitchen in its facility and provides employees with free coffee and private use of the company's personal computers. Although the company's compensation is no higher than the industry average, the work force is productive and the quality of work is exceptional. During the business's 12 years of operation, only three employees have quit.<sup>44</sup>

## Controlling

As discussed in Chapter 16, the controlling function involves establishing standards, obtaining information that provides a comparison of actual results with desired results, and taking actions to correct any adverse deviations from standards. In a small business controlling activities are particularly important because, in the initial stages of the venture, every aspect of the business is newly established. Given the newness of the business and its operations, mistakes are bound to be made. Because the business's resources are limited, the entrepreneur must detect and correct problems as quickly as possible. Effective controlling activities enable the entrepreneur to do so.

In the early stages of business, control systems are usually basic rather than sophisticated. But most entrepreneurs develop financial, production, and inventory control systems that provide key indicators which they monitor weekly or even daily. These indicators include sales, production rates, inventory, accounts receivable, accounts payable, and, importantly, cash flow and the cash flow outlook.<sup>45</sup> Ensuring that funds are on hand to pay immediate expenses is a particularly troublesome task, according to a survey of small business owners (Figure 20-6).

Although control systems are used primarily to ensure that activities meet established standards, the systems serve another purpose for entrepreneurs who want their firms to grow. The systems facilitate growth by providing information that increases the entrepreneur's insights concerning the firm's abilities and limitations. Said one entrepreneur, "By looking at information on sales growth, production efficiency, employee performance, staffing, and other factors, I gain a better idea of how my business can expand and by how much. I have a much better understanding of what we can take on."

FIGURE 20-6  
Small-Business Owners Identify  
Their Biggest Problems

These percentages of surveyed small business owners said the most important problems they face are:



Figures show percentage of entrepreneurs naming problem as their worst.

Source: Reprinted from L. C. Megginson, C. R. Scott, Jr., L. R. Trueblood, and W. L. Megginson, *Successful Small Business Management* (Plano, Tex.: Business Publications, 1988), p. 581. Used with permission.

## ■ THE BUSINESS PLAN

In addition to practicing effectively the planning, organizing, leading, and controlling functions, a set of guidelines to frame the enterprise is recommended. A look back at Figure 20–5 shows that, no matter what means of entering a business is selected, a business plan is needed. Books are available on how to write a business plan. Individuals are urged to carefully prepare a business plan for two reasons: (1) it serves as a framework for managing the business, and (2) it can be used as a document to raise capital for the business. Susan Michaels, in the chapter's opening vignette, used her business plan, which she developed over an 18-month period, for these very reasons. The business plan forced Susan to examine her women's retail shop concept and to take an objective look at her goals.

If the business plan is so important, why don't all entrepreneurs write them? Three of their frequent answers are:

- “Writing business plans is hard work and takes too much time. I'm better at creating sales than writing plans.”
- “I'm funding the business and won't have to raise funds or impress bankers. What benefits are there to writing a hard-to-prepare plan?”
- “I keep my plans in my head. By the time I write a plan, the environment has changed.”<sup>46</sup>

These are reasonable grounds for not preparing a business plan, but taking a hard, objective look is worth the work. It forces the plan's preparer to think about the functions of managing a business: planning, organizing, leading, and controlling.

Figure 20–7 outlines an acceptable business plan's parts. There's no single right, best, or correct business plan. This outline can usually be developed in a 25-to-50-page

FIGURE 20–7  
Outline of a Business Plan

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>I. Introductory page               <ul style="list-style-type: none"> <li>A. Name and address of business</li> <li>B. Name(s) and address(es) of principals</li> <li>C. Nature of business</li> <li>D. Statement of financing needed</li> <li>E. Statement of confidentiality of report</li> </ul> </li> <li>II. Executive summary: three to four pages summarizing the complete business plan</li> <li>III. Industry analysis               <ul style="list-style-type: none"> <li>A. Future outlook and trends</li> <li>B. Analysis of competitors</li> <li>C. Market segmentation</li> <li>D. Industry forecasts</li> </ul> </li> <li>IV. Description of venture               <ul style="list-style-type: none"> <li>A. Product(s)</li> <li>B. Service(s)</li> <li>C. Size of business</li> <li>D. Office equipment and personnel</li> <li>E. Background of entrepreneurs</li> </ul> </li> <li>V. Production plan               <ul style="list-style-type: none"> <li>A. Manufacturing process (amount subcontracted)</li> <li>B. Physical plant</li> <li>C. Machinery and equipment</li> <li>D. Names of suppliers of raw materials</li> </ul> </li> <li>VI. Marketing plan               <ul style="list-style-type: none"> <li>A. Pricing</li> <li>B. Distribution</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>C. Promotion</li> <li>D. Production forecasts</li> <li>E. Controls</li> <li>VII. Organizational plan               <ul style="list-style-type: none"> <li>A. Form of ownership</li> <li>B. Identification of partners or principal shareholders</li> <li>C. Authority of principals</li> <li>D. Management background's team</li> <li>E. Roles and responsibilities of members of organization</li> </ul> </li> <li>VIII. Assessment of risk               <ul style="list-style-type: none"> <li>A. Evaluate weakness of business</li> <li>B. New technologies</li> <li>C. Contingency plans</li> </ul> </li> <li>IX. Financial plan               <ul style="list-style-type: none"> <li>A. Pro forma income statement</li> <li>B. Cash flow projections</li> <li>C. Pro forma balance sheet</li> <li>D. Break-even analysis</li> <li>E. Sources and applications of funds</li> </ul> </li> <li>X. Appendix (contains backup material)               <ul style="list-style-type: none"> <li>A. Letters</li> <li>B. Market research data</li> <li>C. Leases or contracts</li> <li>D. Price lists from suppliers</li> </ul> </li> </ul> |
|--|--|

Source: Reprinted from Robert D. Hisrich and Michael P. Peters, “Developing and Using a Business Plan,” in *Entrepreneurship* (Homewood, Ill.: Richard D. Irwin, 1989), pp. 130–31.



document. The plan's final version should be comprehensive enough for the entrepreneur, potential investors, or anyone with business knowledge to acquire a complete picture of the venture.

Writing a thorough business plan isn't easy. It's necessary to ask many questions and find the answers. By coping with the preparation of a business plan, entrepreneurs can better appreciate the decisions, action steps, and evaluations that they'll undertake in operating a business that provides high-quality products or services.

## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define individual entrepreneurship and collective entrepreneurship.**

With individual entrepreneurship a person seeks success by taking risks to start, operate, or sustain a business. With collective entrepreneurship a number of people work together in taking risks and operating a business.

### **Explain the term entrepreneur.**

An entrepreneur is a person who assumes the major risks of creating incremental wealth by making an equity, time, and/or career commitment of providing value to a product or service. The product or service itself may or may not be new or distinct, but value is added by the entrepreneur.

### **Discuss the risks associated with becoming an entrepreneur.**

Nothing is certain about business. Risks include loss of financial investment, losing a job, psychological strain and stress, and family pressure. Since entrepreneurs work long hours, there's also the risk of losing contact with friends.

### **Explain people's motivation to become entrepreneurs.**

There's no specific or universal set of motivations. In general, people are motivated because of such factors as desire for inde-

pendence, personal and professional growth, a more rewarding job, higher income, and job security.

### **Describe the phases of the four-stage growth model.**

The four-stage growth model involves pre-start-up, start-up, early growth, and later growth. The pre-start-up stage involves planning, organizing, and obtaining resources. The start-up stage focuses on positioning the venture. In the early growth stage adjusting to changes and appropriately using resources are important. During the later growth stage professional managers are often needed to handle the usually slower rate of growth.

### **Discuss why a person would prefer to purchase a franchise instead of starting up a new business venture.**

Obtaining a franchise offers a person an established product, company advertising, and image. If it's an established franchise, the new owner can benefit by its history of success.

### **Explain why it's valuable to carefully prepare a business plan.**

The business plan serves as a framework to help conduct the needed functions of managing the business. It can also serve as an organized, formal document that leaders can review. Decisions on whether lenders will provide funds are often based to some extent on the quality and persuasiveness of the business plan.

## ■ KEY TERMS

champion, p. 559

entrepreneur, p. 556

franchise, p. 572

intrapreneur, p. 559

leveraged buyout, p. 570

## ■ REVIEW AND DISCUSSION QUESTIONS

### Recall

1. Present the major sections of a business plan.
2. Where did the term *entrepreneurship* originate?
3. What are the growth model's four stages?
4. What's the difference between owning a franchise and owning your own business?

### Understanding

5. Distinguish between individual and collective entrepreneurship.
6. Why might people be attracted to attempt to start their own businesses?

7. Can a large company such as Du Pont or Procter & Gamble encourage entrepreneurship? Explain.
8. Give some advantages of buying out an existing business?

### Application

9. After finding information in your library, prepare a detailed 6- to 10-page report on the Post-It Note story.
10. Locate three entrepreneurs: one who's over 50 years old, one who's a woman, and one who's an immigrant to America. Ask them why they became entrepreneurs. Prepare a report on their answers and your own interpretation.

## ■ CASE 20-1

### Lawrence Plate Glass Co. (LPG): Intrapreneurship in Action

Sometime in May 1989 Brooks O’Kane got lucky. He doesn’t remember the day, but that doesn’t matter. What matters is that, in his fifth month as the first-ever marketing director for Lawrence Plate Glass Co. (LPG) of Lawrence, Massachusetts, someone handed him a folder and said, “This is the file on our ClearVue glass cleaner. Why don’t you take a look at it?”

What O’Kane found astounded him. Here was an unmarketed, thinly distributed product—a largely ignored sideline to the company’s glass business. It was scarcely available outside the Lawrence area. Lawrence Plate Glass carried ClearVue in its five New England glass stores and also sold it locally to auto dealers, jewelers, other glass shops, and a nearby supermarket chain. Yet the folder contained dozens of letters from people all over the country who were crazy about the product.

As O’Kane thumbed through the letters, he decided he had stumbled onto a marketer’s dream. “The second I saw those letters, I know this was how I was going to make money,” he recalls. Forget pushing windshields and mirrors. Here was a product that inspired such loyalty that people would go out of their way—sometimes by thousands of miles—to buy it. Why not sell it nationally?

The answer was simple: money and politics. Walter Demers, Sr., had founded Lawrence Plate Glass in 1918. By the late 1980s his son, Walter, Jr., was running a 180-employee company with five locations in New England. Over the years LPG had diversified and, by that time, one third of its revenues came from a subsidiary that made garage doors. Another third stemmed from construction projects. The remainder came from wholesale glass sales to contractors, auto repair shops, and LPG’s five retail locations. While those divisions typically produced \$18 million in annual revenues, ClearVue had had record 1987 sales of \$62,000.

Not that ClearVue had ever benefited from a lot of attention at Lawrence Plate Glass. Sometime around 1950 Walter Demers, Sr., bought the glass-cleaner formula for \$500 from an inventor who sold the product from the back of his car. It was bought for in-house use, but soon the company began selling the colorless fluid in its glass shops under the name ClearVue. The company hired a high school kid to mix up a batch in the back room on Saturday mornings.

Walter Demers, Jr., remembers looking several times into seriously marketing ClearVue and always coming back with the same answer: introducing a consumer product on supermarket shelves costs big money. And Lawrence Plate Glass was a small, family-run business that didn’t know anything about supermarket distribution and certainly didn’t have millions to spend on advertising and promotion. So the production languished. “Quite frankly, it used to be a nuisance for us,” says Walter Demers III, who manages one branch of the company and will someday inherit the rest.

Brooks O’Kane quickly made ClearVue a much bigger nuisance. “Brooks is a fantastically persistent person,” says Walter Demers, Jr. “He eats, drinks, and sleeps ClearVue.”

O’Kane studied marketing in college and then went to work for a direct marketing company. After a failed real estate venture, he found himself looking for a job at the same time the Demers family decided they needed someone to coordinate the company’s advertising and marketing.

Unfortunately O’Kane’s hiring coincided with a drastic decline in the New England real estate market. Since plate glass sales are closely tied to the construction industry, Lawrence Plate Glass’s revenues plummeted. (This year, after the sale of one division, company revenues will be about \$12 million, down from \$18 million two years ago.) With his advertising budget cut, Brooks O’Kane had plenty of time to work on a strategy for ClearVue.

Of course, he didn’t know the first thing about the channels through which he might sell the product. In fact, O’Kane’s only real encouragement within the company came from Dave Berryan, LPG’s controller. In Fall 1989 the two men began plotting a new life for their glass cleaner.

O’Kane’s first step was to begin orchestrating a grass-roots marketing campaign, pitching his story to newspaper and magazine reporters. With persistence and a colorful story, he managed to get several articles written in the New England press. Those generated phone calls and letters, many from consultants who wanted to talk about their services. Even though he couldn’t afford consultants, O’Kane made appointments to listen to them all—to try to learn as much as he could about retailing. Some vendors contacted him as well. And some consumers sought out the product, a fact O’Kane hoped might carry weight with supermarket buyers. But he knew publicity alone wouldn’t sell his product, so he pursued every possible sales lead. That meant working with everybody from a car-wash supply company to the New England St. Bernard Club. (According to one letter writer, ClearVue is unsurpassed at removing St. Bernard slobber.)

O’Kane’s first big success was with PPG Industries Inc., a \$6 billion manufacturer of glass and other products. PPG had been trying to expand the number of accessory items it sells through its 126 glass-distribution centers. Carl Tompkins, PPG–North America’s manager of market development in branch distribution, tried and liked ClearVue, as did many of the marketing people—and they especially liked the fact that the product didn’t have general retail distribution. An agreement in principle was reached between O’Kane and PPG that the giant manufacturer would be ClearVue’s exclusive national distributor to the glass industry. O’Kane could keep a retail base as long as he didn’t sell anywhere outside New England. If he broke that rule, PPG could call off the deal.

While O’Kane was out selling, Berryan was getting ready for manufacturing in earnest. LPG couldn’t supply ClearVue for companies like PPG with just a lone employee mixing chemicals in the back room. Berryan lined up a contract filler to package the product, and he set about negotiating with suppliers of chemicals and bottle components.

Walter Demers, Jr., was becoming impressed. Now that his son-in-law had attracted the interest of one of the glass industry’s biggest players, Demers decided to allow O’Kane to form a spin-

off corporation for ClearVue. Clear Vue Products Inc. was born in December 1989, with Lawrence Plate Glass owning 40 percent of the stock and the remaining 60 percent evenly divided among O'Kane, Berryan, and Walter Demers III. With the new structure, Clear Vue Products got its own financing: a credit line of \$75,000 at a local bank, since raised to \$125,000. (Of course, it helped the financing process more than a little that Walter Demers, Jr., personally guaranteed the loan.)

In addition, LPG invested directly in Clear Vue by lending it \$30,000 in existing inventory and materials. Berryan estimates that the parent company had already indirectly invested another \$45,000 in the form of office space and services, O'Kane's salary and benefits, Berryan's time, and excess warehouse space. After the spin-off, LPG began charging Clear Vue for those services, but let the bills pile up until the start-up began generating cash. Berryan initially used LPG's credit history to negotiate terms with suppliers; LPG would then resell the goods to Clear Vue. As Clear Vue has grown, Berryan has weaned suppliers to selling directly to the new company.

Now that he had his own company, O'Kane planned to do more than just sell to PPG. He and Berryan also had their eyes on the \$225 million retail glass-cleaner market—a market about as difficult to enter as one can imagine. Like most supermarket categories, the glass-cleaner market is dominated by a few large corporations that have millions to spend on advertising and promotions. Windex, with almost 45 percent of the market, is produced by the Drackett Co., which in turn is owned by \$9.2 billion Bristol-Myers Squibb. Then DowBrands' Glass Plus (owned by \$17.6 billion Dow Chemical) and SOS Glass Works (owned by \$2 billion Miles Inc., a subsidiary of the larger German-based Bayer conglomerate) each have a market share in the neighborhood of 15 percent. The rest belongs to stores' private labels and, in some areas of the country, to a few regional brands. Although Nielsen Marketing Research estimates show that supermarket unit sales of window cleaners dropped 3.1 percent in 1990, Windex just launched a new twice-as-strong "professional strength" version, and Procter & Gamble is test marketing a product called Cinch, designed to serve as both a glass cleaner and an all-purpose cleaner.

Because manufacturers in all supermarket categories have barraged retailers with new products, grocery shelves are crowded. Supermarkets are wary of product introductions—in large part because, according to industry wisdom, 9 out of 10 new products fail. So what O'Kane was trying to do—introduce a new product with no money to support it—is largely considered to be impossible today.

To make matters worse, grocery chains have in the past few years taken to charging "slotting fees," which are entry fees charged, on a per-store, per-item basis, to manufacturers that want to introduce new products. Originally slotting fees were designed to cover costs like rearranging shelves for new products and to compensate retailers for the costs of the all-too-frequent failures. But retailers quickly discovered that their shelf space, like any scarce commodity, could command a high price. Although no one likes to talk about the details, today slotting fees are said to run as high as several hundred dollars for each item in each store—a high barrier to entry for any new product with a puny marketing budget.

O'Kane quickly learned that, if he was going to get anywhere in the supermarkets, he needed a broker to represent him. Supermarket buyers prefer to deal with brokers, who often represent dozens of companies with hundreds of items. O'Kane made an appointment with Chase Kolbin Allen Associates, one of New England's larger brokers.

Freeman Chase, Chase Kolbin's chairman, remembers he wasn't overly impressed with ClearVue at first. He hated the packaging. The cylindrical, old-fashioned bottle with printed red lettering looked like something that would die on today's supermarket shelves. But when he tried the product, he changed his mind. "It was an item that was vastly superior to anything on the shelf." Chase now says. Indeed, O'Kane claims ClearVue contains six times the percentage of active ingredients in ordinary Windex.

In January 1990 Chase agreed to take on the product. In an even more unusual move, he agreed to serve as its account executive—mostly because he liked ClearVue, O'Kane, and the challenge of launching a new, unknown product. The crusty 63-year-old chairman of a 230-employee company whose clients include the likes of Clorox and Coca-Cola Foods, Chase gave ClearVue crucial credibility. But before O'Kane could take advantage of his new clout, Chase insisted he redesign the hated package. Play on your name and your clear liquid, he advised. Get a bottle as clear as you can.

Back at Lawrence Plate Glass, that wasn't an easy sell. When O'Kane started getting estimates of about \$20,000 for the package redesign from Boston design houses, the Demers needed some serious convincing. Twenty thousand dollars, in one of the business's worst years ever, for a product whose sales had never been more than \$62,000 a year?

So O'Kane, persistent as usual, found a small local ad agency that, for just \$2,500, designed a new label with a distinctive black background and white lettering. And, in what O'Kane calls his "Bartles and Jaymes" strategy, Walter Demers, Jr., agreed to write copy for the back of the label (visible through the clear liquid) in which he recounted a folksy, nostalgic history of the product and emphasized the role of "my dad." The copy was illustrated with a photo of an ancient Lawrence Plate Glass truck. "We know you'll love our product and want to tell your friends all about it. You see, you are our ad agency," Demers wrote. To add to the appeal, O'Kane and the agency designed a cardboard attachment to hang from the neck of the new 20-ounce bottle, promising "NO STREAKS!" and guaranteeing customers their money back if they weren't satisfied.

After a good bit of success O'Kane would like to sit back and catch his breath. But he's far from established, and there are several pressing issues he must confront:

- Until now Clear Vue has manufactured on a just-in-time basis. But as volume rises, a surge of big orders could strain O'Kane's operation. Recognizing that, he's currently working to build up inventory.
- If ClearVue begins to infringe too much on products like Windex or Glass Plus, those products' manufacturers could decide to squash it, as often happens in the consumer products industry. An obvious tactic would be discounting their products heavily only in regions where ClearVue sells.

- Alternatively any competitor could break down the ClearVue formula and imitate it easily and steal market share. Then again, if it's ClearVue's appealing package, and not its formula, that attracts shoppers, that's a competitive advantage that's even easier to duplicate.
- O'Kane doesn't especially enjoy the day-to-day details of running the business. Public relations and selling, he admits, are much more up his alley. How long can or should he wait before putting together an experienced management team?

One thing is certain: whatever the outcome, the great ClearVue experiment has changed the mind-set at Lawrence Plate Glass. Walter Demers, Jr., talks enthusiastically of a day when

ClearVue might be as big as—or bigger than—the parent company. “Brooks has taught us all a little bit of a lesson,” says Walter III. “We learned that you don't have to set parameters for yourself. The doors we all thought were closed didn't turn out to be.”

## Questions

1. Brooks O'Kane is an example of an intrapreneur. What do you think motivated Brooks to push the ClearVue product?
2. What work habits does Brooks display in this case?
3. What risks still exist for the ClearVue product? When do risks stop existing for a company?

## ■ CASE 20-2

### Can Czech Republic Entrepreneurs Succeed?

Entrepreneurs are found in every country in the world—from Kiev, Russia, to Bombay, India. Entrepreneurs' motivations may vary slightly because of national cultures' influences on business, but it's generally agreed that entrepreneurs have survived corrupt governments, wars, political oppression, and failures in conducting business.

Some people believe that if Eastern Europe is ever going to survive and grow economically, it must permit entrepreneurs to conduct business. Bloated bureaucracies, rigid rules, and a history of neglect of business practices must be dealt with in countries such as Hungary, Poland, and the Czech Republic. Germany and Austria border the Czech Republic similarly to how the United States and Mexico border each other. Day laborers trek across the border from the Czech Republic to work on various jobs in Germany. Many German companies enjoy the Czech Republic's well-educated worker pool. The Czechs are more than happy to make the border crossing to earn higher wages in better-paying German companies.

American, German, and other European entrepreneurs with operations in Germany are thriving because of the cheaper labor. The Czechs work long hours and produce high-quality products. Czech laborers don't complain about conditions because they want to work. Because of low labor costs, entrepreneurs can earn substantial profits.

Czech entrepreneurs have learned fast and are setting up their own small businesses in the Czech Republic to compete with German entrepreneurs. Some Czech entrepreneurs have formed partnerships with foreign entrepreneurs. Like in most partnerships, there are occasional problems. Anyone joining up with a Czech entrepreneur to conduct business in the Czech Re-

public is stunned by the maze of paperwork and bureaucracy. Conflicts often arise because the Czech Republic has no legal system to rule on problems between partners. Finding a dependable partner in the Czech Republic is only half of the problem. There are also Czech Republic rules, procedures, and red tape to contend with daily.

German, American, Austrian, and Japanese partners are excited about Czech workers' skill levels, the pent-up demand for products and services, and the obvious interest in business among Czech entrepreneurs. But foreign businesspeople aren't all excited about Czech partners who wrap themselves in ambiguous laws to protect their interest. One German entrepreneur with Czech partners became so frustrated that he stormed across the border to seize and reclaim his equipment. The Czech partners were surprised, but the German entrepreneur took the law into his own hands. The German entrepreneur concluded that he had no legal recourse to settle the dispute.

If entrepreneurship is to flourish in Eastern Europe, there must be a responsive legal system. There must also be more productive and positive partnerships developed. Nothing is more convincing than a success story that's communicated to budding entrepreneurs.

## Questions

1. How do you think entrepreneurial motivations thrived in the Czech Republic area from 1945 to 1990 (its Communist period)?
2. What lessons of entrepreneurship do you consider to be vital for Czech and other Eastern bloc entrepreneurs?
3. What steps must the Czech Republic government take to encourage more entrepreneurship?

## ■ APPLICATION EXERCISE

### Evaluating Your Skills to Start and Operate a Business

Think about a business that you might like to start and operate. Any business can benefit from a person's skills and experience in a number of areas. This brief self-assessment exercise is intended to promote serious thinking about experience and skill. As the chapter suggests, many businesses fail due to lack of managerial

know-how: that is, skills and experience are lacking and the consequence is not being prepared for the day-to-day challenges of starting and/or operating a business.

Your type of business: \_\_\_\_\_

Circle or place an X on the spot on the scale that best describes your experience. Place the number that's closest to indicating your experience in the last column.

Skill	Much Experience	Some Experience	Little Experience	Rate Your Experience
Planning				
	3	2	1	
Accounting				
	3	2	1	
Establishing financial and accounting systems				
	3	2	1	
Selling				
	3	2	1	
Advertising				
	3	2	1	
Purchasing				
	3	2	1	
Recruiting and selecting human resources				
	3	2	1	
Training				
	3	2	1	
Coaching				
	3	2	1	
Motivating				
	3	2	1	
Evaluating human resources				
	3	2	1	
Organizing				
	3	2	1	
Production				
	3	2	1	
Quality control				
	3	2	1	
Quality improvement				
	3	2	1	

Quality assessment				
	3	2	1	
Computer use				
	3	2	1	
Other:				
	3	2	1	

In which areas do you lack experience? Don't be discouraged if you lack experience in any of these areas. Various sources of information can help you become knowledgeable before you enter into a business. Sources include books, seminars, training

programs, businesspeople, business consultants, Small Business Administration courses, college courses, and adult education courses.

*After studying this chapter, you should be able to:*

Define *technology*, *innovation*, and *technology transfer*.

Explain the value chain analysis procedure.

Describe the managerial skills needed for managing technology.

Discuss the differences in technology-driven transfer, market-driven transfer, and product-and-process improvement transfer.

Explain how espionage can lead to technology transfers that result in lost market share.

Describe some important steps to take to manage creativity effectively.

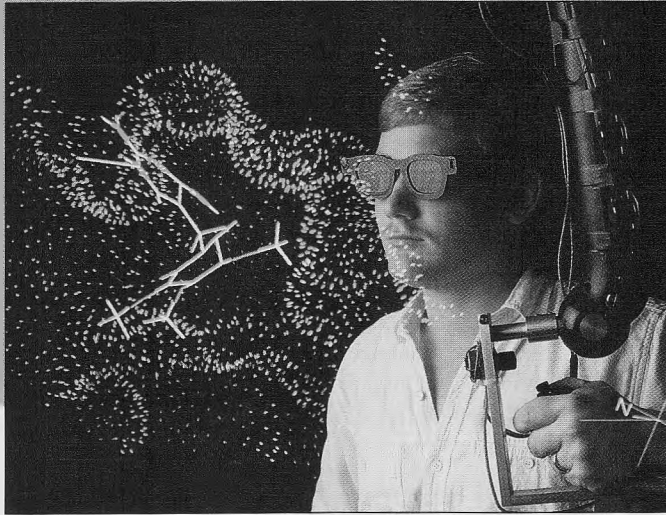
Describe in historical terms whether the United States has ever had technology policies in various sectors of business and industry.

Explain what a civilian DARPA might accomplish in terms of commercializing technology.

Discuss whether creativity training is effective in improving performance or the number of innovations in an organization.

## TAKING IT FROM THE LAB TO THE MARKET

A story that occurred in the 1890s sounds too much like what's happening today. It involves researchers at General Electric (GE) who developed a machine that could "see" deep into the body. GE's technological resources produced a prototype of the X-ray machine. Soon, however, domestic and foreign rivals beat GE to the punch and took over the technology and transferred it from the research lab to the marketplace. GE did the basic research but



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wasn't able to convert it into a market success. This all too familiar story still fits many American firms. ■ In the United States about \$160 billion a year is spent on research and development, roughly twice as much as number 2 in R&D spending, Japan. Despite this amount of R&D expenditures, U.S. lab research isn't winning the race to market. Some research has no practical application or doesn't meet any market's needs. In other cases the transfer from the lab to the applied technologist who works on a new product is too slow and clumsy. A growing number of foreign competitors are adept at taking basic research from any lab (U.S., Japanese, German, or other) and converting it to commercially attractive products, processes, or services. The United States excels in winning

Nobel prizes for scientific excellence, but it no longer leads in using or commercializing the research. ■ U.S. industries may be slipping, but when it comes to making fundamental discoveries, America is still the best. The strongest research establishment is still in the United States. The military still consumes more than 50 percent of the nation's research and development (R&D) budget. The key to future success is to shift defense-based R&D work to commercial technologies. Putting researchers and scientists to work or improving energy, reducing pollution, curing cancer and Alzheimer's disease, and improving people's quality of life is needed. ■ Another area in which technology improvements are

needed is manufacturing. The mass production line is becoming obsolete. It's inflexible and unable to be changed quickly. The Japanese have moved to lean production systems that stress speed, just-in-time inventories, and high-quality output. U.S. manufacturers have created the Agile Manufacturing Enterprise Forum (AMEF). The forum includes firms like AT&T, Westinghouse, General Motors, Sandia National Laboratories, and

Microelectronics and Computer Technology Corp (MCE). AMEF stresses what it calls the age of "agility." An emphasis on concurrent engineering is catching on because of its ability. Concurrent engineering emphasizes the use of process-oriented teams to manage research, manufacturing, and marketing simultaneously. Concurrent engineering coupled with advanced computer networks provide companies with agility, the ability to move quickly. ■ What Chapter 17 called flexible manufacturing (getting products from the lab to the market more quickly), continuation of solid basic research, and a rededication to encouraging creativity and innovation among employees can improve a firm's or even a nation's competitive position.

Source: Adapted from John Carey, Neil Gross, Mark Maremont, and Gary McWilliams, "Moving the Lab Closer to the Marketplace," *Business Week/Reinventing America*, 1992, pp. 164-80; David Severson, "Collaboration, Cooperation, and Celebration," *Quality Progress*, September 1992, pp. 63-66; and F. M. Scherer, "Competing for Comparative Advantage through Technological Innovation," *Business in the Contemporary World*, Summer 1992, pp. 30-39.



Imagine a country where solar cells and nuclear fusion provide megawatts of pollution-free, environmentally safe electricity, the factory floor is lined with sophisticated robots, videotex terminals exist in every home, cars run on batteries, and computers manipulate data in the form of light waves rather than electronic impulses.<sup>1</sup> That's the world that technological forecasters predict will take shape in the next decade. As recently as two decades ago the United States was regarded as the world's undisputed leader in technology and innovation. The technologies just cited would have been most likely found first in the United States. Frenchman J. J. Servan-Schrieber's book, *The American Challenge*, declared the United States to be the home of prosperity, hope, and technological prowess:

*American industry produces twice the goods and services of all European industry combined—including both Britain and the Common Market—and two-and-one-half times more than the Soviet Union. . . . One-third of all students in the world pursuing a higher education are Americans. . . . All by themselves the Americans consume a third of the total world production of energy and have one-third of all the world's highways. Half the passenger miles flown every year are by American airlines. Two trucks of every five on the roads are American and American-based. Americans own three of every five automobiles in the world.<sup>2</sup>*

Servan-Schrieber wrote *The American Challenge* to spur the European Economic Community into making reforms needed to compete globally. He asserted at the time that the United States was separated from the rest of the world by a "technology gap." This chapter discusses technology and innovation in the context of current conditions and future expectations. There's no longer a pronounced technology gap between the United States and Japan and other Western nations. The realities of competition are spelled out in the opening vignette. Instead of discussing a gap, it's more accurate to consider competition, technology changes, the development of technology strategy, and the need to manage technology. Chapter 1 clearly introduced competitiveness. Here we must consider competitiveness in terms of technology and innovation.

## ■ TECHNOLOGY AND INNOVATION: WHAT DO THEY MEAN?

Technology is defined many different ways depending upon a person's background. The engineer defines technology as specialized knowledge applied to achieving a practical purpose. The origin of the word *technology* gives insight into its meaning. It's derived from the Greek words *techne* (meaning art or craft) and *logos* (signifying discourse or organized work). The practice of technology is that an art or craft, as distinguished from science, which is precise and is based on established theoretical principles. Technology is then applied as interpreted by the engineer, but it's not necessarily based on science.<sup>3</sup>

Other general interpretations of technology are:

- The physical combined with the intellectual or knowledge processes by which materials in some form are transformed into outputs used by another organization or subsystem within the same organization.<sup>4</sup>
- A body of knowledge about the means by which we work on the world, our arts, and our methods. . . . It can be studied, codified, and taught to others.<sup>5</sup>

Perhaps the clearest view of technology is that it involves human activity. Thus a good way to define **technology** that captures the importance of human activity is to state that it's the totality of the means people employ to provide comfort and human sustenance.<sup>6</sup> The motive for "bringing about technology" is the desire to obtain more or better things for people.

**Innovation** is defined as the generation of a new idea and its implementation into a new product, process, or service. It can lead to national economic growth, increased employment, and creation of profit. Innovation is a cumulative process of numerous decisions, ranging from the phase idea conception to the development of technology. In a sense, innovation is an economic concept coined by Joseph Schumpeter. However significant technological invention may be, it doesn't constitute innovation if it creates no

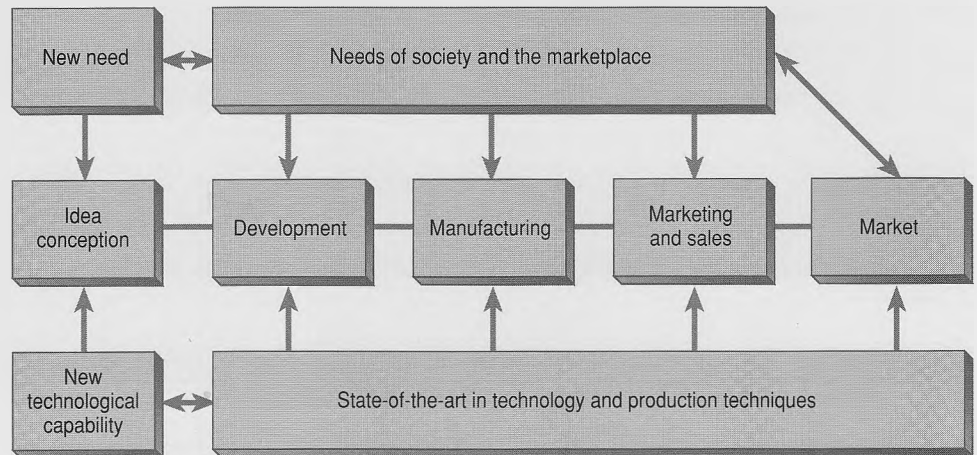
### technology

The totality of the means employed by people to provide comfort and human sustenance.

### innovation

The generation of a new idea and its implementation into a new product, process, or service, leading to national economic growth, increased employment, and creation of profit.

FIGURE 21-1  
Interactive Model of the  
Innovation Process



Source: Roy Rothwell and Walter Zegveld, *Reindustrialized and Technology* (Essex, England: Longman, 1985), p. 50.

growth and profit. As the opening vignette shows, GE invented the X-ray machine, but competitors realized the profit.

Figure 21-1 presents a model of the innovation process. This model displays innovation as a sequential process that can be divided into functionally separate but interacting stages. The bringing together of technological capabilities and market needs concisely describes the innovation process. Innovation includes the technical, design, manufacturing, management, and commercial activities involved in the marketing of a new (or improved) product or the commercial use of a new (or improved) process or piece of equipment.

## ■ TECHNOLOGY AND COMPETITIVE ADVANTAGE

Since the early 1980s U.S. leadership in technology and innovation has been challenged by Japan, Germany, and newly industrialized countries such as South Korea, Taiwan, and Hong Kong. Contributing to these nations' economic success have been large investments in research and development, coupled with the development of an infrastructure that facilitates the incorporation and use of new technologies. Competition from newly industrialized countries (South Korea, Taiwan, and Thailand) is expected to intensify in the next few decades.<sup>7</sup>

It was probably inevitable that the *technology gap* that the United States enjoyed for decades would end, given other nations' desire to close the gap.<sup>8</sup> But there were other signs of diminishing vitality in America in terms of failing R&D expenditures, fewer invention patents than in previous years, and a decrease in basic research. The picture of diminishing U.S. technology and innovation strength actually began in the late 1960s. The consumer electronics industry, created and dominated by U.S. firms, was taken away by foreign competitors who first offered low-cost, low-end products, then provided a growing array of better-quality products, and finally put out a broad range of higher-value and sometimes radically new products.<sup>9</sup> It happened first in the steel, automotive, and machine tool industries. Today competitors are taking away high-technology markets (e.g., electronics, medical equipment, robotics) from American firms.

The fastest-growing industries in the United States are now high-tech ones. High-tech industries generally:

- Invest more heavily in manufacturing technology than do other manufacturing industries.
- Support higher compensation to production workers than other industries.

TABLE 21-1

## Resources and Skills among Leading Industrialized Nations

	U.S.	Japan	Germany	U.K.	France
<b>Capital</b>					
Net national savings ratio <sup>1</sup>	3.7	20.4	11.1	5.6	8.2
Real long-term interest rate <sup>2</sup>	2.9	-2.1	5.0	4.7	4.8
Net business fixed investment as a percentage of business sector value added <sup>3</sup>	6.6	13.4	7.7	6.9	6.2
<b>Labor skills</b>					
Literacy rate <sup>4</sup>	93.2	99.8	98.0	95.2	96.1
Math skills of 13-year-olds <sup>5</sup>	46.0	62.2	NA	48.5	52.6
Engineering graduates per 1,000 adult employees <sup>6</sup>	34.0	76.0	83.0	26.0	43.0

<sup>1</sup>Net savings as a percentage of net national product, 1981-88. Organization for Economic Cooperation and Development, *Economic Studies*, Spring 1990, p. 14.

<sup>2</sup>Organization for Economic Cooperation and Development, *Economic Outlook*, various issues.

<sup>3</sup>1984-88. Organization for Economic Cooperation and Development, *Economic Studies*, Spring 1991, p. 18.

<sup>4</sup>United Nations and various national sources.

<sup>5</sup>Percentages of correct answers averaged across five tests 1981. International Association for the Evaluation of Educational Achievement.

<sup>6</sup>R. Hayes and S. Wheelwright, *Restoring Our Competitive Edge: Competing through Manufacturing* (New York: John Wiley & Sons, 1985), p. 377.

High-technology goods are those that require relatively intense research and development resources and a high degree of labor skills. As Table 21-1 illustrates, the United States (1) lags behind competitors in net national savings that can be invested in technologies and (2) isn't producing enough engineering graduates relative to its main competitors.

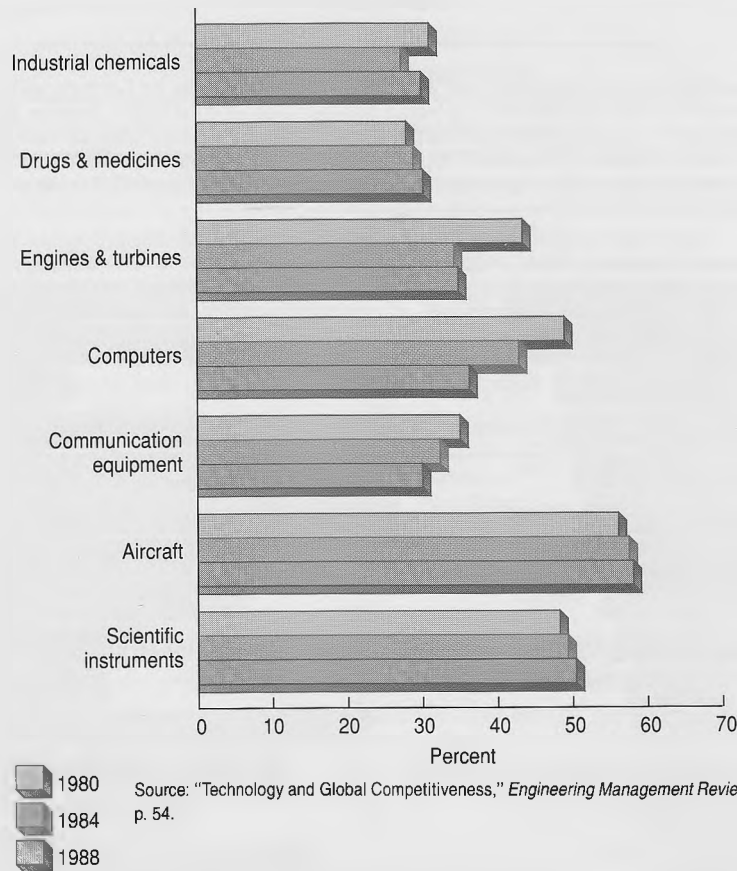
In the 1980s the United States, Japan, and Europe moved resources toward the manufacturing of high-value, technology-intensive goods and away from more labor-intensive goods.<sup>10</sup> Of seven industries that make up the high-tech cluster, three U.S. industries—scientific instruments, drugs and medicines, and aircraft—gained global market share in the 1980s. Figure 21-2 compares the seven industries.

A country's home market is often thought of as the destination for its manufactured output. For obvious reasons—including proximity to the customer and common language—selling at home is easier than selling overseas. But in today's global world the most competitive product in terms of price, quality, and ability to meet consumers' needs is winning sales regardless of its manufacturing origin. Historically the U.S. economy hasn't been oriented toward serving foreign markets. Its sheer size provided businesses with large domestic markets that supported its operations. The American manufacturer had little incentive to investigate, develop, and implement technologies that fit overseas markets. The United States purchases about 15 percent of its high technology from foreign countries, while the United Kingdom imports about 29 percent of its high technology. Japan is the most self-reliant, importing about 9 percent of its high technology.

The United States is a net exporter of technology sold as intellectual properties. Royalties and fees have been, on average, almost four times that paid out to foreigners by U.S. firms for access to their technology. Japan is the largest consumer of U.S. intellectual property. In 1989 Japan accounted for 47 percent of the \$1.9 billion in intellectual property receipts. To a large extent, the U.S. surplus in the exchange of intellectual property is driven by trade with Japan and the newly industrialized Asian countries. Japan considers the United States a fertile field from which to harvest new advances in technology.

Differences in macroeconomic conditions, as well as government trade and technology policies, affect the use of technology and innovation to spur international trade, competitiveness, and economic development. These are definitely important factors. But this

FIGURE 21-2  
U.S. Global Market Share by  
High-Tech Industry



chapter focuses on the role that management can and should play in building and sustaining competitive advantages on the basis of technology. A debt-laden economy, a confused political involvement, unfavorable regulatory policies, and a short-term-only profit perspective won't help a business in global competition. A number of U.S. firms succeed in the technology and innovation competition around the world. Management lessons can be learned from them.

## Value Chain Analysis

### value chain analysis

A concept used to identify opportunities for technology application.

A valuable concept for identifying opportunities for technology application is called the **value chain analysis**. Harvard Business School professor Michael E. Porter provided this tool for analyzing the sources of competitive advantage in a firm and how activities can be integrated (Figure 21-3 on the next page).<sup>11</sup> Each actively contributes to the firm's cost position and is linked to other activities.

Activities in the value chain are divided into five primary and four support categories. Primary activities are those involved in physically creating, marketing, and delivering the product. Support activities provide inputs or the infrastructure necessary for primary activities. The four main support activities are:

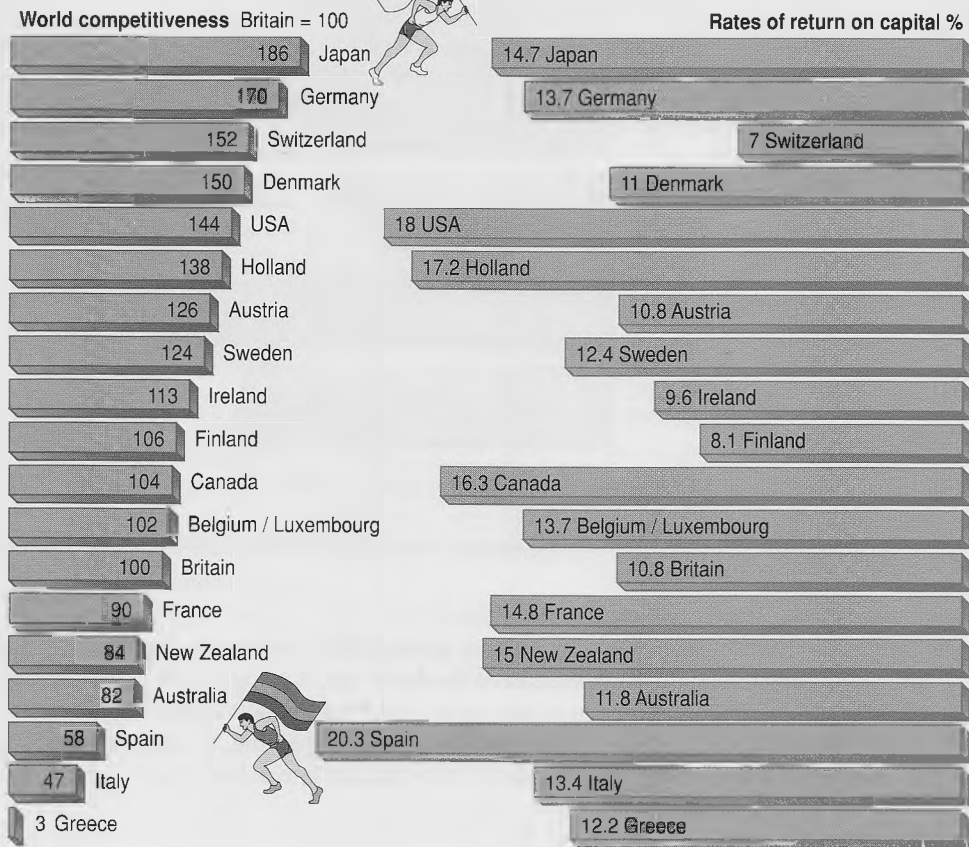
1. Procurement of inputs, such as raw materials used to produce the product.
2. Human resource management in the form of training and motivation.
3. Technology development for performing the activity.
4. The infrastructure of the firm including management overhead.

Information systems, planning, motivation, product, and other technologies are important because every activity (generating a new idea, operating a robotic center, purchasing raw materials, servicing customer complaints) requires coordination. For

## QUALITY BENCHMARK

## COMPETITIVENESS INDICATOR

Japan will not give up its crown next year as the most competitive country but Germany will be closing in. The openness of countries like Denmark and Ireland puts them high up in the league. America, despite new-found price competitiveness, slips up on poor standards in education and workers' skills, as well as its managers' lack of international experience. Greece will limp further behind. Gross-operating surplus (the difference between value-added and wage bills) is the measure used for return on capital. Spain will stay the star if rising labor costs do not eat into its lead.



Source: From "The World In 1993" *The Economist Publications*, December 1992, p. 108.

example, information is needed for coordination. A distribution center needs information from the finished goods inventory database.

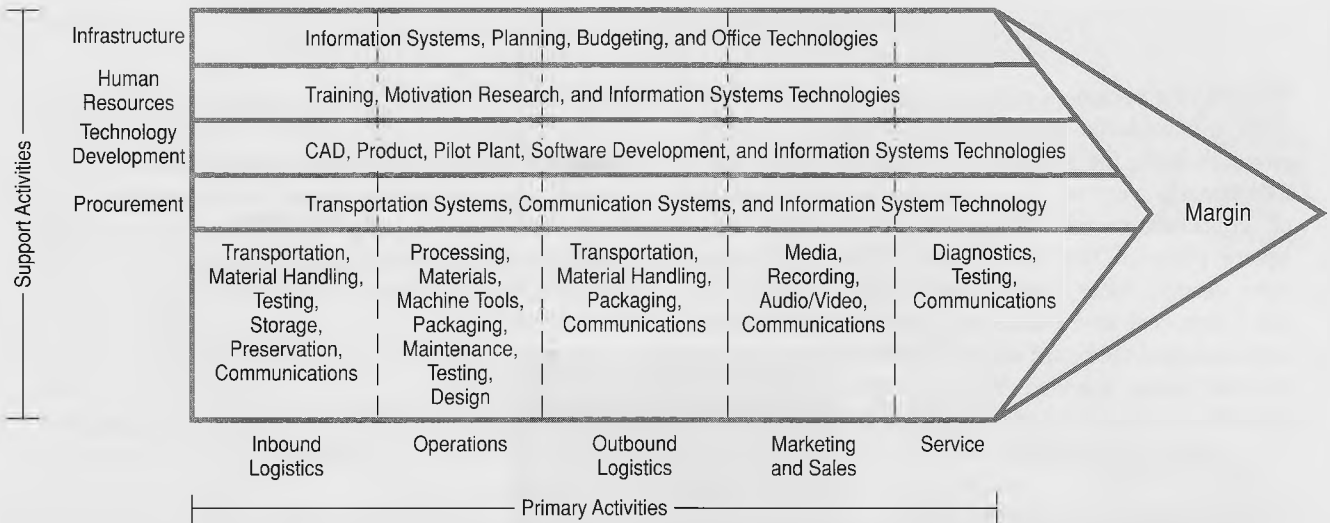
To use value chain analysis effectively, Porter suggests examining internal and external activities for their value contributions to customers. A product or service's value to customers can be enhanced by embedding advanced technologies in it, further differentiating the firm's offerings from its competitors'. Cars with computer interface units that allow for better diagnosis and maintenance and "smart cards" used by consumers to improve access to funds and leveraging of those funds are examples of increased value and differentiation via technology.<sup>12</sup>

Information technology has been used by banks that adopted automated teller machines (ATMs) before their competitors and thus gained a lead on competitors. Airlines' automated flight reservation systems have increased true competitiveness and the industry's customer service level.

Porter emphatically states that a firm's value chain must be managed as a system rather than as a collection of separate parts. A company can create competitive advantage

FIGURE 21-3

## A Firm's Value Chain and Representative Technologies



Source: Value chain concept by Michael E. Porter, © copyright 1985. Adapted from Michael E. Porter, *Competitive Advantage* (The Free Press, a division of Macmillan, 1985).

by better optimizing or coordinating the activity linkages to the outside constituents. The value chain provides managers with a tool for understanding the sources of cost advantage.<sup>13</sup> A firm's cost position is its collective cost of performing all the required primary and support activities relative to competitors, and cost advantage can occur in any activity. For example, paying attention only to the manufacturing cost is too narrow a viewpoint. Successful cost leaders are often also low-cost developers, low-cost distributors, and low-cost service providers. In most cases cost leaders consider all nine of the activity categories so that optimal margins are achieved.

**Differentiation** is the ability to provide unique and superior value to a buyer in terms of product quality, special features and/or after-sale service. German machine tool producers, for example, use a differentiation strategy involving high quality and reliable performance plus quick, high-quality service. The value chain exposes the sources of differentiation. There are many points of contact between a firm and its buyers, each of which represents a potential source of differentiation. The most obvious is how the product or service is used; for example, a hand computer is used for determining in-stock inventory. Is this of value to a buyer? A reason why firms gain competitive advantage is that they've paid attention to the cost structures and the differentiation concept. Both factors—cost and differentiation—are important considerations in applying the value chain analysis.

#### differentiation

The ability to provide unique and superior value to a buyer in terms of product quality, special features, and/or after-sale service.

## ■ TECHNOLOGY FORECASTING: THE S-CURVE

A company's competitive position depends to some degree on its leadership in one or more applications of technology. Even for companies that aren't technological leaders, keeping up on trends is an important means of avoiding technological ignorance and surprises. A useful framework for technology forecasting is the S-curve, which graphs the relationship between effort put into improving a product or process and the firm's results from making the investment.<sup>14</sup> The S-curve shows the life cycle of a particular product or process. Figure 21-4 on page 593 presents a pair of S-curves. It shows how one technology eventually outperforms another previously higher-performance technology. At the point of maturity in one curve, a discontinuity exists. It's at this point that opportunities or innovations enter the picture. For example, IBM outpaced Smith Corona in the office by developing electric typewriters and computer-based word processors.

## REFLECTIONS BY PHILIP B. CROSBY

## TECHNOLOGY AND INNOVATION “THE BASICS STAY BASIC”

When I first became a reliability engineer my assignment involved the manufacture and test of printed circuit boards, the advanced technology of that day. Components were stacked on the board at the unheard of concentration of 25 or 30 on an eight-inch-square piece of fiberglass. Two of the components were vacuum tubes, others were resistors, capacitors, and a few very new transistors. After the components were mounted the board was sent through the flow solder machine. When that was complete it went to a rework area where the inadequacies of flow soldering were repaired. Soldering was the largest single problem in our electronics operation.

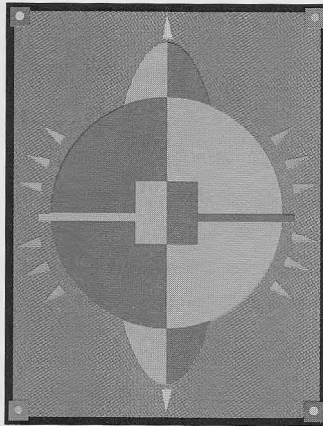
One day I asked that area’s supervisor if any books or manuals had come along with the flow solder machine. He rooted around and found a four-inch-high notebook in the back of a cabinet. At my insistence they read the book and calibrated the machine according to its instructions. They even began to operate it that way. In a few days there was hardly any rework for the rework station to accomplish. Within a month there was none. As a result of this effort we began to look at soldering systems used elsewhere in the shops and soon set up a solder training school. The problems began to disappear as soldering became consistent. We were soon producing a much more reliable product at a lower cost.

Recently I was in an electronics plant and looked at a new type of printed board. It held millions of

components, most of which looked like little dots to the unaided eye. As I looked around it was apparent that there was a large area dedicated only to rework. The technicians there explained that their biggest problem was soldering. The new wave solder machines were inconsistent. I went back to the fabrication area and asked the supervisor of the machines if there had been an instruction book with the equipment. She rooted around and soon found a six-inch notebook in the back of a cabinet. It was written in four separate languages and had schematic drawings of the machine’s circuitry. I suggested that we calibrate the machine to the information in the book. After they did this, solder irregularities dropped to almost nothing right away. In a few days they were gone all together.

When we looked at the hand soldering going on in the assembly area we learned that there was no consistent approach and very little training. We set up a school to teach proper soldering and sent everyone, including the supervisors and engineers, to it. The result was that soldering is not even on the list of problems.

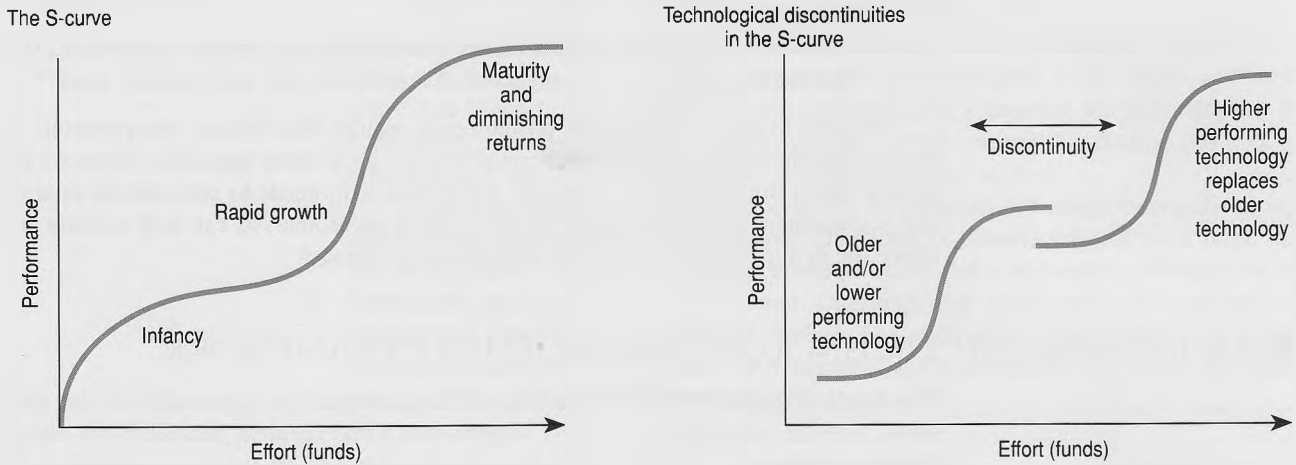
These incidents took place 30 years apart. People get so involved with the great leaps of technology and innovation that they forget to put gas in the car. Never get away from the basics. Their importance lies in the fact that they are called *basics*.



As new technologies are developed, new products become possible. Typewriters give way to word processors; hand checkout at the grocery store gives way to scanner-driven checkout. To the extent that these new products are cheaper, faster, stronger, smaller, bigger, or somehow better (of more value to the customer) they’ll replace products that used old technology.<sup>15</sup> One dramatic change in industry is the reduction in time from production of a new product to the time when technological obsolescence makes it unsellable. Figure 21-5 shows the decreased product life cycles that managers face today.

Managers must decide how they’ll attack competitors who are attempting to create discontinuities and how they’ll defend their own advantages. That is, managers must decide what’s the right technology and when is the right time to change or hold onto the technology. As a technology approaches the top of its S-curve, it takes greater effort or more funds to produce even small positive changes in product or process performance.

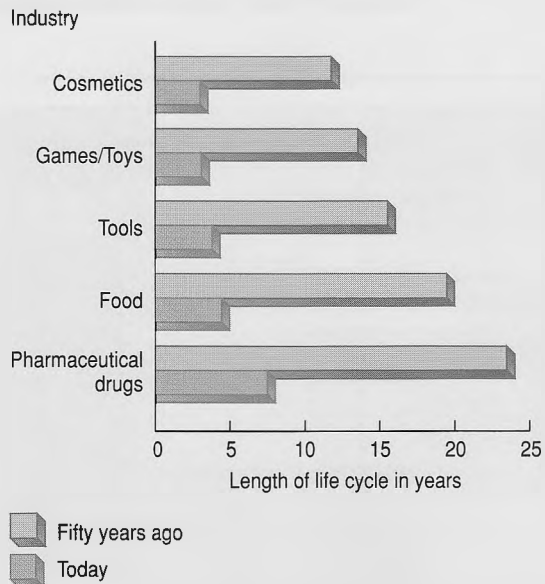
FIGURE 21-4  
Technological Discontinuities in the S-Curve



The S-curve or maturity curve depicts the life cycle of a new technology. It is a useful tool for technology forecasting.

S-curves almost always appear in pairs. Together they represent a discontinuity — when one technology replaces another.

FIGURE 21-5  
Decreasing Product Life Cycles



Source: Christopher-Friedrich von Braun, "The Accelerator Trap," *Engineering Management Review*, Fall 1991, p. 14.

Foster has provided some useful managerial guidelines for assessing when a current technology is approaching its maturity limit or the top of the S-curve.

1. There's increasing discomfort about the productivity of system developers.
2. Development costs are increasing, and delays are more common.
3. Innovation and creativity actively wane.
4. Disharmony and poor morale are evident among the developers.
5. Across-the-board improvements become rare.



6. There are wide differences in technology, spending among competitors that use the same technology, with little or no apparent effects.
7. Frequent changes in the management team seem to have no impact on technology productivity.
8. Smaller competitors in select niches and/or supposed weaker competitors start succeeding with radical approaches that everyone else said couldn't work.<sup>16</sup>

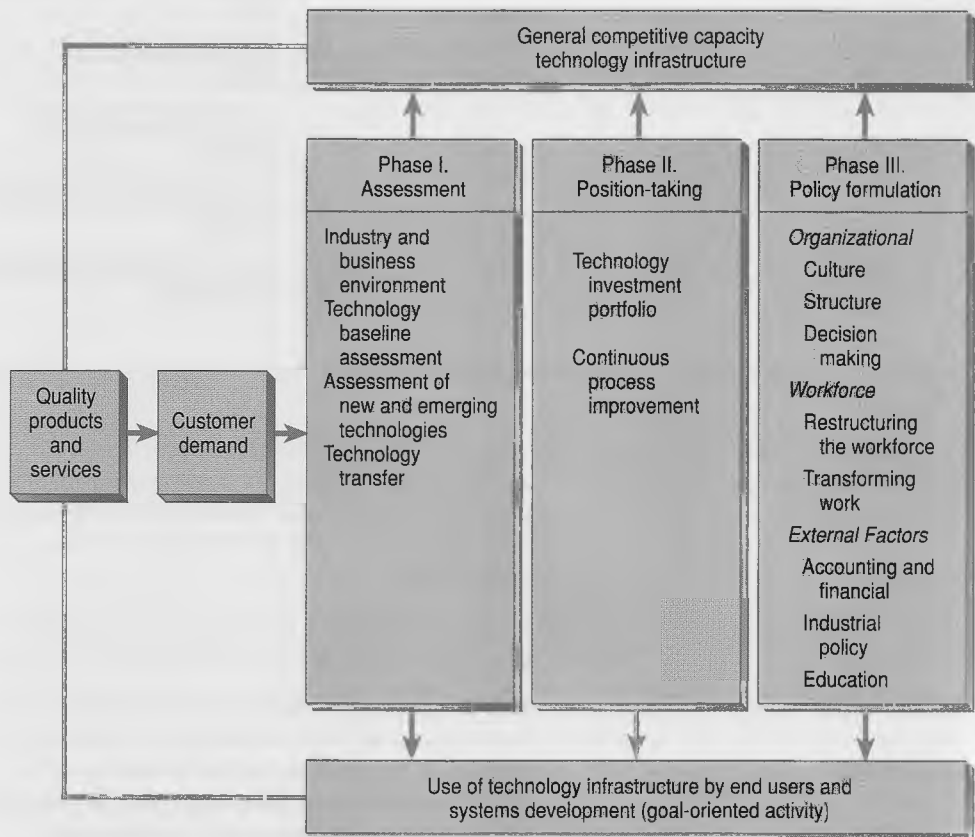
Answers to these indicators of obsolescence require observation, interpretation, and questioning customers, vendors, and competitors. The S-curve presents a framework for helping select the long-term technology portfolio a firm needs to successfully compete. The management of discontinuities shown in the S-curve analysis can help identify areas where the firm could take advantage of technology changes.

## ■ AN INTEGRATED TECHNOLOGY MANAGEMENT FRAMEWORK

The speed of technological change, the shifting competitive approaches in the global world, and the importance of quality suggest that a management perspective is needed. Managers have a crucial role to play in integrating competitive actions, considering value chain concepts, and understanding the opportunities associated with discontinuities. Fusing technological issues and management practice is important because these concepts can't operate in isolation. Technology needs to be properly managed.

Figure 21-6 presents a framework that starts with the concept of quality. It's the quality requirement that starts the technology management process. Three distinct phases stand out in the framework: assessment, position taking, and policy formation. The assessment phase suggests that management should assess industry and the environment,

FIGURE 21-6  
The Integrated Technology Management Framework



Source: Rod F. Monger, *Mastering Technology* (New York: Free Press, 1988), p. 38.

determine the baseline (starting point) or anniversary date or start of the firm's present technology, assess new and emerging technologies, and determine how the firm conducts the transfer (commercialization) of technology.

The second phase of the framework—position taking—involves the activities traditionally emphasized in management; that is, deciding what investments will be made in various technologies. How many resources will be committed in the short- and long-runs? The second major decision involves continuously improving the technological infrastructure. Since technology, like all systems, suffers entropy (a winding down of its effectiveness) continuous improvement activities must be applied.

The framework's third phase concerns the formulation of management policies oriented toward internal and external factors. Balancing organizational and work force factors is important. All factors have to be integrated so that a technology strategy can be formulated, implemented, and monitored. Organizational, work force, and external environmental issues must be addressed. Perhaps one of the most crucial areas involves the managerial work force. What types of managerial skills are needed if a firm is to remain competitive and able to take advantage of technology?

### The Managerial Skills Needed

Research has indicated that leadership, technical, and administrative skills are needed to effectively operate in today's technology-oriented firms.<sup>17</sup> There is, of course, no single set of skills, but rather a mix. A study of engineering managers suggests that the kind of skills in Table 21-2 are important in high-tech situations. These are similar to the types of skills discussed throughout the text. But note that more than technical skills are being suggested. This study has found that experiential learning is the most prevalent mode of skill development.

TABLE 21-2

Skill Inventory of the  
Technical Manager

#### Leadership Skills

- Ability to manage in unstructured work environment
- Clarity of management direction
- Defining clear objectives
- Understanding the organization
- Motivating people
- Managing conflict
- Understanding professional needs
- Creating personnel involvement at all levels
- Communicating (written and oral)
- Assisting in problem solving
- Aiding group decision making
- Building multidisciplinary teams
- Credibility
- Visibility
- Gaining upper management support and commitment
- Action-orientation, self-starter
- Eliciting commitment
- Building priority image

#### Technical Skills

- Ability to manage the technology
- Understanding technology and trends
- Understanding market and product applications
- Communicating with technical personnel
- Fostering innovative environment
- Unifying the technical team
- Aiding problem solving
- Facilitating trade-offs
- System perspective
- Technical credibility
- Integrating technical, business, and human objectives
- Understanding engineering tools and support methods

#### Administrative Skills

- Planning and organizing multifunctional programs
- Attracting and holding quality people
- Estimating and negotiating resources
- Working with other organizations
- Measuring work status, progress, and performance
- Scheduling multidisciplinary activities
- Understanding policies and operating procedures
- Delegating effectively
- Communicating effectively orally and in writing
- Minimizing changes

Note: Inventory is based on engineering managers' responses to survey question "What skills do you see as crucial for effective role performance in your field as engineering manager?"

Source: Hans. J. Thambain, "Developing the Skills You Need," *Research, Technology, Management*, March–April 1992, p. 43.

The presentation and discussion of the integrated technology management framework provide three premises that we'll consider as we proceed in the discussion.

1. The goal of technology systems is to produce *quality* products and services.
2. Technology shouldn't be managed alone, but must be managed as an infrastructure that's interrelated as proposed in the value chain analysis.
3. Continuous improvement must be made in technology to remain competitive.

The framework suggests that management's major responsibility is to build an infrastructure (including people, methods, policies, and management practice) that's appropriate to the enterprise's competitive needs. The framework uses as its starting point the quality of products or services.

## ■ TECHNOLOGY MANAGEMENT

Some businesses' failures to meet technical challenges from domestic and global competitors have been managerial failures. At various points managers of failed and failing firms didn't allocate resources needed to remain technologically competitive, failed to take timely advantage of S-curve-type discontinuities, and failed to support and reward an environment that was congruent with innovation. Accomplishing these tasks isn't easy. It requires a skilled individual who understands technology, innovation, and the interrelatedness of organizational units and components. Prior to the early 1980s the management of technology concentrated on R&D functions. Now a much broader, integrated view prevails. Manufacturing and process technology and the entire new-product development technology transfer processes are being studied.

There's now a realization that technology practices vary among firms and that some practices are more clearly associated with commercial success than others. These differences in practices can translate to competitive advantages. A dramatic example of differences among firms' technology management practices was portrayed in the book, *The Machine That Changed the World*.<sup>18</sup> The authors report that Japanese carmakers take an average of 46.2 months to develop a new car compared with 60.4 months for American auto manufacturers. Also the Japanese require 16.8 worker hours to assemble one car compared with 25.1 worker hours for Americans. In terms of quality, the Japanese average 60 defects per 100 vehicles produced compared with 82.3 defects for American carmakers. Finally the Japanese devote 4.1 percent of the space in their assembly facilities to repair compared with 12.9 percent for their American competitors.

### Strategy and Technology

The importance of managing technology has been generally accepted by practitioners. But too little attention has been paid to the notion of strategic use and implementation of technology. A technology strategy draws attention to the firm's goals and means for achieving both technological and organizational goals. Together with the overall strategy, the technology strategy defines how a company can most effectively invest its technology resources to achieve sustainable competitive advantage.<sup>19</sup>

Planning a firm's technology strategy is a four-step process involving:

Technology situation assessment (a scan of the internal and external environments beyond the depth of the traditional business portfolio mix).

Technology portfolio development (determining the *relative importance* of the technology and the *relative position* of the firm's investment in a technology).

Integration of technology and overall firm strategies.

Setting technology investment priorities.<sup>20</sup>

The significance of a technology strategy is that it links a firm's technology goals to its overall business strategy. Thus technology must be planned and managed so that it's consistent with and supportive of the overall strategy. Is the technology adding value to the firm? Each manager of technology must answer this vital question.

Firms must not only have clearly stated overall strategies, they must also possess technologies that are efficient and profitable. A business strategy that's successfully implemented to use the technology available is desirable. Strategic use of technology is needed to build and sustain a competitive advance.

The Global Exchange highlights how strategy is so influenced by competitors. The aircraft manufacturing industry illustrates that global competition is real.

Many commentators attribute Japan's success in the consumer electronics industry as a market of superior technology management practices. But a more compelling view is that U.S. firms considered TV a mature business (at the top of the S-curve) whereas the Japanese viewed it as a high-tech growth (discontinuity in the S-curve) business. This difference in strategic thinking led to different time horizons, investment priorities, and approaches to new product and process development—in essence, entirely different technology strategies.<sup>21</sup> The Japanese advantage since 1986 was built over the course of decades and resulted from strategies that were dramatically different from those adopted by their technology-rich and resource-rich U.S. competitors.

A similar pattern of strategy differences is revealed in analyzing the videocassette recorder (VCR). The firms that succeeded in bringing the VCR to market used a “learning by trying” strategy that permitted innovation over a period of time through a gradual series of incremental product improvements.

The VCR winners pursued a technology strategy that emphasized a “clarity of focus and the consistency of strategic management. . . . Strategic consistency, then, differentiated the successful VCR pioneers from the others. . . . At Sony, top managers explicitly and consistently guided the direction of VCR development efforts.”<sup>22</sup>

The most striking feature of U.S. firms that failed to compete in technology-oriented industries is that many of them possessed superior technological capabilities. Xerox had a decade's technological lead in personal computing and failed. GE spent millions of dollars in technologically developing factory automation, but was outperformed by much

## GLOBAL EXCHANGE

### TECHNOLOGIES FROM AROUND THE WORLD: NEW AIRCRAFT

Many of the aircraft that you'll be flying in for the rest of your life will be truly globally manufactured. Boeing is pressing ahead with its 777 twinjet, which it hopes will dominate the medium-sized aircraft market well into the 21st century. Assembly started in 1993 from parts delivered to the Boeing plant in Seattle from more than a dozen countries.

About 20 percent of the 777 will be built in Japan by Mitsubishi, Kawasaki, and Fuji Heavy Industries. Its engines will be supported by three main manufacturers: Rolls-Royce, Pratt and Whitney, and General Electric. Alenia of Italy is making the outboard wing flaps. Embraer of Brazil is responsible for the fin and most of the wingtip assembly. Korean Air makes part of the wingtip. Nose-gear doors are



The Boeing Company  
Interior of Boeing 777.

made by Shorts of Northern Ireland and Singapore Aerospace. The rudder is made in Australia.

Meanwhile a planned successor for Concorde should involve many international participants. Britain, France, Germany, Italy, Russia, Japan, and the United States will all produce parts of a truly global airliner.

The aircraft manufacturing industry is becoming a multinational technology buffet. No single country—let alone company—can afford the technology cost to develop and build an entire aircraft. Each company (in various nations) focuses on the areas of technology that it does best.

Source: Adapted from Harvey Elliott, “Flying Foreign,” *The World of 1993*, Winter 1992, pp. 110–13; and Richard Branson, “Stuck in the Mud,” *The World of 1993*, Winter 1992, p. 112.

smaller Fanuc. These and other commercial activities begin with what strategic steps are taken.

Clarity of focus and consistency of strategic management seem vital for successfully transferring technology to the marketplace. Maidique and Hayes say, “Even a superficial analysis of the most successful high technology firms leads one to conclude that they are highly focused.”<sup>23</sup>

Ernest and Julio Gallo Winery, Inc., gained dominance in the low-priced U.S. wine market with a consistent strategy and focused approach. The firm has about 25 percent of all U.S. wine volume (50 percent of the low-end market). But Gallo doesn’t operate many vineyards, a strategic decision made years ago. It outsources 95 percent of its grape production, preferring to let farmers bear the risks of weather problems. Gallo concentrates on what it does best—wine production and distribution. Because of high wine volumes, Gallo developed new low-cost, refinery-like processing capabilities for wines. Gallo also used low prices and detailed quality control standards. Because of its volume, Gallo has invested more in R&D than its competitors, thus keeping its knowledge base about wine quality at the highest level.<sup>24</sup> Gallo’s strategy is to focus on what you do best and to beat the competition by leveraging these few technology advantages.

## Decision Making and Technology

As discussed in Chapter 5, explanations of decision making range from normative prescriptive models to behavioral anchored models. Normative models suggest that decisions about technology should be based on a comprehensive, quantitative analysis. The decision maker should scan a range of technology options, calculate the consequences of each, evaluate the consequences, and then select an option that satisfies a preselected decision rule. In some circumstances the rule may be to maximize expected value, while in other cases it may be to minimize expected loss. The decision rule in many cases is to maximize net present value.

Mintzberg, Simon, Quinn, and other management scholars suggest that in practice the normative model isn’t feasible. Technology-oriented decision making often involves incomplete information, limited available resources, and lack of good competitor information. The normative model just doesn’t fit the world faced by technology managers and strategists.

The path to successful technology assessment, position taking, and policy formulation is filled with uncertainty, previous successes and failures, and limited information. Added to these barriers are demands for high R&D spending to remain competitive. One of the most important decisions about technology involves the notion of transferring it from a basic form to an applied form; that is, commercializing the technology.

## ■ TECHNOLOGY TRANSFER

Even when an organization understands the importance of integrating the technology and overall business strategy, the problem of transferring technology where it can be profitable is a daunting task. Technology transfer can occur from one unit in a firm to another unit, from the lab to the marketplace, or from a developed country to a developing country. Transfer can occur from government, academic, and research organizations to private industry. **Technology transfer** is defined as the process of applying knowledge.<sup>25</sup> This definition suggests that knowledge must be used to consummate a technology transfer. There’s no transfer unless, and until, technical knowledge (i.e., a new machine or information) has been used. Even if the use doesn’t meet the user’s exact expectations, technology transfer has occurred.

technology transfer

The process of applying knowledge.

Technology transfer shouldn't be restricted to only a scientific or engineering orientation. Customer service, distribution, services, and other similar concepts that may involve technology can be transferred. Technology transfer can cross geographical boundaries.

## U.S. Technology Transfer Scorecard

A set of technology transfer characteristics seem to fit too many American companies. These include:

1. The belief that inventing new technology is a necessary condition for gaining a competitive edge.
2. Insufficient appreciation of the importance of speed in getting to the marketplace.
3. Focusing R&D on the end of the product cycle.
4. Lack of concern about application.
5. Inadequate coordination between R&D and the marketplace.<sup>26</sup>

Being first with a technology hasn't saved American firms from losing the video-cassette, TV, and steel markets. No nation discovers more technology than the United States. Also no nation spends more on nondefense R&D than the United States. The importance of speed to market in beating the competition should be obvious. American firms also are dragging their feet in paying attention to product life cycles. The tail end of the S-curve is the wrong place to direct attention and resources.

U.S. firms also have a tendency to seek the best technology for large markets while ignoring less glamorous products with a smaller, but still profitable market. The Japanese move into markets with technologies that are good, but not in the forefront. Americans want to perfect a technology instead of commercializing it as soon as it can be successfully applied. Table 21-3 shows a U.S. report card on the status and trends in various technologies. It states areas in which the United States is behind and in which it's ahead of main competitors.

One technology researcher believes that these failures of American managers are due to the nontechnical backgrounds of most U.S. chief executives. The top echelon is filled with individuals with sales or finance backgrounds. Thus when they formulate corporate strategy technology doesn't get top priority.

Unlike U.S. firms, Japanese firms are headed predominantly by managers with strong technical backgrounds. The chief R&D officer often plays a major policy-setting role in Japanese firms.

Until U.S. industry views technology transfer as a strategic tool to use, there will be more problems in competing effectively. Technology transfer is essential to competitiveness. There's also the need to not always follow a linear approach to new product development. New approaches that emphasize speed to market and flexibility are needed. In one such approach, the *rugby approach*, a team attempts to take a product from a concept to final production.<sup>27</sup> The work, effort, and interaction goes according to need, preference, and understanding and isn't based on a rigid schedule. The rugby approach is the opposite of a highly structured, sequential, linear approach.

## Technology-Driven Transfer

A **technology-driven transfer** is one in which new technology can create market opportunities. At the early stages of the development of a new product or service, there's technological competition. It becomes a race between those pushing for improvements in existing technologies and others committed to developing a new technology. Usually in technology-driven development this change is evolutionary.

technology-driven transfer  
The new technology can create  
market opportunities.

TABLE 21-3

Status and Trends in U.S. Competition with Japan and Europe, 1989

	Versus Japan	Versus Europe
<b>Status</b>		
Behind	Advanced materials Advanced semiconductor devices Digital imaging High-density data storage Optoelectronics	Digital Imaging
Even	Superconductors	Flexible computer-integrated manufacturing Superconductors
Ahead	Artificial intelligence Biotechnology Flexible computer-integrated manufacturing High-performance computing Medical devices and diagnostics Sensor technology	Advanced materials Advanced semiconductor devices Artificial intelligence Biotechnology High-density data storage High-performance computing Medical devices and diagnostics Optoelectronics Sensor technology
<b>Trends</b>		
Losing badly	Advanced materials Biotechnology Digital imaging Superconductors	Digital imaging Flexible computer-integrated manufacturing
Losing	Advanced semiconductor devices High-density data storage High-performance computing Medical devices and diagnostics Optoelectronics Sensor technology	Medical devices and diagnostics
Holding	Artificial intelligence Flexible computer-integrated manufacturing	Advanced materials Advanced semiconductor devices High-density data storage Optoelectronics Sensor technology Superconductors
Gaining		Artificial intelligence Biotechnology High-performance computing

Source: Technology Administration, U.S. Dept. of Commerce, *Emerging Technologies: A Survey of Technical and Economic Opportunities* (Washington, D.C.: U.S. Dept. of Commerce, 1990), pp. 1-10.

When a new product isn't yet tried in the market, there are few competitors or supporters. Visionaries, or those who see the future and are related to the business, are usually the risk takers.

At 3M Arthur Fry, who helped develop Post-It Notes, was a visionary. Fry and co-worker Spencer Silver persisted, experimented, and perfected the glue for Post-It Notes. They visualized a use for their technology.<sup>28</sup> 3M had to be willing to create an application for Post-It Notes.

Marketplace acceptance wasn't certain for Post-It Notes. One example that failed the marketplace test was AT&T's attempt to bring video to telephone service. The Bell system developed the Picturephone® in the late 1960s. It was introduced as a product in 1971 in Chicago, with a monthly price of \$125. Market studies were done to predict its acceptance and growth. Why did it fail? Price? Black-and-white picture? The Picturephone® failed because society's desire for such a product was misjudged.<sup>29</sup>

## Market-Driven Transfer

### market-driven transfer

Customers express a need for a technology and the firm finds the technology to meet that need.

In a **market-driven transfer** customers express a need for a technology and the firm finds the technology to meet that need. In most cases the primary driver of transfer for commercialization purposes is that a need exists.<sup>30</sup> The task is to find the best technology to meet the need. A technology can be applied in several different markets. Sometimes the transfer from the lab or pilot phase to a new market can be dramatic. For example, application of the heart pacemaker, which was first covered in 1928 to its first use in 1960, brought dramatic hope to many heart patients.

In the 1980s at the suggestion of General Motors, Bell & Howell set out to modernize the auto parts catalog. Bell & Howell was faced with developing the technology that would result in a product that would process accurately a large volume of data and improve response time and electronic image quality. Then it was faced with applying the technology to meet market needs. This generated a host of technologies such as infrared touch screens, optical disk storage devices, and networking. Failures, mounting costs, and maintenance were problems to overcome. Bell & Howell had a culture that encouraged persistence, experimentation, and innovation. The result of the effort, attention on focusing, and seeing the value-added potential was the development of a market-driven transfer product, an electronic auto parts catalog.

## Product-and-Process Improvement Transfer

### product-and-process improvement transfer

Improvements in the existing technology that result in a better product or process that meets customer needs.

In a **product-and-process improvement transfer** improvement in existing technology leads to a better product or process that meets customer needs. Once a concept using a new technology has proven itself in the market, competition shifts to quality, price, performance, and features. Overnight package delivery and automated banking teller machines (ATMs) are examples of this pattern. After a few market successes, competitors swarmed into the market. Now about 15 years later ATMs are quite common so the early providers and later entrants compete over incremental improvements in market share, not market creation.

The pace of technological diffusion depends on a variety of technological and economic factors not directly linked to the product or service. For example, the facsimile (FAX) machine boom was possible because of telephone system technology; the VCR relies on the widespread use of TV sets.

As a product, process, or service approaches maturity, the market begins to be saturated and new markets and new applications give way to a replacement of previous-generation products or services. Demand for hotel services has reached this stage. There are still opportunities for innovation (e.g., bounce-back weekends, hotel–entertainment packages, hotel–tour packages), but the innovations come from pushing package improvements or modifying previous packages for hotel guests.

A troublesome mistake a manager can make is to conclude that no improvement—technological or otherwise—can be made in a product or process. In 1909 *Scientific American* stated, “That the automobile has reached the limit of its development is suggested by the fact that during the year no improvements of a radical nature have been introduced.” Development of the dynamic random access memory (DRAM) semiconductor integrated circuit business followed a similar course. After the 64K DRAM was improved to the 256K design, another round of improvement to the 1M bit occurred.

Speed and quality of incremental innovations are critical to the success of product-and-process–driven market transfer. A vice president for science and technology at IBM concisely stated speed’s importance:

*Most development work is done just one step ahead of manufacturing. . . . One cannot overestimate the importance of getting through each turn of the cycle more quickly than a*



*competitor. It takes only a few turns for the company with the shortest cycle time to build up a commanding lead.*<sup>31</sup>

The emphasis on speed shouldn't lessen the importance of quality. Flawed products or poor services are worse than being late.<sup>32</sup> But being first to market new products, to use a new process, or to provide a new service means that the firm potentially can participate in the most profitable portion of the product life cycle.

Continuously improved products, processes, and services don't just appear. They must be managed in a way that they become competitive advantages. Benchmarking (making comparisons between the technology in your company and others) is important. Product, process, and service comparisons can point out strengths, weaknesses, and competitive advantages. Xerox invented the art of photocopying. It was the only copier company making a profit in this business. Xerox didn't stay focused on copiers and instead became involved in the computer industry. Japanese firms such as Ricoh and Epson focused on copiers and benchmarked Xerox. As a result Xerox's market share went from 90 percent in the early 1970s to about 20 percent in the late 1970s.

Benchmarking allows management to make comparisons in a real-time (current and most up-to-date) manner. Using benchmarking performance gaps, action plans to make improvements can be established, and recalibrating the goals for the product, process, or service, can be monitored.

Technology-driven and market-driven transfers of commercial technology occur early in the life of new technologies. At this early point, value lies in the matching of technology and market needs and being early to market with a high-quality technology. Product-and-process-improvement challenges occur later in the life cycle, when value comes from executing product, process, quality, or service improvements sooner than others do.

## International Technology Transfer

The increasing globalization of business has brought more attention to the concept of international technology transfer. **International technology transfer (ITT)** is the process of applying knowledge across geographical or national boundaries. Transfers of product, process, or service technologies across national boundaries is a common phenomenon. But differences in national cultures, economic infrastructures, political systems, laws, and social norms create challenges for ITT.<sup>33</sup>

ITT can occur via many formal and informal methods. One method involves foreign nations studying in a host country obtaining knowledge that they can eventually bring back to their home country. There are also government-to-government agreements for ITT. An example is agricultural programs for building farm technologies, nuclear engineering programs, and space research programs (e.g., the United States and Russia since the demise of the USSR). Other modes of ITT include foreign direct investment, turnkey projects, trade in goods and services, contracts, licensing agreements, R&D programs in foreign countries, employment of local nationals by foreign firms (e.g., Americans working in the Georgetown, Kentucky, Toyota plant), and industrial espionage. Cultural variations across nations and organizational culture-based differences between firms involved in ITT are two of a number of factors that can influence whether any mode of transfer succeeds.<sup>34</sup>

In recent years three modes of ITT have grown in importance: licensing, joint ventures, and espionage.

**Licensing** A business arrangement that permits a firm or individual to use another firm's patents, copyrights, blueprints, and technology is called a license. For a small firm that has limited capital or management expertise for entry into the global market, licens-

international technology transfer

(ITT)

The process of applying knowledge across geographical or national boundaries.

ing is a good alternative. One risk of licensing is that a licensor may lose its competitive edge to a licensee over time. There's also the possibility that, once the licensee has the technology, it can restrict the licensor's access to the market.

**Joint Ventures** As noted in Chapter 4, a *joint venture* is the forming of a partnership between a domestic and a foreign company to produce or market a product or service. This is a popular way to compete globally.<sup>35</sup> Partners divide the activities in the value chain on a worldwide basis. Historically firms from developed countries formed alliances with firms in less developed countries to gain market access.<sup>36</sup> Today more and more alliances involve firms from developed countries that join together to serve a region or the entire world. All U.S. auto companies have alliances with Japanese companies and, in several cases, with German, Swedish, Italian, French, and Korean companies to produce cars for sale in the United States.

Reasons for forming an alliance include learning about technology, gaining access to a distribution system, or to meet government requirements for local ownership. General Motors' alliance with Toyota (NUMMI), for example, was intended, from GM's perspective, to gain manufacturing technology expertise. A number of pharmaceutical firms have entered international joint ventures to hedge the risks that their own R&D will prove unsuccessful.

The companies that have had the most success in acquiring technology are in Japan and Korea, where joint ventures have been encouraged and supported by their governments. Motorola (U.S.) and Toshiba (Japan) have formed a joint venture. Motorola has agreed to transfer its logic-device technology to Toshiba for access to Toshiba's DRAM manufacturing capability. Motorola is hoping that, through learning the technology, it can reenter the DRAM market.

**Espionage** Never before has there been such an intense effort to obtain competitors' technology. For example, French intelligence agents conducted espionage operations against the overseas offices of IBM and Texas Instruments.<sup>37</sup> Two Koreans were arrested by the FBI in Houston after allegedly paying \$40,000 for blueprints of Dow Chemical's polymer plant in LaPorte, Texas.<sup>38</sup> A former Merck and Schering-Plough employee was sentenced to nine years in prison for attempting to see the formulas for medicines Ivermectin and Interferon.<sup>39</sup> The Ethics Spotlight on the following page suggests that more and more firms are gathering intelligence. The ethical correctness of such an activity is rationalized as being necessary to remain competitive in the high-stakes game of technological and innovative advancement.

The Freedom of Information Act is routinely used to obtain information that competitors submit to the U.S. government. Increasingly business executives have taken action to acquire a competitor's technology using methods previously considered unethical.<sup>40</sup> Competitors want to know about company plans, R&D projects, product development, and key personnel changes. Besides top business executives gathering data on competitors, some governments have played a more prominent role recently. For example, the Japanese Ministry of International Trade and Industry (MITI) conducts or commissions study groups, committees, and reports that focus on technologies, the potential for technology transfer, and trends in international competition, MITI uses its intelligence reports to cajole Japanese executives to respond to emerging trades and foreign competition.

In addition to MITI, Japanese industry collects technology information through one of the large *sogo shoshas* (trading companies). A typical *sogo shosha* (e.g., Itoman Ltd., Mitsuri & Co. Ltd., or Sumitomo Corporation) has thousands of employees stationed in more than 100 overseas offices.<sup>41</sup> They send in a daily average of 100,000 pieces of information they've gathered. Each piece of information is coded, screened, and stored in a database.

## ETHICS SPOTLIGHT

## SPYING IN BUSINESS FIRMS: A COMPETITIVE NECESSITY?

Is it ethical to spy on competitors? An increasing number of American and foreign firms have corporate intelligence systems. Some people believe that unless a firm maintains a top-level corporate intelligence system, it can forget about being technologically competitive.

AT&T launched an on-line computer service referred to as AAA (Access to AT&T Analysts). It's designed to help employees learn from the thousands of other employees with specialized insight about competitors. Employees are invited to fill out questionnaires identifying their areas of expertise. Users can log in key words and receive a list of company experts on various technologies, along with their job titles and telephone numbers.

Employees also used AAA to share information about competitors. What are competitors doing? How successful is a new experimental product that a competitor is working on? Who's on the competitor's experimental development team?

The Japanese are notorious intelligence gatherers. In fact, during World War II the Japanese government called on various corporate intelligence systems to help determine what the Allies were up to technologically. The Japanese believe that the corporate intelligence gathering makes business sense.

American, German, and Japanese companies and others make it a policy or employees to visit trade shows to collect competitors' literature. In sophisticated companies the literature, gossip, and anything else collected at the trade show are analyzed by intelligence experts. These experts also have employees attend seminars, take visitation tours, and collect professional papers.



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Macworld Computer Expo,  
San Francisco '93.

Intel monitors its competitors' progress in developing eight-inch silicon wafers by keeping track of scientific literature. Intel staffers in Tokyo and California sift through thousands of technical papers published in Japan each year and translate the most interesting into English. Unfortunately the

Japanese are more bilingual than Americans and have been translating thousands of American-originated technical papers into Japanese for decades.

Knight-Ridder's Dialog has some 400 databases tracking corporate and scientific developments. These databases are popular with domestic and foreign users. Databases, intelligence experts, translation of papers, and attending trade shows sound like a CIA approach to keeping up with competitors in technology and innovation.

Is all of this intelligence activity ethical? Even if you believe it's not, what are you going to do about intelligence or information gathering? If you ignore information, your firm may be at such a competitive disadvantage that it

eventually goes out of business. Lobbying for new laws to control abuses in the intelligence area may not bear fruit for years. It takes years for laws to become operational.

Intelligence gathering poses many questions. It's an ethical dilemma for firms that rely on technological and innovative progress to survive. Firms that don't gather intelligence can be quickly knocked out of business.

Source: Adapted from Richard S. Teitelbaum, "The New Race for Intelligence," *Fortune*, November 2, 1992, pp. 104-7.

The Japanese technology intelligence network is so extensive because of Japan's lack of success historically in the area of basic research. The Japanese are well aware of this shortcoming and have countered this problem with a network of information and technology intelligence. Because of technology's value, espionage is such a problem that security measures must be taken to slow down the transfer of important knowledge.

## ■ A NATIONAL TECHNOLOGY POLICY: MODEST CONSIDERATIONS

Table 21-3's report card (page 600) emphasizes that the United States is behind Japan and Europe in a number of areas and losing the technology war in other areas. Is there enough concern for the United States to adopt a national technology policy? One side states that in a free market economy the government should keep its hands off the technology policy area. Government has no theory or approach that can provide guidance in technology. But others claim that the laissez-faire approach will bankrupt America. The commercialization of technology is where competition battles will occur.

Careful examination of America's history reveals that the United States has had technology policies in defense, medicine, and agriculture.<sup>42</sup> The government hasn't kept its hands out of these areas. Think of the land grant acts for railroads, the creation of land grant universities via the Morrill Act, the protection of the steel industry via tariffs, many spin-offs from defense technologies into commercial products, and a broad support program for medical technologies. For years the U.S. government has been involved in policy formulation and intervention.

The evidence suggests that some form of U.S. government stimulus and support for technology commercialization will occur.<sup>43</sup> If the United States is to compete with Japan, Germany, and other technologically advanced nations, it will eventually need much more cooperation and coordination among industry, academia, nonprofit institutions, and the government. Federal support of commercial technologies exists in nations that compete with the United States—France, Japan, Germany, and Taiwan. If the U.S. government is to play a more active role in the successful commercialization and transfer of technology, it will need to conduct four functions: climate setting, surveying, coordinating, and gap filling.

### Climate Setting

The government can set up a positive climate by stating that technological advancement and commercialization are high national priorities. The government can support this view by making capital available to technology innovators. Taxes, depreciation schedules, securities regulations, and government procurement decisions can help to set the climate.

In the United States a view that innovations occur from scientific research has dominated national thinking. It's now widely recognized that innovation heavily originates from ideas arising in marketing, production, and design processes. The belief that research is the source of innovation led to support of graduate students in the sciences and engineering. Unfortunately operations management was downgraded in terms of federal support. Changes in federal support yielding more resources for production, product design, and marketing students would be a welcome shift in climate.

### Surveying

Surveying of global technological trends is needed to provide knowledge to guide policy. Currently the White House Office of Science and Technology is surveying commercial technologies. Whether this will be a sufficient degree of surveying is unknown at this time. Information collected from surveying can help guide scientific and technology research. The United States has a history of surveying in medicine, agriculture, and defense. Using principles and methods perfected in these fields can result in effective technology and innovation surveying.

### Coordinating

Many recent advances in technology arose from the fusion of two or more technologies or from movement of knowledge into areas to which it previously hadn't been applied. Examples include the integration of computers, machine tools, new software, and changed social arrangements as bases for flexible manufacturing. Fiber optics was achieved by fusing know-how in plastics with knowledge about the effects of frequency on transmission within the telecommunications industry.

The U.S. government played a coordination role in the agricultural, aerospace/defense, and medical industries. It has also coordinated the railroad, intercoastal waterways, highway, and air transportation systems. The government can help by removing barriers to cooperation such as permitting groups to form alliances to work on projects.

## Gap Filling

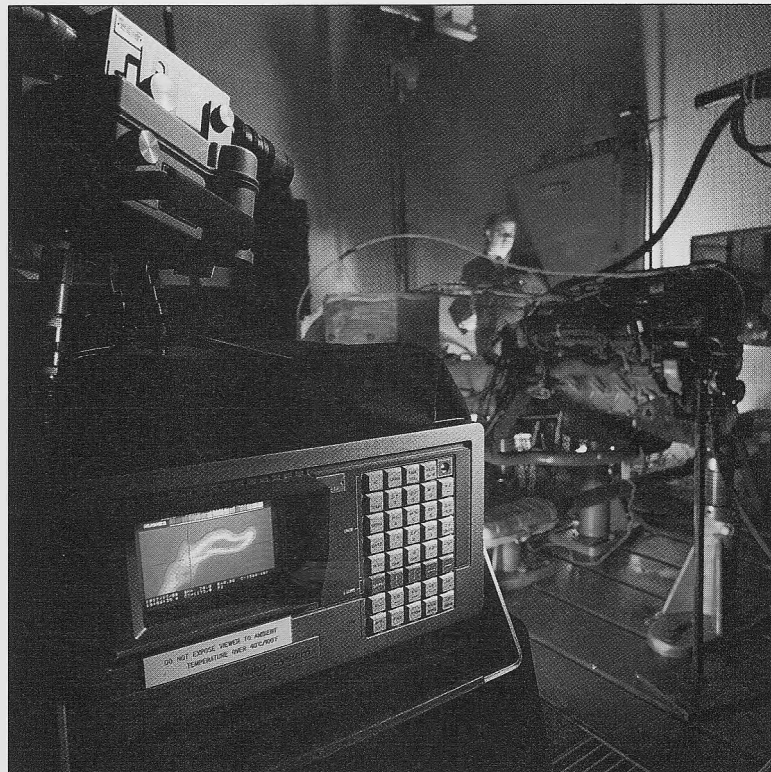
Gap filling is the most controversial of the technology policy functions. It promotes the notion of “picking and supporting winners.” This can give some companies or alliances a commercial advantage over others. One method of gap filling involves creating new organizations. This has been the case with the creation of the National Bureau of Standards, the National Aeronautics and Space Administration (NASA), and agricultural research stations.

The Defense Advanced Research Projects Agency (DARPA) is a gap-filling action in the military sector. DARPA surveys technologies and makes projections about their value. It then funds high-risk projects that have high potential for improving military and private-sector products.

SEMATECH is another U.S. government-sponsored gap-filling activity. It's a consortium focused on the development of semiconductor production processes. SEMATECH is attempting to develop technologies, which will be important in international competition.

Perhaps the U.S. government's best opportunity for competing in the technology arena lies in its over 700 national laboratories.<sup>44</sup> Many of them had military missions that have become less important as the East-versus-West military threat has diminished. The threat of cutbacks has resulted in the labs signing cooperative R&D agreements with the private sector. As tools for technological improvement, these agreements have resulted in a growing number of market-appealing products.

U.S. industry's relatively poor performance in commercializing technology won't be improved by a government policy or by government-induced protection to keep the Germans or Japanese out of America's markets. Differences in countries' political environments reinforce differences in industry structure and financial environment. Industry-



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For night vision, pilots and tank commanders use the same kind of infrared imaging that is in this Probeye device. GM employs it in Detroit to check a Cadillac engine for structural defects.

government relations in the United States are more adversarial than in Germany, Japan, and France. The United States is also far more litigious than European countries and Japan. A combination of all these structural, economic, political, and legal factors tilts the playing field against U.S. firms.

Can government policy level the playing field? The likelihood that a quick fix from the government will improve U.S. technology and innovation competitiveness is remote. But the government can develop a positive climate, survey, attempt to work at coordinating, and at a minimum identify gaps.<sup>45</sup> Perhaps establishing a civilian DARPA that would fund commercial technology transfer and using federal government labs for commercial technology development would be modest first steps toward more focused government gap-filling involvement.

## ■ CREATIVITY AND INNOVATION

### creativity

The ability to bring something new into existence.

**Creativity** is defined as the ability to bring something new into existence. Creativity has a flavor of something that's mysterious or subversive. For example, economist Shumpeter referred to entrepreneurship as "creative destruction." Teresa Amabile suggests that a product or a response will be judged creative to the extent that it's novel and appropriate, useful, correct, or a valuable response to the task at hand.<sup>46</sup> In her view the task is heuristic rather than algorithmic. Fixing a flat tire is an algorithmic task because it follows a specific pattern. Developing a new biomedical instrument is heuristic because it follows no set pattern and hasn't been done before.

Earlier in this chapter we defined innovation as the generation of a new idea and its implementation into a new product, process, or service leading to the growth of the national economy and the increase of employment, as well as the creation of profit. Innovation is a process. Creativity, is the generation of something new—an idea, a process, or even a technique or style.

### Creative Individuals

What are the attributes of creative people, those who bring new things, thoughts, or behaviors into existence? Einstein, Mozart, Hemingway, and Degas are considered creative. They possessed special traits and attributes. Raudsepp stated that creative people seem to be flexible, self-motivated, and sensitive to problems; they're original thinkers, are able to concentrate, can think in terms of images, and have little fear of failure.<sup>47</sup>

Table 21-4 presents various characteristics of creative people that have appeared in the literature and have been discussed. This, like any list of characteristics, isn't definitive or very predictive. In general, the available research suggests that personality characteristics and motivation are more important than intelligence levels in identifying creative people in a group.

### Managing Creative People

Since creativity is difficult to isolate and pinpoint, we might conclude that managing creativity is a lost cause. But the opposite is true in that managers are fascinated by managing creativity in organizations. Attempting to manage creativity is important because it can lead to gaining a competitive advantage. Creativity is a resource that must be nurtured, supported, and rewarded for a firm to remain competitive. The new generation of workers appears to be concerned about locating organizations that support individual creativity, allowing people to find new ways to work, interact, and succeed.

The Japanese and Koreans have both recognized the importance of managing creativity. The president of Fujitsu Computers states, "The creativity of the Japanese people will be called into question . . . through the 1990s. The whole nation must work like one possessed to meet this great challenge."<sup>48</sup> MITI has urged Japanese industry to make the

TABLE 21-4  
Selected Characteristics of  
Creative People

1. Knowledge	Creative people spend a great number of years mastering their chosen field.
2. Education	Education doesn't increase creativity. Education that stresses logic tends to inhibit creativity.
3. Intelligence	Creative people don't necessarily have high IQs. The threshold for IQ is around 130. After that, IQ doesn't really matter. Creative people have been found to possess the following intellectual abilities: sensitivity to problems, flexibility in forming associations between objects, thinking in images rather than words, and synthesizing information.
4. Personality	Creative people are typically risk takers who are independent, persistent, highly motivated, skeptical, open to new ideas, able to tolerate ambiguity, self-confident, and able to tolerate isolation. They also have a strong sense of humor and are hard to get along with.
5. Childhood	Creative people have usually had a childhood marked by diversity. Experiences such as family strains, financial ups and downs, and divorces are common occurrences.
6. Social habits	Contrary to stereotypes, creative people aren't introverted nerds. Creative people tend to be outgoing and enjoy exchanging ideas with colleagues.

Source: Based in part on Robert G. Godfrey, "Tapping Employees' Creativity," *Supervisory Management*, February 1986, pp. 16–20; and "Mix Skepticism, Humor, a Rocky Childhood—and Presto! Creativity," *Business Week*, September 30, 1985, p. 81.

transition from imitation to creativity. As part of this challenge Japan has embarked on a national program called the Technopolis Strategy to develop high-tech economic regions all over Japan.<sup>49</sup> This is an attempt to manage creativity and innovation so that technologies that can be commercialized will emerge, keeping Japan in a strong economic position.

**Steps to Manage Creativity Effectively** Organizations such as 3M, Hewlett-Packard, and the joint venture partnership of Microelectronics and Computer Corporation (MCC) find that recognizing and rewarding creativity are essential.<sup>50</sup> Encouraging experimentation and removing all sanctions for failure are important. James Burke, CEO of Johnson & Johnson, says, "We won't grow unless you take risks. . . . Any successful company is riddled with failures. There's just no other way to do it."<sup>51</sup>

Harvard professor Rosabeth Moss Kanter's book, *The Change Masters*, presents steps *not* to use if creativity and innovation are to be encouraged (Table 21-5).<sup>52</sup>

Table 21-6 shows how a manager can enhance people's creativity. The exact steps to encourage new ideas, to provide clear objectives, or to provide recognition will depend to some extent on the manager's style, the creative attributes of the people making up the team, and the organization's culture. There are no universal prescriptions that always work with young and old workers, men and women, immigrants and U.S.-born workers, racially mixed work groups, or intellectual geniuses and average-intelligence employees.

Chapter 20 discussed intrapreneurship. These corporate commandos need an environment like that prescribed in Table 21-5. As our coverage of intrapreneurship made clear, there's no one best culture or reward system that works every time. The search for finding the right mix of people, culture, and rewards to encourage and support creativity and innovation is difficult, but is likely to continue unabated. The cost of stifling or stamping out creativity can be going out of business. Managing creativity is certainly a strategic mission that has short- and long-term consequences for organizations, individuals, and society.

## Creativity Training

Creative employees are vital in today's competitive world, but they aren't sufficient. A firm needs to encourage creativity and also must renew people's creative spirit and instinct. Can people be trained to be creative? Some firms (e.g., Frito-Lay) believe that training is an effective way to keep creativity alive. One survey suggests that about 25 percent of all U.S. companies employing over 100 people offer creativity training to employees.

TABLE 21-5  
Kanter's 10 Rules for  
Stifling Innovation

1. Regard any new idea from below with suspicion because it's new, and because it's from below.
2. Insist that people who need your approval to act first go through several other levels of management to get their signatures.
3. Ask departments or individuals to challenge and criticize each other's proposals. (This saves you the job of deciding; you just pick the survivor.)
4. Express your criticisms freely, and withhold your praise. (That keeps people on their toes.) Let them know they can be fired at any time.
5. Treat identification of problems as signs of failure, to discourage people from letting you know when something in their area isn't working.
6. Control everything carefully. Make sure people count anything that can be counted frequently.
7. Make decisions to reorganize or change policies in secret, and spring them on people unexpectedly. (That also keeps people on their toes.)
8. Make sure that requests for information are fully justified, and make sure that it is not given out to managers freely. (You don't want data to fall into the wrong hands.)
9. Assign to lower-level managers, in the name of delegation and participation, responsibility for figuring out how to cut back, lay off, move people around, or otherwise implement threatening decisions you have made. And get them to do it quickly.
10. And above all, never forget that you, the higher-ups, already know everything important about this business.

Source: Rosabeth Moss Kanter, *The Change Masters* (New York: Simon & Schuster, 1983), p. 101.

TABLE 21-6  
Selected Prescriptions for  
Fostering Organizational  
Creativity

1. *Develop an acceptance of change.* Organization members must believe that change will benefit them and the organization. This belief is more likely to arise if members participate with their managers in making decisions and if issues like job security are carefully handled when changes are planned and implemented.
2. *Encourage new ideas.* Organization managers, from the top to the lowest-level supervisors, must make it clear in word and deed that they welcome new approaches. To encourage creativity, managers must be willing to listen to subordinates' suggestions and to implement promising ones or convey them to higher-level managers.
3. *Permit more interaction.* A permissive, creative climate is fostered by giving individuals the opportunity to interact with members of their own and other work groups. Such interaction encourages the exchange of useful information, the free flow of ideas, and fresh perspectives on problems.
4. *Tolerate failure.* Many new ideas prove impractical or useless. Effective managers accept and allow for the fact that time and resources will be invested in experimenting with new ideas that don't work out.
5. *Provide clear objectives and the freedom to achieve them.* Organization members must have a purpose and direction for their creativity. Supplying guidelines and reasonable constraints will also give managers some control over the amount of time and money invested in creative behavior.
6. *Offer recognition.* Creative individuals are motivated to work hard on tasks that interest them. But, like all individuals, they enjoy being rewarded for a task well done. By offering recognition in such tangible forms as bonuses and salary increases, managers demonstrate that creative behavior is valued in their organization.

Most creativity training techniques fall into four categories: *fluency techniques* are designed to stimulate the generation of ideas; *excursion sessions* push the mind to illuminate ideas; *pattern breakers* force thinkers to restate problems in novel ways; and *shake-up exercises* (games) help loosen up groups and make them more receptive to unusual ideas.<sup>53</sup>

The oldest fluency technique is brainstorming. A group of people fire off as many ideas as possible. The premise is that a group will produce a far greater number of ideas than an individual can. Judgment on every idea is deferred. Criticism is forbidden until ideas are evaluated later in the session.

A newer fluency concept is *brainwriting*. Employees write down their ideas on slips of paper with no identification of the originator. Then they exchange the slips of paper and attempt to build upon each others' insights. *Mindmapping* is a fluency approach involving drawing a primary idea at the center of the paper. New or related ideas are represented as vines growing in all directions.

An excursion technique is called a *forced relationship*. Polaroid managers from different departments used this technique. The creativity facilitator asked the managers to



look at a number of paintings and to describe what they saw. Managers were then asked to “force-fit” their impressions about the paintings—to the task of figuring out how to improve interdepartment harmony.

Excursion exercises are intended to take a person’s mind away from a problem so the unconscious mind can mull it over. Pattern breakers, however, keep the problem in focus, but in a different light. Synectics (a Cambridge, Massachusetts, creativity consulting firm) asks clients to take a stroll with an instant film camera and then uses the snapshots as prompts. A group returned with pictures of a glass jar, a household wash product, and a Federal Express package. The photo of the glass jar triggered a discussion about how to sell a service.

Shake-up exercises use games or team activities to help individuals laugh or relax. First Chicago Bank employs role-playing games—replete with funny costumes—and outdoor activities. Kodak uses a “humor room” stocked with games, objects (juggling balls and toy robots), and Monty Python movies. Groups of employees use the room to conduct meetings and also to relax.

Despite the growing popularity of creativity training, some believe that it’s just a flaky fad. Like all fads, the creativity training boom is expected by critics to soon pass. A more serious concern is whether evidence derived using rigorous evaluation methods suggests that creativity training actually makes a difference. Are trained employees more creative than nontrained employees? To date, there’s little evidence that creativity training improves performance, innovation development, or technological development.

## ■ SUMMARY OF LEARNING OBJECTIVES

### **Define technology, innovation and technology transfer.**

*Technology* is the totality of the means employed by people to provide comfort and human sustenance. *Innovation* is the generation of a new idea and its implementation into a new product, process, or service, leading to national economic growth, increased employment, and creation of profit. *Technology transfer* is the process of applying knowledge.

### **Explain the value chain analysis procedure.**

Value analysis is a concept developed by Harvard professor Michael E. Porter to identify opportunities for technology application. The value chain identifies various activities and their linkage to the firm’s cost position. Activities illustrated in the value chain include marketing, delivery, product creation, human resource management, and technology development.

### **Describe the managerial skills needed for managing technology.**

The skills often cited aren’t much different from those required in any management situation: leadership, technical, and administrative skills.

### **Discuss the differences in technology-driven transfer, market-driven transfer, and product-and-process improvement transfer.**

Technological discoveries in a lab or through basic research can create market opportunities. The technology in essence drives the demand for the product, service, or process. In market-driven transfer, a customer need exists. The task is to find the best technology to meet the need. Product-and-process improvement transfer centers on improving technology. Even the car, after years on the market, is continually being improved by innovative firms. Today improvements in technology are occurring in terms of quality enhancement and speed from the lab to the market.

### **Explain how espionage can lead to technology transfers that result in lost market share.**

Espionage is practiced by firms in many nations. Gathering data and information can uncover secrets that can be used to redesign or improve products or even to create new products, services, or processes that may cost another firm market share. Although the United States complains about technology espionage, American firms too engage in such activity. High stakes have unfortunately resulted in increasing industrial and service espionage around the world.

### **Describe some important steps to take to manage creativity effectively.**

There’s no one best set of steps. Some of the more reasonable steps to take include encouraging experimentation among workers, permitting on-the-job interaction among workers, tolerating failures, providing clear objectives and the freedom to achieve them, and offering recognition for good effort and performance.

### **Describe in historical terms whether the United States has ever had technology policies in various sectors of business and industry.**

This hotly debated, politically charged notion of a national technology policy is likely to continue for years. The United States has, in fact, had technology policies in the fields of defense, medicine, and agriculture. These policies have resulted in laws, the formation of government agencies, the commercialization of technology, and the emergence of entire new industries. Some form of government intervention in technology issues will probably continue in the United States. Four likely areas of government involvement include climate setting, surveying, coordinating, and gap filling.

**Explain what a civilian DARPA might accomplish in terms of commercializing technology.**

The U.S. government has used a gap-filling approach in the military sector—the Defense Advanced Research Projects Agency (DARPA). A civilian DARPA could possibly invest funds in risky technology projects that have the potential for proving successful commercially. A civilian DARPA could experiment and attempt to identify products, services, or processes that have value and that will be competitive in world markets.

**Discuss whether creativity training is effective in improving performance or the number of innovations in an organization.**

So far no compelling research findings indicate that creativity training (e.g., fluency techniques, excursion sessions, pattern breakers, and shake-up exercises) is effective. Still creativity training is one of the increasingly popular attempts to increase innovative thinking and work in organizations.

**KEY TERMS**

creativity, p. 607

differentiation, p. 591

innovation, p. 586

international technology transfer (ITT), p. 602

market-driven transfer, p. 601

product-and-process improvement transfer, p. 601

technology, p. 586

technology transfer, p. 598

technology-driven transfer, p. 599

value chain analysis, p. 589

**REVIEW AND DISCUSSION QUESTIONS****Recall**

- How can a joint venture be used to acquire technology from a competitor?
- What's the difference between creativity and innovation?
- What is meant by the term *technology gap*?
- What are the primary support activities in the value chain analysis?

**Understanding**

- What are the arguments against having the federal government state and oversee a national technology policy?
- Why is it difficult to determine whether creativity training offers anything of value to a firm?
- Explain the S-curve and how it can be used as a guide for technology forecasting.

- What steps are practiced by firms attempting to develop a coherent technology strategy?

**Application**

- Visit a business, office, or factory and take note of the technologies being used. Which of these technologies originated in the United States? You'll need to do some library work to trace the history of the technologies you observed.
- The chapter mentions that over 700 national laboratories exist in the United States. Many have had military missions. But as the world changes, these labs now must find private-sector partners and be concerned about commercializing technology. Identify a lab that's commercializing technology. What's it now doing?

**CASE 21-1****3M: Technology Champions**

Minnesota Mining and Manufacturing Co. (3M) started slowly in Two Harbors, Minnesota. Five businessmen sold grinding wheels to manufacturers in the East. Early in its history 3M was plagued by inconsistent quality. From the beginning 3M engineers and other employees have been encouraged to be creative, innovative, and inventive. Years ago the company began to give people time and money to perform experiments on new ideas that could result in future products or services. This philosophy and the creation of a supportive experimental product have propelled 3M to become the 32d largest firm on the *Fortune 500* list.

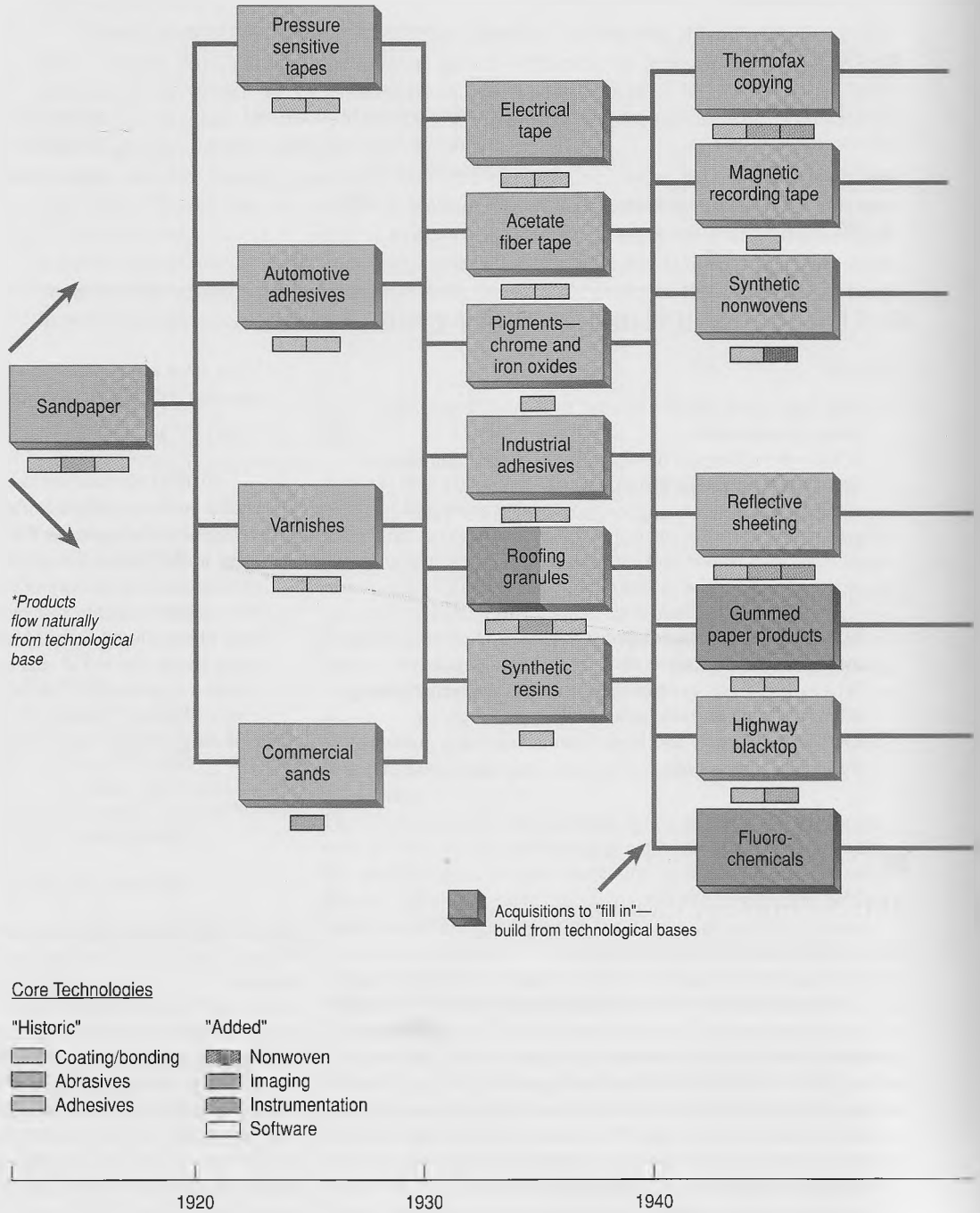
3M's rapid and sustained growth is based on mastering three

related technologies: abrasives, adhesives, and coating-bonding. It simply beats all competitors—Japanese, German, and other Americans—in these areas. But 3M hasn't sat idly by in other areas. Exhibit 21-A is complex, but it shows how 3M has added other technologies to its core. Acquisitions and new discoveries keep building upon the core technologies.

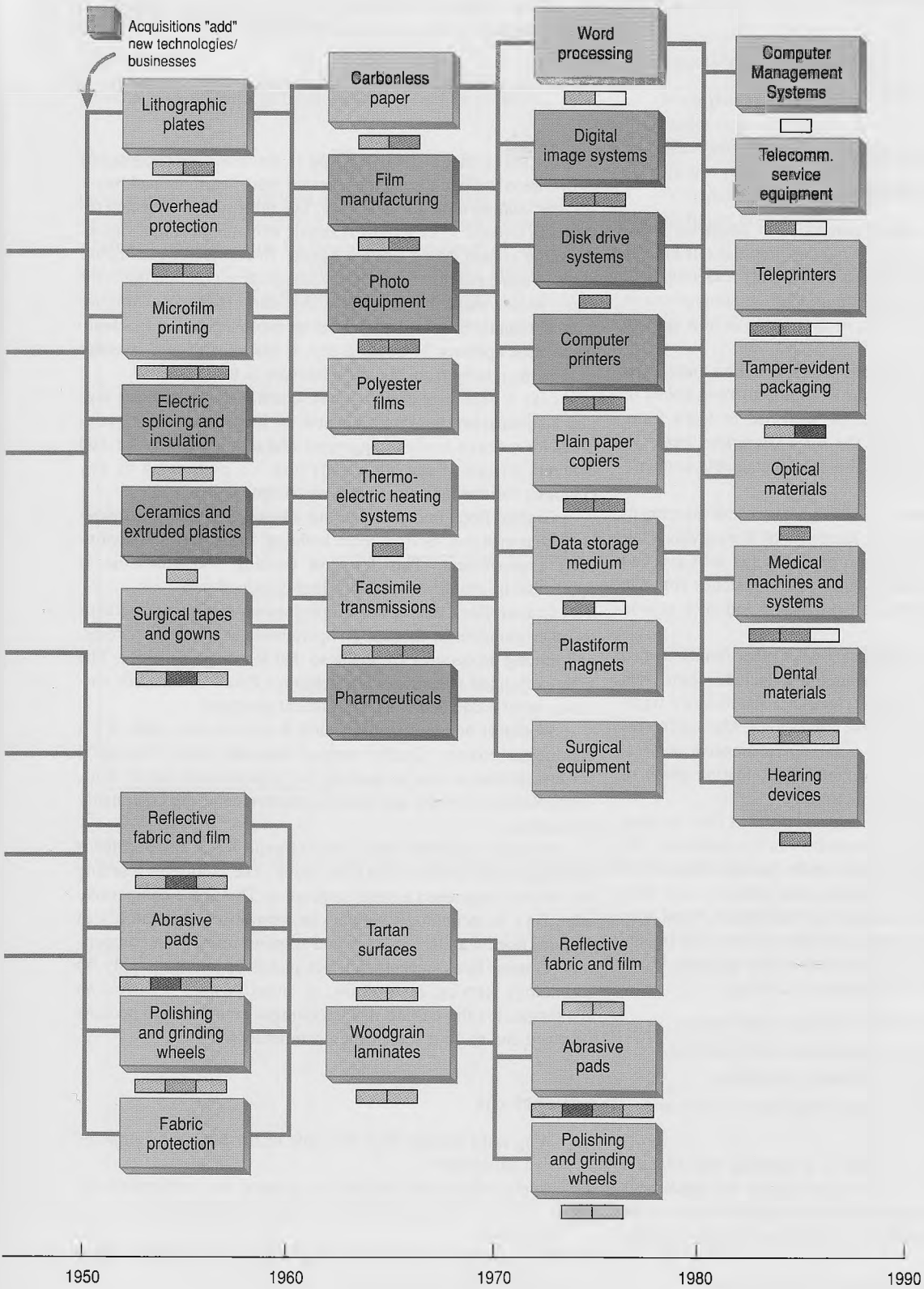
As 3M growth rates began to fall in the 1980s it moved beyond its original core technologies (imaging and instrumentation). Instead of using a gap-filling strategy, 3M decided to move beyond the core. As a result market share success became more difficult to achieve. 3M must now decide how to proceed in the next decade.

EXHIBIT 21-A

3M: Technology-Driven Strategy



Source: Original chart by Braxton Associates; reproduced with permission.



## Questions

1. What type of technology transfer strategy seems to be used at 3M?
2. What role does 3M's internal culture play in continuing creativity and innovation among employees?
3. Would a national technology policy help, hinder, or have no influence on a firm like 3M? Explain.

## ■ CASE 21-2

### Granite Rock Searches for Competitive Advantage

Entrepreneurs rarely have trouble naming their competitive advantage. "Our product is unique." "No one provides our kind of service." "We give the customer the best quality and service at the lowest price." Gaining some type of edge on competitors in terms of technology, service, price, or innovation is how growth occurs.

For a number of years theorists and researchers have been asking what organizations had to do internally to keep ahead of competitors. One answer was that the firm had to learn faster than its competitors. In his book, *The Fifth Discipline*, Peter M. Senge proposed that learning was the only sustainable competitive advantage.\*

One company that comes to mind as we consider learning to keep a competitive edge is Granite Rock Co. of Watsonville, California. This \$90-million-a-year firm produces and sells crushed stone from a quarry in Aromas, California. It matches concrete and asphalt in 17 batch plants, delivering it to job sites around Watsonville.

For decades Granite's competitors were other family-owned businesses. But recently new competitors include some rich giants. Another change in Granite's world is California's tightening up its air-quality and water-use regulations. Also customers demand higher-quality materials and more responsive service. New computer technology has resulted in automating much of the quarry work and concrete production.

Bruce Woolpert, Granite's president, decided that learning how to compete in a changing environment was a requirement. He spent time in the quarry in the mixer trucks, asking people what they liked and disliked about the firm, the industry, and their jobs. He even asked Granite workers to benchmark firms they liked because of service and quality of their products. He invited management consultant Tom Peters to talk to his workers. Woolpert's learning resulted in some changes, including:

- New quarrying and materials-handling technologies.
- Improved customer service satisfaction rating surveys.
- A new system for handling customer complaints.
- A new system that permits many employees to learn and perform more than one job.

Woolpert believes that Granite is a learning and adaptive company that uses every advantage it can acquire and implement. He believes that the firm has become a total quality company that responds quickly and efficiently to problems. Woolpert gathers

information so that a quick response is automatic. His sources of information include a customer service report card, annual buyer surveys, and periodic focus groups. The information collected resulted in Granite Rock's most dramatic technological innovation, a loading system called Granite Xpress. Now truckers picking up crushed stone pull up to the quarry, check their order on the computer, stick a magnetic card into a slot, and load their own order from automatic overhead bins. Like an automated teller machine, the system operates 24 hours a day. It has cut truckers' average time at the quarry from about 30 minutes to less than 10.

Like a high-tech manufacturer, Granite Rock produces regular statistical process-control charts for its products: size variability for a dozen kinds of aggregate and mix variability for 100 concrete recipes. It can tell exactly how it's performing by key customer service indicators, such as on-time delivery rates.

Granite Rock invites numerous speakers to talk to employees about problem solving, team building, basic law, and continuous improvement. This form of training and education is applauded by employees and is a highly valued perk.

Granite Rock also sends employees on benchmarking trips to other companies. Studies of operations, accounting systems, and mining procedures are made so that learning can occur. The firm exchanged statistics with Domino's Pizza to compare customer satisfaction and work assignment practices.

Woolpert believes that learning is no one-time deal. It's a continuous process. Quality support manager Dave Franceschi reviews all data so that an analysis for improvement can be done. Technological, service, and quality improvements are continually considered.

Woolpert proposes that, since Granite Rock has become a learning organization, it can't turn back. The culture of learning has become engrained among employees. The firm's competitive edge isn't in technology, service, or innovations. Instead it's in Granite Rock's ability to learn and respond faster than competitors. Granite Rock accepts the fact that it has no monopoly on technology, service, innovations, or smart people. If there's an advantage, it's the culture that encourages employees to become involved and to do it sooner than competitors.

## Questions

1. Why can't Granite Rock use only technology as a competitive advantage?
2. Apply value chain analysis in a general way and explain in which areas Granite Rock has gained a competitive advantage.
3. Critique Woolpert's notion of a learning organization. What are Granite Rock employees learning?

\*Peter M. Senge, *The Fifth Discipline* (New York: Doubleday, 1990).

## ■ APPLICATION EXERCISE

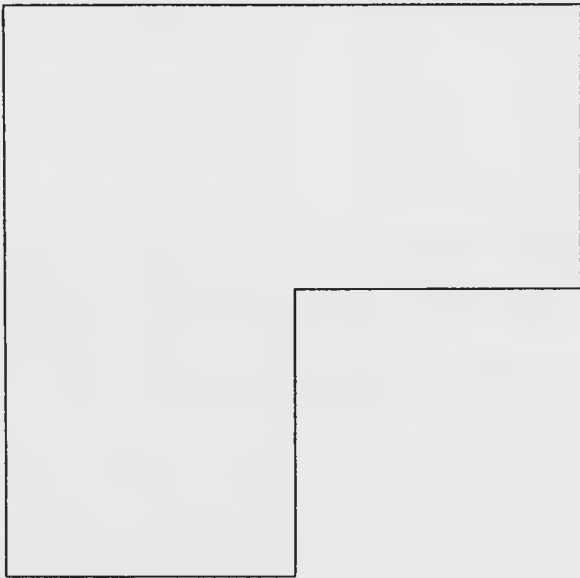
### The Farmer's Land

#### Objective:

To encourage students to think creatively about a problem.

#### Procedure:

Provide each participant with a handout illustrating the shape of a piece of land. (See figure below.) Explain the task: to subdivide a farmer's property upon his death into four pieces of equal size and shape for distribution to his four offspring. All land given to each offspring must be adjoining itself. The following is the key.



#### Discussion Questions:

1. What previous experiences have you had that made it harder or easier for you to solve this problem?
2. What general problem type is this? What other problems are like this?
3. What general principle(s) could you use to help solve similar future problems?

Source: Adapted from N. R. F. Maier, *Problem Solving and Creativity in Individuals and Groups* (Belmont, Calif.: Brooks/Cole, 1970), pp. 96–97.

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## GLOSSARY

### A

**Ability** A measure of a worker's skill, competence, and/or genetic characteristics.

**Accounts receivable turnover** The ratio of credit sales to average accounts receivable.

**Acid-test ratio** Relates only cash and near-cash items (current assets excluding inventories and prepaid expenses) to current liabilities.

**Actions** Specific, prescribed means to achieve the objective(s).

**Activity-based accounting** Analyzes all organization activities that consume resources.

**Administering** The system and process of organizing and managing ongoing company activities, including determining strategy, planning, leading, and controlling the system.

**Affirmative action** Programs designed to ensure proportional representation of workers on the basis of race, religion, or sex. If a company has a federal contract exceeding \$50,000, it's required to have an affirmative action program. Firms can also voluntarily establish such programs.

**Analytical skills** The ability to use specific approaches or techniques in solving managerial problems.

**Analyzer** Between the prospector and the defender lies the analyzer. Analyzers follow the prospector's lead by balancing the three basic activities of entrepreneuring, engineering, and administering. By focusing on analysis over risk, the analyzer hopes to capitalize on the prospector's successes while avoiding the mistakes.

**Artificial intelligence** A technology that allows computers to solve problems involving imagination, abstract reasoning, and common sense.

**Assembly line** A moving conveyor belt that carries work from one workstation to the next.

**Authority** The legitimate use or form of power stemming from the position, not from the person.

### B

**Balance sheet** Describes an organization's financial condition at a specified point in time.

**Baseline** The portion of a behavioral chart that measures work behavior before any effort is made to change the worker's behavior.

**Behavioral rehearsal** The practice of an activity under simulated or controlled conditions.

**Behavioral science approach** Using the techniques, attitudes, and opinions of psychologists, sociologists, and anthropologists to study and understand individuals in the workplace.

**Behavioral self-management** The process of managing overt, measurable physical activities.

**Behavioral style model** The leadership theory that focuses on (1) the work and (2) workers' attitudes and expectations.

**Benchmarking** The continuous process of measuring a firm's goods, practices, and services against those of its toughest competitors and leading firms in other industries.

**Benefits** Indirect financial compensation consisting of all financial rewards not included in the direct financial compensation package.

**Bounded rationality** A decision approach that recognizes decision making's boundaries or limits in terms of available resources.

**Brainstorming** A process whereby a group of individuals generate ideas according to a firm set of rules while at the same time avoiding the inhibitions that are usually caused by face-to-face groups.

**Budget** A predetermined amount of resources linked to an activity.

**Bureaucracy** An organizational design that relies on specialization of labor, a specific authority hierarchy, a formal set of rules and procedures, and rigid promotion and selection criteria.

## C

**Capital budget** An intermediate and long-run planning document that details the alternative sources and uses of funds.

**Cash cow** A strategic business unit with a high market share in a low-growth market.

**Cash trap** A strategic business unit that has low market share in a low-growth market.

**Centralization** The process of retaining authority in the hands of high-level managers, who make all the decisions.

**Centralized planning** System in which responsibility for planning lies with the organization's highest level.

**Certainty** No element of chance, possible loss, or unpredictability.

**Chain of command** The formal command that defines the lines of authority from the top to the bottom of the organization.

**Change agent** An individual or team of people whose main responsibility is to initiate, suggest, and even force change efforts within an organization.

**Channel capacity** The limit on the volume of information that a channel can handle effectively.

**Champion** A person who's highly committed and enthusiastic about an idea or innovation. The person continues to present and defend the idea or innovation.

**Charting** A technique used to measure the frequency of a worker's target behavior over time.

**Code of ethics** A written statement of a company's beliefs, values, and norms of expected behavior.

**Cognitive self-management** A mental process that includes the creation of images and thought patterns consistent with the firm's goals and behaviors.

**Cohesiveness** A measure of a group's ability to work well together. Cohesiveness is expressed through the group's ability to do its work effectively, attract new members as needed, influence one another, and maintain the group's integrity over time.

**Common cause variation** The random variation in a system. Typically, it can't be completely eliminated.

**Communication** The exchange of information between a sender (source) and a receiver (audience).

**Communication audit** A systematic method for collecting and evaluating information about an organization's communication efforts.

**Communication skills** The ability to communicate in ways that other people understand and to seek and use feedback from employees to ensure that one is understood.

**Comparable worth** A concept that attempts to prove that individuals who perform jobs requiring similar skills, efforts, and responsibilities under similar work conditions should be compensated equally.

**Compensation** The HRM activity that deals with every type of reward that individuals receive for performing organizational tasks.

**Competitiveness** The degree to which a nation can, under free and fair market conditions, produce goods and services that

meet the test of international markets while simultaneously maintaining or expanding the real incomes of its citizens.

**Complexity** The number of different job titles and the number of different departments.

**Computer** An electronic device used to input, store, and process data and to output data as useful information.

**Computer network** A collection of computers connected in a manner that allows them to function individually and communicate with each other.

**Computer skills** The ability to use computer software applications and have a conceptual understanding of how computers work.

**Computer-aided design (CAD)** The use of computers to draw plans for a product or service.

**Computer-aided engineering (CAE)** The use of computers to plan engineering processes and test designs.

**Computer-aided manufacturing (CAM)** The use of computers for controlling the operation of traditional, modified, and electronic machines, including robots.

**Concept to customer** The period between the time a product is first considered and the time it is sold to the customer.

**Conceptual skills** Visualizing how each part of an organization fits and interacts together to accomplish goals and objectives.

**Concurrent control** Monitoring ongoing operations to ensure that objectives are pursued.

**Conformity** The process by which members adopt group norms, roles, and behaviors.

**Content theory** A theory of motivation defining motivation in terms of need satisfaction (also called *need theory*). The ability to satisfy a need is a motivating force that leads to a behavioral response.

**Contingency leadership models** Leadership theories that assert that the specific leadership behavioral style must be contingent on the situation if the leader is to be effective.

**Contingency management approach** An approach that considers an organization's objectives, organizational and job design, human resources, environment, and managerial skills as interacting and affecting management decisions about planning, organizing, leading, and controlling.

**Contingent rewards** Rewards distributed based on a specific preceding behavior.

**Continuous improvement** A component of quality-based decision making that results in constant, incremental improvements in organizational processes.

**Control** The process of maintaining conformance of the system.

**Control chart** A record of the targeted activity over time, with established upper and lower tolerances or control limits.

**Controlling** A function of management that makes sure that the organization's actual performance conforms with the performance that was planned for it.

**Cost-leadership strategy** A strategy of low price, high volume, and low profit margins on each item. With this strategy, a cost leader attempts to attract a large number of customers with



low prices, generating a large overall profit by sheer volume of units sold.

**Countertrading** Complex bartering agreements between two or more parties.

**Creativity** The ability to bring something new into existence.

**Cultural diversity** Differences both within and between cultures.

**Culture** A system of behavior, ritual, and shared meaning held by employees that distinguishes the group or organization from other similar units.

**Current ratio** The ratio of current assets to current liabilities.

**Customer departmentalization** Grouping jobs in a manner that serves customers' needs.

**Customers** End users of the firm's products and services.

**Customs and entry procedures** Inspection, documentation, and licensing of goods entering a country.

## D

**Data** Organized facts, statistics, and predictions concerning people, objects, events, and ideas.

**Data processing** Mechanically transferring raw data into some specific form of information.

**Database** An integrated collection of data stored in one place for efficient access and information processing.

**Database management system (DBMS)** A computer software program that helps firms manage their data files.

**Debt/asset ratio** An expression of the relationship of the firm's total debts to its total assets.

**Debt/equity ratio** A measure of the amount of assets financed by debt compared to that amount financed by profits retained by the firm and investments (stocks and other securities).

**Decentralization** The process of distributing authority throughout the organization.

**Decentralized planning** System in which responsibility for planning lies with workers and lower levels of the organization.

**Decision** A conscious choice among analyzed alternatives, followed by action to implement the choice.

**Decision formulation** The process of (1) identifying a decision opportunity or need. (2) collecting information. (3) from the information, developing alternative courses of action, and (4) from the alternatives, selecting one alternative.

**Decision implementation** The process to implement the alternative, and then do follow-up to assess each of the implementation alternatives.

**Decision and information sciences approach** In working with people, this approach uses mathematics, statistics, decision-making principles, and information systems to resolve problems.

**Decision support system (DSS)** An interactive information system that enables managers to gain instant access to information in a less structured format than an MIS.

**Decision-making process** A series or chain of related steps leading to a decision, its implementation, and follow-up.

**Decisional roles** The roles assumed by managers that establish them as decision makers after receiving interpersonal and informational input. Other decisional roles include entrepreneur, disturbance handler, resource allocator, and negotiator.

**Decoding** The process by which the receiver interprets the symbols (coded message) sent by the source by converting them into concepts and ideas.

**Defender** Operating in or attempting to create a stable, more simple environment, the defender protects its domain primarily through the engineering activity.

**Delphi technique** A process involving soliciting and comparing anonymous judgments on the topic of interest through a set of sequential questionnaires that are interspersed with summarized information and feedback of opinions from earlier questionnaires.

**Departmentalization** The process of grouping jobs according to some logical arrangement.

**Depth of intervention** The degree of change that the intervention is intended to bring about.

**Descriptive statistics** A computed measure of some property of a set of data, making possible a statement about their meaning.

**Development** The acquisition of knowledge and skills that may be used in the present or future.

**Differentiation** The ability to provide unique and superior value to a buyer in terms of product quality, special features, and/or after-sale service.

**Differentiation strategy** In this approach, a firm offers a high-priced product equipped with the greatest number of product-enhancing features, and sells the product to a relatively small group of customers who are willing to pay top dollar for premium features. Sometimes called *premium strategy*.

**Direct ownership** Purchasing of one or more business operations in a foreign country.

**Direction** The acts of managers when they (1) instruct subordinates in the proper methods and procedures and (2) oversee subordinates' work to ensure that it's done properly.

**Discounted rate of return** A measurement of profitability that takes into account the time value of money.

**Discretionary effort** The difference between the minimum amount of effort a worker must expend to keep from being penalized and the maximum amount a person can bring to a job.

**Distinctive competence** A capacity that's unique to the firm and that's valued in the market.

**Dominant culture** An organization's core values that are shared by the majority of employees.

**Downward communication** Information that flows down the organizational hierarchy from managers and supervisors to subordinates.

**Duty** A tax on an import or export.

## E

**Ecology** The branch of natural science devoted to the relationship between living things and their environment.

**Embargo** A prohibition of the import or export of certain goods.

**Empowerment** Giving employees who are responsible for hands-on production or service activities the authority to make decisions or take action without prior approval.

**Enacted role** The manner in which the role recipient actually expresses or redefines the received role.

**Encode** To convert a message into groups of symbols that represent ideas or concepts.

**Engineering** The activity that addresses the production and distribution issues for the firm (i.e., how to make products and deliver them to the customers).

**Entrepreneur** A person who assumes the major risks of creating incremental wealth by making an equity, time, and/or career commitment to provide value to a product or service. The product or service itself may or may not be new or distinct, but value is added by the entrepreneur.

**Entrepreneurial** The process of serving the firm's customers primarily through the marketing function. Sales, customer service, market research, and advertising are part of the activity of creating, identifying, and listening to customers.

**Environmental analysis** The monitoring of external environmental forces to determine the firm's opportunities and threats.

**Environmental diagnosis** The process of making managerial and strategic decisions by assessing, and interpreting data collected in the environmental analysis.

**Equal employment opportunity (EEO)** An umbrella term that encompasses all laws and regulations prohibiting and/or requiring affirmative action.

**Escalation of commitment** An increased commitment to a previous decision despite contrary information.

**Ethics** Behavior that is fair and just, over and above obedience to laws and regulations.

**Event counting** An enumeration of a behavior (e.g., number of times that safety goggles are worn) within a given time period.

**Exchange control** A limit on how much profit a foreign-based firm can return to its home country.

**Executive information system (EIS)** A user-friendly DSS designed specifically for executives. It's easy to use and requires no knowledge of the computer.

**Expectancy** The probability that a person's effort will lead to a satisfactory level of job performance.

**Expert system** The computer hardware and software capable of making decisions.

**Exporting** Selling of domestic goods to a foreign country.

**External environment** All factors such as laws, competition, technology, social-cultural norms and trends, and ecology that may affect the organization directly or indirectly.

**Extinction** The process of nonreinforcement of a behavior. Simply by ignoring the behavior or not reinforcing it, the behavior will dissipate over time.

**Extrinsic rewards** Results of work that are externally controlled.

## F

**Federalism** An organizational structure that encourages autonomy for planning among strategic business units.

**Feedback** The receiver's response to the sender's message.

**Feedback control** A type of control where corrective action is directed at improving either the resource acquisition process or the actual operations.

**Fiedler's LPC theory** A two-step theory in which the leader is adjusted to the situation. The first step is to measure and determine the leader's behavioral style. The second step is to find or create a situation that would be conducive to the leader's fixed style.

**First-line management** Managers, also known as supervisors, office managers, or foremen, who coordinate the work of others who aren't managers (subordinates).

**Flexible manufacturing systems (FMS)** A grouping of robots and other computerized machines programmed to switch fairly easily from producing one kind of product to another.

**Flextime** A schedule that allows workers to select starting and quitting times within limits set by management.

**Forecast** A prediction of future events based on past and current data.

**Formal group** Two or more people who engage in organizationally required actions for a common purpose. The term *formal* designates a permanent entity with prescribed organizational roles.

**Formal training program** An effort by the employer to provide opportunities for the employee to acquire job-related skills, attitudes, and knowledge.

**Formalization** The extent to which communications and procedures in an organization are written down and filed.

**Forming** The early stage of group development when members begin to know each other's strengths and weaknesses.

**Franchise** A business whose entrepreneur (franchisee) provides a product or service under a legal contract with the franchise owner (franchisor). The franchisor provides the distinctive elements of the business (e.g., name, image, signs, facility design).

**Functional departmentalization** Grouping jobs together according to the organization's functions.

## G

**Gainsharing plans** A compensation system based on a companywide incentive system that results in the sharing of rewards caused by improved productivity, cost reductions, or improved quality.

**General Agreement on Tariffs and Trade (GATT)** An agreement setting rules of conduct for fair and equitable international trade.

**Geographic departmentalization** Grouping jobs based on defined territories.

**Global corporation** A corporation operating as if the world were a single market, with corporate headquarters, manufacturing facilities, and marketing operations throughout the world.

**Goal** A targeted level of performance set in advance of work.

**Goal acceptance** A psychological embracing of the goal as the worker's own aspiration.

**Goal commitment** Behavioral follow-through (persistent work effort to achieve the goal).

**Goal-setting theory** The belief that people who set goals outperform people who don't set them.

**Grapevine** An informal communication channel that cuts across formal channels of communication and carries a variety of facts, opinions, rumors, and other information.

**Grid training** A leadership development method proposed by Blake and Mouton which emphasizes the necessary balance between production orientation and person orientation.

**Gross Domestic Product (GDP)** The measure of output attributable to all factors of production (labor and property) physically located within a country.

**Gross National Product (GNP)** The market value of an economy's final goods and services produced over a one-year period.

**Group** Two or more people who engage in purposeful collective action.

**Group norms** A set of expectations about how people are to act.

**Groupthink** The suppression or ignoring of countervailing ideas that represent a threat to group consensus or unanimity.

## H

**Hawthorne effect** The tendency of people being observed in a research effort to react differently than they would otherwise.

**Hawthorne studies** The most famous studies ever conducted in the field of management. Done at Western Electric's Hawthorne plant in a suburb of Chicago.

**Heterogeneity** The inconsistency or variation in human performance.

**Hierarchy of needs** A motivational theory that people have five basic needs arranged in a hierarchy (physiological, safety, social, self-esteem, and self-actualization), developed by Abraham Maslow.

**Horizontal communication** Messages that flow between persons at the same level of an organization.

**Hot stove rule** A punishing experience reinforces future behavior. The hot stove is a good teacher—once burned, we're likely to avoid being burned in the future.

**Human relations approach** An approach describing how managers interact with subordinates. Attention is focused on the individual worker's needs, goals, and expectations.

**Human resource management (HRM)** The process of accomplishing organizational objectives by acquiring, retaining, terminating, developing, and properly using the human resources in an organization.

**Human resource planning (HRP)** Estimating the size and makeup of the future work force.

**Hygiene factor** In Herzberg's two-factor theory, the aspects of work that are related to the external environment and not the work itself.

## I

**Implementation** The assignment of people and responsibilities for achieving a plan.

**Income statement** A summary of an organization's financial performance over a given period of time.

**Individual incentives** A form of compensation in which the employee is paid for units produced.

**Inferential statistics** Computations done on a set of data, or among several sets of data, that are designed to facilitate prediction of future events or to guide decisions and actions.

**Informal group** Two or more people who engage in voluntary collective activity for a common purpose. Informal group actions are generally not recognized by the organization.

**Information** Data that has been organized and processed in a certain way to meet the needs of managers.

**Information processing** The entire sequence of steps involved in converting data to information, including the use of processed information for decision making.

**Informational roles** The roles assumed by managers that establish them as the central point for receiving and sending non-routine information.

**Infrastructure** Communications, transportation, and energy facilities that mobilize the country and also indicate its economic condition.

**Innovation** The generation of a new idea and its implementation into a new product, process, or service, leading to national economic growth, increased employment, and creation of profit.

**Inseparability** A situation in which services are produced and consumed at the same time.

**Instrumentality** In expectancy theory, the subjective probability that satisfactory job performance will lead to other desired outcomes such as pay increases or promotion.

**Intangibility** The quality of not being able to be assessed by the senses of sight, taste, touch, smell, or hearing.

**Internal change forces** Forces for change that occur within the organization, such as communication problems, morale problems, and decision-making breakdowns.

**Internal environment** The factors within an enterprise (such as employees, structure, policies, and rewards) that influence how work is done and how goals are accomplished.

**International business** Performance of business activities across national boundaries.

**International management** Performance of the management process in an international business setting.

**International Monetary Fund (IMF)** Founded in 1944, it promotes cooperation among member nations by eliminating trade barriers.

**International technology transfer (ITT)** The process of applying knowledge across geographical or national boundaries.

**Interpersonal communication** Communication between two people, usually face-to-face.

**Interpersonal roles** The figurehead, leader, and liaison roles assumed by managers that subsequently enable them to perform informational and decisional roles.

**Intervention** The method, technique, or means used to change a structure, behavior, or technology.

**Intervention period** The portion of time posted on the behavioral record chart that follows the introduction of a change.

**Intrapreneur** A person inside an organization who pursues an innovation and champions it over a period of time.

**Intrinsic rewards** Intangible psychological results of work that are controlled by the worker.

**Intuitive decision making** A process of estimating or guessing to decide among alternatives.

**Inventory turnover** The ratio of cost of goods sold to average inventory. Facilitates the analysis of appropriate balances in current assets.

**Investment decisions** Managerial decisions that involve the commitment of present funds in exchange for future funds.

## J

**Job analysis** The process of gathering, analyzing, and synthesizing information about jobs.

**Job characteristics approach** An approach suggesting that jobs should be redesigned to include important core dimensions that increase motivation, performance, and satisfaction, and reduce absenteeism and turnover.

**Job content** A specific aspect of the job. For example, job variety is a content factor.

**Job context** Factors external to the job. For example, a unionized work force applies union contract rules to all jobs.

**Job depth** The amount of discretion a worker has in performing tasks.

**Job description** A written summary of the job, detailing the job's activities, equipment required to perform them, and the job's working conditions.

**Job design** A determination of exactly what tasks must be performed to complete the work.

**Job enlargement** Increasing the number of tasks a worker performs.

**Job enrichment** Giving workers more control of their activities, addressing their needs for growth, recognition, and responsibility.

**Job range** The number of tasks a worker performs.

**Job redesign** Attempts by the organization to improve the quality of work and give workers more autonomy.

**Job rotation** Systematically moving employees from one job to another.

**Job specialization** Breaking down work into smaller, more discrete tasks.

**Job specification** A written explanation of skills, knowledge, abilities, and other characteristics needed to perform a job effectively.

**Joint venture** A partnership between a domestic firm and a firm in a foreign country.

**Just-in-time (JIT) delivery** Suppliers deliver materials and parts at the moment a factory needs them, thus eliminating

costly inventories. This holds down costs, but requires that materials and parts be of consistently high quality.

**Just-in-time (JIT) manufacturing** A system requiring that the exact quantity of defect-free raw materials, parts, and sub-assemblies are produced just in time for the next stage of the manufacturing process.

## L

**Leadership** The process of exerting influence over people.

**Leading** A function of managers who, by directing and motivating, influence organization members to perform in ways that accomplish the organization's objectives.

**Learning** The act by which individuals acquire skills, knowledge, and abilities that result in a relatively permanent change in their behavior.

**Level of detail** The specificity of a plan.

**Leveraged buyout** A means of acquiring a business by borrowing money and other securities to buy a company. The borrower's assets are generally used as collateral for the loan.

**Licensing** An agreement through which one firm (the licensor) allows another firm (the licensee) to sell the licensor's product and use its brand name.

**Line position** In the direct chain of command and contributes directly to the achievement of the organization's goals.

**Liquidity** Reflects the firm's ability to meet current obligations as they become due.

**Local area network (LAN)** A system of telecommunications links that connects all computers in one company directly without telephone lines.

## M

**Management** The process undertaken by one or more persons to coordinate other persons' activities to achieve high-quality results not attainable by any one person acting alone.

**Management information system (MIS)** A combination of computers and regular, organized procedures to provide managers with information needed in making decisions.

**Management level** The right to act and use resources within specified limits as a result of vertical specialization of the management process.

**Managers** The individuals who guide, direct, or oversee the work and performance of other individuals or nonmanagers.

**Manufacturing** The physical process of producing goods. (Services are not manufactured.)

**Market-driven transfer** Customers express a need for a technology and the firm finds the technology to meet that need.

**Mass production** A system permitting the manufacture of goods in large quantities.

**Material reward** A reward with financial value (e.g., cash, stock, stock options).

**Materials requirements planning (MRP)** A computer-driven system for analyzing and projecting materials needs and then scheduling their arrival at the work site at the right time.

**Matrix organization** A cross-functional organization overlay that creates multiple lines of authority and places people in teams to work on tasks for a finite period of time.

**Mechanistic organization** A rigid organization that attempts to achieve production and efficiency through rules, specialized jobs, and centralized authority.

**Media richness** Media's capacity to convey data.

**Medium of transmission** A means of carrying an encoded message from the source to the receiver.

**Message** An idea or experience that a sender wants to communicate.

**Middle management** Managers, also known as departmental managers, plant managers, or directors of operations, who plan, organize, lead, and control other managers' activities and who themselves are subject to a supervisor's managerial efforts.

**Mission** A statement of the firm's long-term vision, of what the firm is trying to become, that differentiates this firm from other firms. The mission provides direction and a sense of purpose to all employees.

**Mixed departmentalization** Grouping jobs using more than one basis.

**Motivation** The set of forces that initiate behavior and determine its form, direction, intensity, and duration.

**Multidivisional organization** A high-performance organization whose operating units or divisions are partially interdependent.

**Multinational company (MNC)** An organization conducting business in two or more countries.

**Multinational market group** An agreement by two or more countries to reduce trade and tariff barriers between them.

## N

**Natural management team** A management team consisting of a manager and people directly reporting to her who are also managers or supervisors.

**Need for achievement** A measure of a person's desire for clear, self-set, moderately difficult goals, with feedback given based on goal achievement.

**Need for affiliation (n Aff)** The desire to work with others, to interact and support others, with a concern for their growth and development. An individual version of Maslow's hierarchical social need.

**Need for power (n Pow)** A desire to have influence and control over others, to have impact.

**Negative reinforcement** Behavioral reinforcement occurring when an unpleasant consequence is withdrawn when the desired behavior occurs.

**Network organization** A flexible, sometimes temporary, relationship between manufacturers, buyers, suppliers, even customers.

**Neutralizer** Any situation that prevents the leader from acting in a specified way.

**Niche strategy** A strategy that applies the premium strategy to a restricted market (usually a geographic region).

**Noise** Interference that affects any or all stages of the communication process.

**Nominal group technique** A process of bringing people together in a group to solve a problem. In the NGT participants are not allowed to communicate verbally in the initial phase.

**Noncontingent rewards** Rewards that aren't linked to any specific behavior.

**Nonprogrammed decision** Novel, unstructured decisions.

**Nonverbal communication** Intentional or unintentional messages that are neither written nor spoken.

**Norming** The stage of group development when the group develops norms or unwritten codes of conduct for group behavior.

**Objective** A specification of desired future conditions.

**Open system** An organization that interacts with its environment and uses the feedback received to make changes and modifications.

**Operant conditioning** B. F. Skinner's theory that behavior is a function of its consequences. Behavior is contingent upon reinforcement. Behavior that's reinforced will be repeated. Also called *reinforcement theory*.

**Operating strategy** A broad plan of action for pursuing and achieving a firm's goals and satisfying its mission.

**Operational definition** A definition that converts a concept into measurable, objective units.

**Operational planning** Focused, short-term, specific planning. Translates the broad concepts of the strategic plan into clear numbers, specific steps, and measurable goals for the short term.

**Operations** The functions needed to keep the company producing and delivering. Literally any function or series of functions enacted to carry out a strategic plan.

**Opportunity** Anything that has the potential to increase the firm's strengths.

**Opportunity building** The process of seeking out and/or developing new possibilities for success.

**Oral communication** Communication using the spoken word to transmit a message.

**Organic organization** An organization that seeks to maximize flexibility and adaptability. It encourages greater utilization of human potential and de-emphasizes specialization of jobs, status, and rank.

**Organization** An administrative and functional structure that can be as small as a one-person operation or as large as over 1 million employees.

**Organizational design** The process by which managers develop an organizational structure.

**Organizational structure** The framework of jobs and departments that directs the behavior of individuals and groups toward achieving the organization's objectives.

**Organizing** The function of management that assigns the tasks identified during planning to individuals and groups

within the organization so that objectives set by planning can be achieved.

**Output counting** A measure of results of a targeted process.

**Outside pressure (OP) change agent** An individual or group not employed by a firm that pressures the firm to change.

## P

**Path-goal leadership theory** Theory based on the expectancy theory of motivation. The leader's role is to help the worker engage in organizational activities that lead to rewards that the worker values.

**Payback method** Calculates the number of years needed for the proposed capital acquisition to repay its original cost out of future cash earnings.

**Peak performance** The highest level of performance a worker can achieve.

**People skills** The ability to work with, communicate with, and understand others.

**People-change-technology** Change agents that use behaviorally oriented change techniques.

**People-oriented behavioral style** The aspect of leadership theory consisting of behaviors such as showing empathy for worker needs and feelings, being supportive of group needs, establishing trusting relationships with workers, and allowing workers to participate in work-related decisions.

**Performance culture** A work situation where everyone can do his or her best work.

**Performance evaluation** A postcontrol technique focusing on the extent to which employees have achieved expected levels of work during a specified time period.

**Performance standards** In management terms, expected behaviors as defined by plans.

**Performing** The stage of group development when the group functions to its fullest potential toward goal attainment.

**Perishability** Unused service capacity can't be stored and used at a later date.

**Persuasion** The process of convincing workers of the value of a plan prior to implementation.

**Pinpointing** The identification of quality-based target behaviors.

**Plan, do, check, act (PDCA)** A four-step cycle. The first step is to plan the quality improvement. Second, workers produce a small version or batch of the procedure/product. Third, workers check the results of this pilot project. Fourth, workers implement the complete process.

**Planning** The function of management that determines an organization's objectives and establishes the appropriate strategies for achieving those objectives.

**Planning process** A six-step process: (1) Assess current status. (2) Determine objectives. (3) Identify the actions required. (4) Allocate resources. (5) Assign responsibilities for implementation. (6) Control the planning decision.

**Planning values** Underlying priorities that determine planning objectives and decisions.

**Policy** A written statement that reflects a plan's basic objectives and provides guidelines for selecting actions to achieve the objectives.

**Positive reinforcement** The process of providing rewards contingent upon desired worker behavior.

**Positive self-talk** The process of creating mental imagery that reinforces a worker's sense of self-esteem and enhances efficacy.

**Power** The capacity to influence people.

**Preliminary control** Control method focusing on preventing deviations in the quality and quantity of resources used in the organization.

**Proactive decision** A decision made in anticipation of an external change or other conditions.

**Problem** The realization that a discrepancy exists between a desired state and current reality.

**Process improvement team** The "working team" of a continuous improvement process consisting of anyone from the organization who can contribute to a problem's solution.

**Process organization** Organization that bases performance objectives on meeting customer needs and identifying the processes that meet those needs.

**Process theory** Theories of motivation supporting the belief that motivation is a rational cognitive process internal to the individual rather than an external process.

**Product departmentalization** Grouping jobs associated with a particular product or product line.

**Product-and-process improvement transfer** Improvements in the existing technology that result in a better product or process that meets customer needs.

**Production** The total process by which a company creates finished goods or services.

**Productivity** An estimate of output per labor-hour worked.

**Program evaluation and review technique (PERT) chart.** A graphical system for tracking the events that must take place to accomplish a task.

**Programmed decision** A decision that is repetitive and routine, with a definite procedure developed for handling it.

**Prospector** The prospector seeks dynamic, complex, often risky environments and concentrates on the entrepreneurial activity. Prospectors emphasize innovation, change, and growth.

**Punishment** The process of administering an undesirable consequence for an undesirable behavior.

## Q

**Quality** The totality of features and characteristics of a product or service that bear on the ability to satisfy stated or implied needs.

**Quality circle** A small group of people, usually fewer than 10, who do similar work and meet about once a week to discuss their work, identify problems, and present possible solutions.

**Quality planning** The activity of (1) determining customer needs and (2) developing the products and processes required to meet those needs.

**Question mark** A strategic business unit that has low market share in a high-growth market.

**Quota** A limit to the amount of a product that can leave or enter a country.

## R

**Rate of return on investment** One alternative measure of profitability, consistent with methods ordinarily employed in accounting.

**Rationality** A logical, structured approach to decision making.

**Reactive decision making** A decision made in response to external changes.

**Received role** The role recipient's understanding of what the sent role means.

**Recruitment** The set of activities an organization uses to attract job candidates with the abilities and attitudes needed to help the organization achieve its objectives.

**Reference ratio** In equity theory, a person compares the ratio of his job inputs to his job outcomes and then makes a similar comparison for an identical worker. The ratio for the comparison referent is called the reference ratio. For example, a person compares his job effort to his pay and then makes the same comparison for the person working next to him. In an equitable situation, the two ratios are identical.

**Regulation** A standard procedure providing a set of instructions to implement a policy.

**Reinforcement** The process of using contingent rewards to increase future occurrences of a behavior.

**Reinforcement theory** Another name for operant conditioning.

**Resources** Financial, physical, human, time or other assets of an organization.

**Risk** The chance of a possible loss, or unpredictability, in a decision.

**Robot** A computerized, reprogrammable, multifunctional machine that can manipulate materials and objects in performing particular tasks.

**Role** A behavior pattern expected of an individual within a unit or position.

**Role ambiguity** A situation in which a role's actual behavioral requirements aren't clear. The role recipient doesn't understand what his actions or responsibilities are in his job.

**Role conflict** Incompatibility between a role's requirements and the individual's own beliefs, attitudes, or expectations.

**Role modeling** Leader's primary vehicle for encouraging self-leadership.

**Role overload** A situation in which the role recipient is overwhelmed by the job's requirements.

## S

**Satisficing** The process of finding, accepting, and implementing the alternative that best meets certain minimum goals.

**Satisfier** In Herzberg's two-factor theory, factors (such as decision-making autonomy) that can lead to satisfaction.

**Scientific management** Practices introduced by Frederick W. Taylor to accomplish the management job. Taylor advocated the use of scientific procedures to find the one best way to do a job.

**Scope** The range of activities covered by a plan.

**Selection** The process by which an organization chooses from a list of applicants the person or persons who best meet the criteria for the position available, considering current environmental conditions.

**Selective perception** People screening out information that isn't consistent with their beliefs or background.

**Self-cueing** The process of planning or making arrangements for an activity prior to its performance.

**Self-designed jobs** Jobs in which workers are allowed to propose and design work process changes.

**Self-leadership** The philosophy and a systematic set of behavioral and cognitive strategies for workers leading themselves to higher performance and effectiveness.

**Self-management** An individual's capacity to arrange and control personal activities and resources, including goals and rewards, without an external force.

**Self-observation** The process where a worker monitors her own behavior, noting actions, events, or outcomes.

**Self-reward** The process of a worker monitoring, evaluating, and applying a reward or disincentive for her own performance.

**Self-set goals** Goals that result when both the initiative for setting a goal and the level of the goal itself come from the worker, not the manager.

**Sender** A person, group, or organization that has a message to share with another person or group of persons.

**Sent role** The role expectations "sent" by group members regarding an individual's attitudes, beliefs, or behaviors.

**Service** An intangible product that involves human or mechanical effort.

**Service productivity** Output per person per hour.

**Service quality** A service's conformance to customer specifications and expectations.

**Shared values** Beliefs, attitudes, or actions that are commonly agreed upon and understood by group members. Shared values are an invisible and unspoken guide to daily behavior within the group and to interaction outside the group.

**Single-use plans** Plans that have a clear time frame for their utility.

**Situational theories of leadership** Theories in which the appropriate leader behavior is the one that best fits the constraints of a specific situation.

**Skill** An ability or proficiency in performing a particular task.

**Social responsibility** A firm's practices with other parties such as customers, competitors, the government, employees, suppliers, and creditors.

**Social rewards** Rewards that come from interpersonal behavior and enhance personal self-efficacy.

**Solvency** The firm's ability to meet its long-term obligations, its fixed commitments.

**Source credibility** The receiver's confidence and trust in the source of the message.

**Span of control** The number of people who report to one manager or supervisor.

**Special cause variation** Variation within a system that is due to some external influence.

**Stable system** A system that has eliminated special cause variation and is subject only to the unavoidable common cause variations.

**Staff position** A position that facilitates or provides advice to line positions.

**Stakeholders** The firm's stockholders, suppliers, labor unions, lenders, and customers; all those with an interest in the firm.

**Standard cost system** Provides information that enables management to compare actual costs with predetermined (standard) costs.

**Standard of living** Gross National Product per capita, which takes into account a nation's GNP in relation to its population.

**Standing plans** Plans that have ongoing meaning and application to an organization.

**Star** A strategic business unit that has high market share in a high-growth market.

**Statistical process control** A method of implementing quality control before the final inspection stage. It relies on statistical tools to control variation within given processes.

**Statistics** That branch of applied mathematics that describes and analyzes empirical observations for the purpose of predicting certain events as a basis for decision making in the face of uncertainty.

**Steering team** A team consisting of top management (the people who establish an organization's strategic goals and objectives).

**Stockholders** Those who own a firm's stock.

**Storming** The stage of group development when the group addresses inherent conflicts and develops solutions that keep the group focused on its work.

**Strategic allowance** A combination of two firms' resources in a partnership that goes beyond the limits of a joint venture.

**Strategic business unit (SBU)** A product or service division of a company that establishes goals and objectives in harmony with the organization's overall mission.

**Strategic planning** The process of determining desired objectives or benchmarks and of developing ways to reach them. "What do we want the future to be? What must we do now to better ensure that the desired future is achieved?"

**Strategic thinking** The determination of an enterprise's basic long-term goals and objectives, the adoption of courses of action, and the allocation of resources necessary for carrying out these goals.

**Strategy** A broad plan of action for pursuing and achieving the firm's objectives and satisfying its mission.

**Structural change** A planned change of the formally prescribed task and authority relationships in an organization's design.

**Substitutes for leadership** Illustrates the idea that other factors in the work environment can and do cause workers to behave in a certain manner. The leader can use these factors to guide work behavior when direct leadership is neither desirable nor possible.

**Survey feedback** An organizationally focused, shallow intervention method that involves top management, data collection, data interpretation, and feedback of findings to employees which result in the development of action plans.

**Symbolic rewards** Tangible and intangible rewards with psychological impact.

**System** A collection of parts that operate interdependently to achieve common goals.

**Systematic decision making** An organized, exacting, data-driven process for choosing among alternatives.

## T

**Tactical planning** On the continuum between the strategic and operational planning processes, a more narrow, intermediate-term, and specific form of planning than strategic planning.

**Target behaviors** Behaviors that either contribute to or detract from the organization's quality aims.

**Task rewards** Rewards that are related to the work itself, such as the nature, design, and allocation of specific work assignments in terms of job responsibilities, autonomy, task-generated feedback, and scheduling control.

**Task-oriented behavioral style** Leadership behaviors such as setting goals, giving directions, supervising worker performance, and applauding good work.

**Team building** A moderate-depth intervention that attempts to improve diagnosis, communication, cooperation, and the performance of members and the overall team.

**Technical skills** The ability to use specific knowledge, techniques, and resources in performing work.

**Technological change** A planned change in the machinery, equipment, or techniques used to accomplish organizational goals.

**Technological innovation** All those activities translating technical knowledge into a physical reality that can be used in a societal scale.

**Technology** The accumulated competence to provide goods and services for people; The totality of the means employed by people to provide comfort and human sustenance.

**Technology transfer** The process of applying knowledge.

**Technology-driven transfer** The new technology can create market opportunities.

**Threat** Anything that has the potential to hurt or even destroy a firm.

**Time frame** The period considered by a plan.

**Time sampling** A series of observations or checks throughout the specified time period, usually to see if the behavior was occurring (or not occurring) at the time of the check.

**Top management** A small cadre of managers, usually including a CEO, president, or vice president, that is responsible for



the performance of the entire organization through the middle managers.

**Total quality control** An effective system for integrating the quality-development, quality-maintenance, and quality-improvement efforts of the various groups in an organization so as to enable marketing, engineering, production, and service at the most economical levels that allow for full customer satisfaction.

**Total quality management** A management approach to long-term success through customer satisfaction, based on the participation of all members of an organization in improving processes, products, service, and the culture in which they work.

**Trading company** A link between buyers and sellers in different countries.

**Training** The systematic process of altering employees' behavior to further organizational goals.

**Trait theory of leadership** An early attempt to describe effective leaders in a systematic fashion that focuses on the leader's physical and personality attributes.

**Transactional leadership** A leadership approach in which leaders appeal to the workers' rational exchange motive.

**Transformational leadership** An approach to leadership based on changing workers' basic values and attitudes about their jobs. The transformational leader encourages worker participation in decisions and challenges workers to help the leader create the future organization one day at a time.

## U

**Uncertainty** The decision maker has absolutely no knowledge of the probabilities of the outcomes of each alternative.

**Upward communication** Information that flows up the organization from subordinates to supervisors and managers.

## V

**Valence** In expectancy theory, the value or importance the individual places on a second-order outcome. For example, if a person doesn't want a promotion because it would bring more responsibility, then promotion has a low valence.

**Value chain analysis** A concept used to identify opportunities for technology application.

**Values** Convictions that a specific mode of conduct is personally or socially preferable to another mode of conduct.

**Vision** A clear sense of the organization's future.

**Vroom-Jago model** A theory in which the ever-changing nature of work situations requires the leader to develop a variety of behavioral responses or decisions and apply them to the different situations as they occur.

## W

**Work group** An organized collection of workers responsible for a task or outcome.

**Work team** A team of nonmanagerial employees and their manager or supervisor in a department or unit.

**World Bank** Formed in 1946, it lends money to underdeveloped and developing countries for various projects.

**Written communication** Transmitting a message through the written word.

## Z

**Zero defects (ZD)** A concept proposed by Philip Crosby whereby management believes that no defects are acceptable.

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## NOTES

### Chapter 1

1. *Global Competition: The New Reality*, Report of the President's Commission on Industrial Competitiveness, Vol. II (Washington, D.C.: U.S. Government Printing Office, 1985), p. 6.
2. Stefan Fatsis and Bart Ziegler, "Buying American: An Elusive Goal," *Houston Chronicle*, February 2, 1992, p. D-4; and "Can America Compete?" *The Economist*, January 18, 1992, pp. 65-68.
3. *The Corporate Guide to the Malcolm Baldrige National Quality Award: Proven Strategies for Building Quality into Your Organization* (Homewood, Ill.: Business One Irwin, ASQC Quality Press, 1992), p. 11.
4. Uly S. Knotts Jr., Leo G. Parrish, Jr., and Cheri R. Evans, "What Does the U.S. Business Community Really Think about the Baldrige Award?" *Quality Progress*, May 1993, pp. 49-53; and David A. Garvin, "How the Baldrige Award Really Works," *Harvard Business Review*, November-December 1991, pp. 80-93.
5. Comments are adapted from "Does the Baldrige Award Really Work?" *Harvard Business Review*, January-February 1992, pp. 126-148.
6. Ross Johnson and William O. Winchell, *Management and Quality* (Milwaukee, Wisc.: American Society for Quality Control, 1989).
7. This definition is provided by the American Society for Quality Control, Milwaukee, Wisc., no date, p. 2.
8. David A. Garvin, "Competing on the Eight Dimensions of Quality," *Harvard Business Review*, November-December 1987, pp. 101-9.
9. W. Edwards Deming, *Out of Crises* (Cambridge, Mass.: MIT Center for Advanced Engineering Study, 1982), p. 31.
10. Philip B. Crosby, *Quality without Tears* (New York: McGraw-Hill, 1984), p. 12.
11. James F. Moore, "Predators and Prey: A New Ecology of Competition," *Harvard Business Review*, May-June 1993, pp. 75-86; and "Business Strategy: Eenie, Meenie, Minie, Mo . . .," *The Economist*, March 20, 1993, p. 76.
12. Robert F. Hartley, *Marketing Mistakes* (Columbus, Ohio: Grid, 1976), pp. 59-70.
13. Brian Dumaine, "The New Non-Manager Managers," *Fortune*, February 22, 1993, pp. 80-84; and "A Checklist of Qualities That Make a Good Boss," *Nation's Business*, November 1984, p. 100.
14. There are signs across America's corporate landscape of the beginnings of a challenge to top management's power in managing organizations. Constituents such as corporate investors, employees, and unions are challenging how top management is running the company. See Bruce Nussbaum and Judith H. Dobrzynski, "The Battle for Corporate Control," *Business Week*, May 18, 1987, pp. 102-9.
15. See Robert L. Katz, "Skills of an Effective Administrator," *Harvard Business Review*, September-October 1974, pp. 90-102.
16. See Russell Mitchell, "Jack Welch: How Good a Manager?" *Business Week*, December 14, 1987, pp. 92ff; and Peter Petre, "What Welch Has Wrought at GE," *Fortune*, July 7, 1986, pp. 43-47.
17. "Trying to Climb the Corporate Ladder? Without Basic Computer Skills, You Risk Falling Off, Survey Reports," *PR News-wire*, January 20, 1988.
18. Nat Sakowski and Leslie Baker, "Will Middle Management Survive the PC?" *PC Magazine*, April 17, 1984, pp. 262-67; and "How Computers Remake the Manager's Job," *Business Week*, April 25, 1983, pp. 68ff.
19. Del Marth, "Keeping All the Lines Open," *Nation's Business*, October 1984, pp. 85-86.
20. Walter Kiechel III, "How Executives Think," *Fortune*, February 4, 1985, pp. 127-28.
21. Henry Mintzberg, *The Nature of Managerial Work* (Englewood Cliffs, N.J.: Prentice-Hall, 1980).
22. Henry Mintzberg, "The Manager's Job: Folklore and Fact," *Harvard Business Review*, July-August 1975, pp. 49-61; Jay W. Lorsch, James P. Baughman, James Reece, and Henry Mintzberg, *Understanding Management* (New York: Harper & Row, 1978), p. 220; and Neil Snyder and William F. Glueck, "How Managers Plan—The Analysis of Managers' Activities," *Long-Range Planning*, February 1980, pp. 70-76.
23. Peter F. Drucker, *Management: Tasks, Responsibilities, Practices* (New York: Harper & Row, 1973), p. 17.

### Chapter 2

1. Alonzo L. McDonald, cited in Alan M. Kantrow, "Why History Matters to Managers," *Harvard Business Review*, January-February 1986, p. 82.
2. Peter F. Drucker, *The Practice of Management* (New York: Harper & Row, 1954), p. 37.

3. Peter F. Drucker, *Post-Capitalist Society* (New York: Harper-Collins, 1993).
4. V. Daniel Hunt, *Managing for Quality* (Homewood, Ill.: Business One Irwin, 1993), pp. 10–12.
5. W. Edwards Deming, *Out of the Crisis*, 2nd ed. (Cambridge, Mass.: MIT Center for Advanced Engineering Study, 1986).
6. A comprehensive analysis of Taylor is found in Charles D. Wrege and Ronald G. Greenwood, *Frederick W. Taylor: The Father of Scientific Management* (Homewood, Ill.: Business One Irwin, 1991).
7. Lyndall Urwick, *The Golden Book of Management* (London: Newman Neame, 1956), pp. 72–79.
8. Frederick W. Taylor, *Principles of Scientific Management* (New York: Harper & Row, 1911), pp. 36–37. Also see Claude S. George, Jr., *The History of Management Thought* (Englewood Cliffs, N.J.: Prentice-Hall, 1968); and Edwin A. Locke, “The Ideas of Frederick W. Taylor: An Evaluation,” *Academy of Management Review*, January 1982, pp. 14–24.
9. Other important contributors to classical organization theory include James D. Mooney and Alan C. Reiley, who wrote *Onward Industry* (New York: Harper & Row, 1931), and Lyndall F. Urwick, who wrote *The Elements of Administration* (New York: Harper & Row, 1943).
10. Fritz J. Roethlisberger and William J. Dickson, *Management and the Worker* (Cambridge, Mass.: Harvard University Press, 1931).
11. Stephen R. G. Jones, “Worker Interdependence and Output: The Hawthorne Studies Reevaluated,” *American Sociological Review*, April 1990, pp. 176–90.
12. D. S. Pugh, D. J. Hickson, and C. R. Hinings, *Writers on Organizations* (London: Sage, 1985), pp. 103–6.
13. Ludwig von Bertalanffy, “The History and Status of General Systems Theory,” *Academy of Management Journal*, December 1972, p. 411.
14. Chester I. Barnard, *The Functions of the Executive* (Cambridge, Mass.: Harvard University Press, 1938), p. 65.
15. Charles Borsseau, “Compaq Launches Its Clone Fighters,” *Houston Chronicle*, June 16, 1992, pp. 1C, 4C.
16. Stratford Sherman, “The New Computer Revolution,” *Fortune*, June 14, 1993, pp. 56–63, 66–71, 74–77, 80–81; and Daniel Fisher, “Compaq Squares Off with Clones,” *Houston Post*, June 16, 1992, pp. 1C, 10C.
17. See Fremont E. Kast and James E. Rosenzweig, “General Systems Theory: Applications in Organizations and Management,” *Academy of Management Journal*, December 1972, pp. 447–65; and Daniel Katz and Robert L. Kahn, *The Social Psychology of Organizations* (New York: John Wiley & Sons, 1966).
18. Kast and Rosenzweig, “General Systems Theory,” p. 463.
19. See Fred Luthans, “The Contingency Theory of Management: A Path Out of the Jungle,” *Business Horizons*, June 1973, pp. 63–72; and Harold Koontz, “The Management Theory Jungle Revisited,” *Academy of Management Review*, April 1980, pp. 175–88.
20. James Kim, “Employees Call Shots,” *USA Today*, April 10, 1992, p. 4B.
21. Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence* (New York: Harper & Row, 1982).
22. Thomas J. Peters and Nancy Austin, *A Passion for Excellence* (New York: Random House, 1985).
23. Thomas J. Peters, *Thriving on Chaos: Handbook for Management Revolution* (New York: Alfred A. Knopf, 1987).
24. Tom Peters, *Liberation Management* (New York: Alfred A. Knopf, 1992).
25. Michael A. Hitt and R. Duane Ireland, “Peters and Waterman Revisited: The Unending Quest for Excellence,” *Academy of Management Executive*, 1987, pp. 91–98.

### Chapter 3

1. Edgar H. Schein, *Organizational Culture and Leadership* (San Francisco: Jossey-Bass, 1985), p. 168.
2. Craig Hickman and Michael Silva, *Creating Excellence* (New York: NAL Books, 1984), p. 58.
3. T. A. Deal and A. A. Kennedy, “Culture—A New Look through Old Lenses,” *Journal of Applied Behavior Science*, November 1983, p. 50.
4. K. L. Gregory, “Native-View Paradigms: Multiple Cultures and Culture Conflicts in Organizations,” *Administrative Science Quarterly*, September 1983, pp. 359–76.
5. G. S. Saffold, III, “Culture Traits, Strength, and Organizational Performance: Moving Beyond ‘Strong’ Culture,” *Academy of Management Review*, October 1988, pp. 546–58.
6. “Will the Nordstrom Way Travel Well?” *Business Week*, September 3, 1990, pp. 82–83.
7. S. C. Jain, *Marketing Planning and Strategy* (Southwestern, 1981), p. 69.
8. William F. Glueck, *Business Policy and Strategic Management* (McGraw-Hill, 1980), p. 88.
9. Grover Starling, *The Changing Environment of Business* (Boston: Kent, 1988), pp. 7–9.
10. *Ibid.*, p. 9.
11. “Trouble at Procter & Gamble,” *Fortune*, March 5, 1984, p. 70.
12. John Naisbitt and Patricia Aburdene, *Megatrends 2000* (New York: Morrow, 1990).
13. Milton Rokeach, *The Nature of Human Values* (New York: Free Press, 1973), p. 5.
14. Milton Rokeach and Sandra J. Ball-Rokeach, “Stability and Change in American Value Practices, 1968–1981,” *American Psychologist*, May 1989, pp. 775–84.
15. David Jamieson and Julie O’Mara, *Managing Workforce 2000* (San Francisco: Jossey-Bass, 1991), pp. 28–29.
16. Towers Perrin and Hudson Institute, *Workforce 2000: Competing in a Seller’s Market* (Valhalla, New York: Towers Perrin, 1990).
17. Michael Fumento, “AIDS So Far,” *Commentary*, December 1991, pp. 46–49.
18. Jamieson and O’Mara, p. 95.
19. John Wright, ed., *The Universal Almanac* (Kansas City: Andrews & McMeel, 1992), p. 239.
20. Rob Norton, “Will a Global Slump Hurt the U.S.?” *Fortune*, February 22, 1993, pp. 63–64.
21. Todd May, Jr., “Surprising Help from the Crash,” *Fortune*, January 18, 1988, pp. 68–76.
22. Patricia M. Carey, “Getting Ready for NAFTA,” *International Business*, October 1992, pp. 42–51.
23. Lester Thurow, *Head to Head* (New York: Morrow, 1992), pp. 56–57.
24. “The Uruguay Round . . . and Round,” *The Economist*, January 23, 1993, p. 68.
25. John Case, *From the Ground Up* (New York: Simon & Schuster, 1992), pp. 45–46.
26. “Technology and Global Competitiveness,” *Engineering Management Research*, Spring 1992, pp. 51–68.
27. Peter Drucker, *The Age of Discontinuity* (Harper & Row, 1969), p. 12.
28. Ian M. Ross, “R&D: How to Stay Ahead in Technology,” *Across the Board*, May 1987, pp. 8–15.
29. Robert Neff, John W. Wilson, and Michael Berger, “Making Deals That Won’t Give Technology Away,” *Business Week*, April 20, 1987, pp. 62–63.
30. Frederick D. Sturdivant, *Business and Society* (Irwin, 1981), p. 119.

31. Barry Commoner. *The Closing Circle* (Knopf, 1971), p. 33.
32. LaRue Tone Hosmer, *The Ethics of Management* (Irwin, 1987, pp. 54–57).
33. Al Ries and Jack Trout, *Bottom-Up Marketing* (McGraw-Hill, 1989), p. 127.
34. For an excellent, brief discussion of environmental problems, see Nancy C. Morey and Robert V. Morey, "Business and the Environment in the 21st Century," *Business Forum*, Winter 1992, pp. 51–55.
35. Cited in Jeanne McDowell and Richard Woodbury, "A Fight over Liquid Gold," *Time*, July 22, 1991, p. 26.
36. Robert Silverberg, "The Greenhouse Effect: Apocalypse Now or Chicken Little?" *Omni*, July 1991, pp. 51–54, 86, 88.
37. Michael D. Lemonick, "The Big Green Payoff," *Time*, June 1, 1992, pp. 62–63.
38. Brian Quinton, "The Greening of McDonald's," *Restaurants & Institutions*, December 20, 1990, pp. 28–42.
39. Lois Thierren, "Restaurants Doing Well by Being Big," *Business Week*, January 14, 1991, p. 92.
40. Charles Garfield, *Second to None* (Homewood, Ill.: Business One Irwin, 1992), pp. 310–12, 321–22.
41. David Kirkpatrick, "Environmentalism: The New Crusade," *Fortune*, February 12, 1990, p. 44.
42. "Many Chernobyls Just Waiting to Happen," *Business Week*, March 16, 1992, pp. 116–18.
43. Ellen Hale, "Ecology Takes a Back Seat," *USA Today*, April 22, 1991, p. 7E.
44. Walter A. Shewhart, *Economic Control of Quality of Manufactured Product* (New York: Van Nostrand, 1931).
45. Milton Friedman, *Capitalism and Freedom* (Chicago: University of Chicago Press, 1962).
46. Milton Friedman, "The Social Responsibility of Business Is to Increase Its Profits," *New York Times Magazine*, September 1970, pp. 33, 122–126.
47. Suggested by S. Prakash Sethi, "A Conceptual Framework for Environmental Analysis of Social Issues and Evaluation of Business Response Patterns," *Academy of Management Review*, January 1979, p. 66.
48. Keith Davis, "The Case for and against Business Assumption of Social Responsibilities," *Academy of Management Journal*, June 1973, p. 313.
49. Sethi, p. 66.
50. Peter Arlow and Martin J. Gannon, "Social Responsiveness, Corporate Structure, and Economic Performance," *Academy of Management Review*, April 1982, p. 235.
51. H. Gordon Fitch, "Achieving Corporate Social Responsibility," *Academy of Management Review*, January 1976, p. 45.
52. Vernon R. Loucks, Jr., "A CEO Looks at Ethics," *Business Horizons*, March–April 1987, p. 2.
53. George A. Steiner, *Business and Society: Cases* (New York: Random House, 1972), p. 211.
54. John Akers, "Ethics and Competitiveness—Putting First Things First," *Sloan Management Review*, Winter 1989, p. 69.
55. Hosmer, *Ethics of Management*, p. 33.
56. This discussion is based on Starling, *The Changing Environment of Business*, pp. 252–58.
57. Robert W. Austin, "Code of Conduct for Executives," *Harvard Business Review*, September–October 1981, p. 53.
58. John A. Byrne, "Businesses Are Signing Up for Ethics 101," *Business Week*, February 15, 1988, pp. 56–57.
59. Earl A. Molander, "A Paradigm of Design, Promulgation, and Enforcement of Ethical Codes," *Journal of Business Ethics*, 1987, pp. 619–31.
60. Fred Luthans, Richard M. Hodgetts, and Kenneth R. Thompson, *Social Issues in Business* (New York: Macmillan, 1984), pp. 97–105.
61. Rick Wartzman, "Nature or Nurture? Study Blames Ethical Lapses on Corporate Goals," *The Wall Street Journal*, October 9, 1987, p. 21.
62. Brad Lee Thompson, "Ethics Training Enters the Real World," *Training*, October 1990, pp. 82–94.

## Chapter 4

1. Kenichi Ohmae, *The Borderless World* (New York: Harper-Perrenial, 1991), p. 10.
2. Lloyd Dobyns and Clare Crawford-Mason, *Quality or Else* (Boston: Houghton Mifflin, 1991), pp. 36–37.
3. Abraham H. Maslow, *Eupsychian Management* (Homewood, Ill.: Richard D. Irwin, 1965), pp. 264–265.
4. Amanda Bennett, "The Chief Executives in Year 2000 Will Be Experienced Abroad," *The Wall Street Journal*, February 28, 1989, pp. A1, A7.
5. Dobyns and Crawford, p. 237.
6. "Argentina Starts to Count Again," *Fortune*, February 22, 1993, pp. 102–4.
7. Lawrence G. Franko, "Global Competition II: Is the Large American Firm an Endangered Species?" *Business Horizons*, November–December 1991, pp. 14–22.
8. Jean-Pierre Jeannot and Hubert D. Hennessey, *Global Marketing Strategies* (Boston: Houghton Mifflin, 1992), pp. 16–17.
9. Carla Rapoport, "A Tough Swede Invades the U.S.," *Fortune*, June 29, 1992, pp. 76–82.
10. John S. McClenahan, "How U.S. Entrepreneurs Succeed in World Markets," *Industry Week*, May 2, 1988, pp. 47–49.
11. Joseph V. McCabe, "Outside Managers Offer Packaged Export Expertise," *Journal of Business Strategy*, March–April 1990, pp. 20–23.
12. Howard Banks, "Many Ways to Look at U.S. Trade," *Forbes*, April 12, 1993, pp. 89–96.
13. Therese Eiben, "U.S. Exporters Keep On Rolling," *Fortune*, June 14, 1993, pp. 130–131.
14. Monci Jo Williams, "Rewriting the Export Rules," *Fortune*, April 23, 1990, pp. 89–96.
15. "Japan's Big Appetite for American Foods," *Parade*, June 7, 1992, p. 8.
16. Jerry Flint, "Baby Steps," *Forbes*, April 13, 1992, p. 92.
17. William J. Holstein and Kevin Kelly, "Little Companies, Big Exports," *Business Week*, April 13, 1992, pp. 70–72.
18. Joshua Levine, "The Rabbit Grows Up," *Forbes*, February 17, 1992, pp. 122–27.
19. Shelley Neumeier, "Why Countertrade Is Getting Hotter," *Fortune*, June 29, 1992, p. 25.
20. Matt Schaffer, "Countertrade as an Export Strategy," *Journal of Business Strategy*, May–June 1990, pp. 33–38.
21. Harris Collingwood, "GM Goes Trucking to China," *Business Week*, January 27, 1992, p. 41.
22. Stratford Sherman, "Are Strategic Alliances Working?" *Fortune*, September 21, 1992, pp. 77–78.
23. James B. Treece, Karen Lowry Miller, and Richard A. Melcher, "The Partners," *Business Week*, February 10, 1992, pp. 102–7.
24. Bart Ziegler, "Light in the East," *Herald-Leader* (Lexington, Ky.), September 23, 1990, pp. D1, D5.
25. Kazuo Nukazawa, "Japan and the USA: Wrangling toward Reciprocity," *Harvard Business Review*, May–June 1988, pp. 42–52.
26. Nancy J. Adler, *International Dimensions of Organizational Behavior* (Boston: Kent, 1986), pp. 10–11.

27. Philip R. Harris and Robert T. Moran. *Managing Cultural Differences* (Houston: Gulf, 1987), p. 189.
28. "Tires Recalled So They Don't Tread on Allah." *Herald-Leader* (Lexington, Ky.), July 25, 1992, p. A3.
29. Harris and Moran, p. 391.
30. John Byrne, Dean Foust, and Lois Therrien. "Executive Pay." *Business Week*, March 30, 1992, pp. 52-58.
31. Robert H. Doktor. "Asian and American CEOs: A Comparative Study." *Organizational Dynamics*, Winter 1990, pp. 46-56.
32. Byrne, Foust, and Therrien, pp. 52-58.
33. Joann S. Lublin. "Younger Managers Learn Global Skills." *The Wall Street Journal*, March 31, 1992, p. B2.
34. *Statistical Abstract of the United States*, 1992, pp. 830-31.
35. Vern Terpstra. *International Marketing*, 4th ed. (Hinsdale, Ill.: Dryden, 1987), pp. 18-19.
36. Douglas Harbrecht, Neil Gross, and Peter Burrows. "Suppose They Gave a Trade War and Nobody Came." *Business Week*, March 29, 1993, p. 30.
37. Richard C. Morais. "Saber Rattling." *Forbes*, March 1, 1993, p. 49.
38. Sak Onkvisit and John J. Shaw. "Marketing Barriers in International Trade." *Business Horizons*, May-June 1988, pp. 64-72.
39. Louis J. Murphy. "Negotiations Are at Work in Geneva to Conclude the Uruguay Round." *Business America*, September 23, 1992, p. 12.
40. Ann H. Hughes. "United States and Canada Form World's Largest Free Trade Area." *Business America*, January 3, 1989, pp. 2-5.
41. Robin Gaines. "FTA Provides Vehicle for Driving into the Future." *Business America*, January 29, 1989, p. 5.
42. Blayne Cutler. "North American Demographics." *American Demographics*, March 1992, pp. 38-42.
43. Gaylon White. "Run for the Border." *Express Magazine*, Summer 1991, pp. 10-13.
44. Kenneth H. Bacon. "With Free-Trade Pact about Wrapped Up, the Real Battle Begins." *The Wall Street Journal*, August 7, 1992, pp. A1, A4.
45. Amy Borrus. "A Free-Trade Milestone, with Many More Miles to Go." *Business Week*, August 24, 1992, pp. 30-31.
46. Louis Richman. "How NAFTA Will Help America." *Fortune*, April 10, 1993, pp. 95-102.
47. Phil Davies. "Europe Unbound." *Express Magazine*, Spring 1992, pp. 16-19.
48. Shawn Tully. "Europe 1992." *Fortune*, August 24, 1992, pp. 136-42.
49. Stewart Toy, John Templeman, Richard A. Melcher, John Rosant, and Stanley Reed. "Europe's Shakeout." *Business Week*, September 14, 1992, pp. 44-51.
50. Fred S. Worthy. "Where Capitalism Thrives in China." *Fortune*, March 9, 1992, pp. 71-75.
51. Louis Kraur. "Storm over Hong Kong." *Fortune*, March 8, 1993, pp. 98-104.
52. Joyce Barrathan, Pete Engardio, Lynne Curry, and Bruce Einhorn. "China: The Emerging Economic Powerhouse of the 21st Century." *Business Week*, May 17, 1993, pp. 54-65.
53. Edmund Faltermayer. "Does Japan Play Fair?" *Fortune*, September 7, 1992, pp. 38-52.
54. Paul Hofheinz. "Russia 1993." *Fortune*, January 25, 1993, pp. 106-8.
55. Rose Brady, Deborah Stead, Richard A. Melcher, Gail E. Scharer, and David Greising. "Why Yeltsin May Prevail." *Business Week*, April 5, 1993, pp. 34-5; and Peter Galuszk, Deborah Stead, and Karen Lowry Miller. "Yeltsin Pushes All His Chips into the Pot." *Business Week*, October 4, 1993, p. 54.
56. Betsy McKay. "Caddies Supplant Communism as GM Sells Autos in Moscow." *Advertising Age*, June 15, 1992, p. 10.
57. Rick Tetzeli. "Eastern Europe is One Hot Market." *Fortune*, January 25, 1993, p. 14.
58. "The Quality Glossary." *Quality Progress*, February 1992, pp. 20-29.
59. Marshall Sashkin and Kenneth J. Kiser. "Total Quality Management" (Seabrook, Md.: Ducochon, 1991), p. 26.
60. Andrew Kupfer. "How American Industry Stacks Up." *Fortune*, March 9, 1992, pp. 30-46.
61. "Conversations for the 90s: The Search for Superior Performance" Harris Trust and Savings Bank, 1992, pp. 1-19.
62. Robert C. Camp. "Learning from the Best Leads to Superior Performance." *Journal of Business Strategy*, May-June 1992, pp. 3-6.

## Chapter 5

1. Barnard M. Bass. *Organizational Decision Making* (Homewood, Ill.: Richard D. Irwin, 1983).
2. Philip B. Crosby, 1986, p. 32.
3. Paul S. Adler. "Time-and-Motion Regained." *Harvard Business Review*, January-February 1993, pp. 97-108.
4. Stephanie Anderson Forest, Catherine Arnst, Kathy Rebello, and Peter Burrows. "The Education of Michael Dell." *Business Week*, March 22, 1993, pp. 82-88.
5. "CEOs: The Vision Thing." *The Wall Street Journal*, January 28, 1993, p. A14 (emphasis added).
6. Stanley J. Spanbauer. *A Quality System for Education* (Milwaukee: ASQC Press, 1992), pp. 101-13.
7. Robert L. Bailey. *Disciplined Creativity for Engineers* (Ann Arbor, Mich.: Ann Arbor Science, 1978).
8. James C. Hopper and Kenneth J. Euske. "Facilitating the Identification and Evaluation of Decision Objectives." *Cost and Management*, July-August 1985, pp. 36-40.
9. Paul Hersey and Kenneth Blanchard. *Management of Organizational Behavior* (Englewood Cliffs, N.J.: Prentice-Hall, 1993), p. 19.
10. Joel Barker. *Future Edge* (New York: Morrow, 1992), pp. 15-17.
11. J. M. Dukerich and M. L. Nichols. "Causal Information Search in Managerial Decision Making." *Organizational Behavior and Human Decision Processes*, October 1991, pp. 106-22.
12. J. E. Hodder and H. E. Riggs. "Pitfalls in Evaluating Risky Projects." *Harvard Business Review*, January-February 1985, pp. 128-35.
13. R. A. Cozier and C. R. Schwenk. "Agreement and Thinking Alike: Ingredients for Poor Decisions." *Academy of Management Executive*, February 1990, pp. 69-74.
14. P. A. Renwick and H. Tosi. "The Effects of Sex, Marital Status, and Educational Background on Selected Decisions." *Academy of Management Journal*, March 1978, pp. 93-103; and A. A. Abdel Halim. "Effects of Task and Personality Characteristics on Subordinates' Responses to Participative Decision Making." *Academy of Management Journal*, September 1983, pp. 477-84.
15. Glen Whyte. "Decision Failures: Why They Occur and How to Prevent Them." *Academy of Management Executive*, August 1991, pp. 23-31.
16. Leon Festinger. *A Theory of Cognitive Dissonance* (New York: Harper & Row, 1957), Chapter 1.
17. B. M. Staw. "The Escalation of Commitment to a Course of Action." *Academy of Management Review*, October 1981, pp. 577-87.
18. For example, see Staw, "Escalation of Commitment"; and Max H. Bazerman and Alan Appelman. "Escalation of Commitment in Individual and Group Decision Making." *Organizational Behavior and Human Decision Processes*, Spring 1984, pp. 141-52.

19. Richard A. Guzzo and James A. Waters, "The Expression of Affect and the Performance of Decision-Making Groups," *Journal of Applied Psychology*, February 1982, pp. 67-74; D. Tjosvold and R. H. G. Field, "Effects of Social Context on Consensus and Majority Vote Decision Making," *Academy of Management Journal*, September 1983, pp. 500-6; and Frederick C. Miner, Jr., "Group versus Individual Decision Making: An Investigation of Performance Measures, Decision Strategies, and Process Losses/Gains," *Organizational Behavior and Human Decision Processes*, Winter 1984, pp. 112-24.
20. Ibid.
21. Amanda Bennett, "Firms Run by Executive Teams Can Reap Rewards, Incur Risks," *The Wall Street Journal*, February 5, 1992, p. B1.
22. Thomas Peters and Nancy Austin, *A Passion for Excellence* (New York: Knopf, 1987), p. 9.
23. Deming, Peters, and IBM principles cited in Ronald D. Snee, "Can Statisticians Meet the Challenge of Total Quality?" *Quality Progress*, January 1991, p. 61.
24. Taizo Watanabe, *Vis-a-Vis, Inc.*, April 1992, p. 62.
25. Valerie Reitman, "Rubbermaid Turns up Plenty of Profit in the Mundane," *The Wall Street Journal*, March 27, 1992, p. B3.
26. Ian I. Mitroff, *Business Not as Usual: Rethinking Our Individual, Corporate, and Industrial Strategies for Global Competition* (San Francisco: Jossey-Bass, 1988).
27. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: MIT Center for Advanced Engineering Study, 1986).
28. David A. Garvin, "How the Baldrige Award Really Works," *Harvard Business Review*, November-December 1991, p. 89 (80-93).
29. *M-Quality: Continuous Improvement at the University of Michigan*. Spring 1992.
30. March and Simon, 1958, p. 140.
31. "Class, Open Your Books," *Inc.*, April 1992, p. 11.
32. See Robert S. Kaplan, ed., *Measures for Manufacturing Excellence* (Boston: Harvard Business School Press, 1990). Also, Robin S. Cooper and Robert S. Kaplan, *The Design of Cost Management Systems: Text Cases and Readings* (Englewood Cliffs, N.J.: Prentice Hall, 1991); and Alfred M. King, "The Current Status of Activity-Based Costing: An Interview with Robin Cooper and Robert S. Kaplan," *Management Accounting*, September 1991, pp. 22-26.
33. H. Thomas Johnson, "Performance Measurement for Competitive Excellence," in Kaplan, ed., *Measures for Manufacturing Excellence*, p. 70.
34. *Executive Course in Continuous Improvement Handbook* (Tennessee Associates International, 1992), Section 4, p. 2.
35. Ibid., Section 5.
7. Paul B. Carroll, "The Failures of Central Planning—at IBM," *The Wall Street Journal*, January 28, 1993, p. A14.
8. Charles Handy, "Balancing Corporate Power: A New Federalist Paper" op cit. p. 60.
9. James Cook, "Futurology," *Forbes*, May 11, 1992, p. 96.
10. John M. Ivancevich, James H. Donnelly, Jr., and James L. Gibson, *Management: Principles and Functions*, 5th ed. (Homewood, Ill.: Richard D. Irwin, 1989), pp. 69-70.
11. Ani Hadjian, "Andy Grove: How Intel Makes Spending Pay Off," *Fortune*, February 22, 1993, p. 57.
12. Burt Nanus, *Visionary Leadership* (San Francisco: Jossey-Bass, 1992), p.8.
13. James H. Donnelly, Jr., James L. Gibson, and John Ivancevich, *Fundamentals of Management* (Homewood, Ill.: Richard D. Irwin, 1992), p. 142.
14. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Massachusetts Institute of Technology Center for Advanced Engineering Study, 1986).
15. William E. Halal, *The New Capitalism* (New York: John Wiley & Sons, 1986), p. 201.
16. Peter P. Pekar, "Setting Goals in the Non-Profit Environment," *Managerial Planning*, March-April 1982, pp. 43-46.
17. Robert Neff, "Now Japan Is Getting Jumpy about Quality," *Business Week*, March 5, 1990, pp. 40-41.
18. D. Quinn Mills, "Planning with People in Mind," *Harvard Business Review*, July-August 1985, pp. 97-105.
19. For relevant discussions of these and related management problems, see M. L. Gimpl and S. R. Daken, "Management and Magic," *California Management Review*, Fall 1984, pp. 125-36; R. T. Pascale, "The Paradox of Corporate Culture: Reconciling Ourselves to Socialization," *California Management Review*, Winter 1985, pp. 26-41; and Frederick D. Sturdivant, *Business and Society: A Managerial Approach*, 3rd ed. (Homewood, Ill.: Richard D. Irwin, 1985).
20. Peter F. Drucker, *The Practice of Management* (New York: Harper & Row, 1954), pp. 65-83, 100.
21. Peter F. Drucker, *The Practice of Management* (New York: Harper & Row, 1974), p. 64.
22. See Joel E. Ross, *Total Quality Management* (Delray Beach: St. Lucie Press, 1993), p. 3.
23. A. Parasuraman, Valerie A. Zeithaml, and Leonard L. Berry, "A Conceptual Model of Service Quality and Its Implications for Future Research," Working Paper 84-106 (Cambridge, Mass.: Marketing Science Institute, 1984), pp. 13-14. Cited in Daniel T. Seymour, *On Q: Causing Quality in Higher Education* (New York: Macmillan, 1992), p. 130.
24. David A. Garvin, "Competing on the Eight Dimensions of Quality," *Harvard Business Review*, November-December 1987, pp. 101-9.
25. Deming, *Out of the Crisis*, p. 86.
26. John P. Kotter, "What Leaders Really Do," *Harvard Business Review*, May-June 1990, pp. 103-11.
27. R. D. Zentner and B. D. Gelb, "Scenarios: A Planning Tool for Health Care Organizations," *Hospital and Health Services Administration*, Summer 1991, pp. 211-22.
28. Neil Churchill, "Budgeting Choice: Planning vs. Control," *Harvard Business Review*, July-August 1984, pp. 150-64.
29. Ronald N. Anthony, John Deardon, and Norman Bedford, *Management Control Systems*, 5th ed. (Homewood, Ill.: Richard D. Irwin, 1984).
30. Thomas A. Stewart, "Why Budgets Are Bad for Business," *Fortune*, June 4, 1990, pp. 179-90.
31. Hugh Aaron, "In Troubled Times, Run an Open Company," *The Wall Street Journal*, December 10, 1990, p. A10. Also, John

## Chapter 6

1. David A. Fischer, "Strategies toward Political Pressure: A Typology of Firm Responses," *Academy of Management Review*, January 1983, pp. 71-78.
2. See Dalton E. McFarland, *The Managerial Imperative: The Age of Macromanagement* (Cambridge, Mass.: Ballinger, 1986).
3. Feigenbaum, *Total Quality Control* (New York: McGraw-Hill, 1961), p.134.
4. Peter F. Drucker, "A Turnaround Primer," *The Wall Street Journal*, February 2, 1993, p. A10.
5. Jeff Bailey, "Why Customers Trash the Garbage Man," *The Wall Street Journal*, March 17, 1993, pp. B1, B10.
6. Charles Handy, "Balancing Corporate Power: A New Federalist Paper," *Harvard Business Review*, November-December 1992, pp. 59-72.

- Case, "The Open-Book Managers," *Inc.*, September 1990, pp. 104–13.
32. R. Marshall and M. Tucker, *Thinking for a Living: Education and the Wealth of Nations* (New York: Basic Books, 1992), pp. 94–95.
  33. Toyohiro Kono, "Japanese Management Philosophy: Can It Be Exported," *Long Range Planning*, Fall 1982, pp. 90–102.
  34. J. M. Juran, *Juran on Leadership for Quality: An Executive Handbook* (New York: Free Press, 1989), p. 186.
  35. Philip B. Crosby, *Quality Is Free* (New York: The New American Library, Inc., 1979), pp. 176–77.
  36. Bruce Brocka and M. Suzanne Brocka, *Quality Management: Implementing the Best Ideas of the Masters* (Homewood, Ill.: Business One Irwin, 1992), pp. 220–22.
  37. Juran, *Juran on Leadership for Quality*, pp. 81–144.
  38. David A. Garvin, *Managing Quality: The Strategic and Competitive Edge* (New York: Free Press, 1988), p. 183.
  39. Mary Walton, *Deming Management at Work* (New York: G. P. Putnam's Sons, 1990), pp. 21–22.
  40. Karen Bemoski, "Carrying on the P & B Tradition," *Quality Progress*, May 1992, p. 24.
  41. Crosby, *Quality Is Free*, pp. 133–39.
  42. Philip B. Crosby, *Let's Talk Quality* (New York: McGraw-Hill, 1989), pp. 106–7.
  43. *Ibid.*, p. 104.
  44. George Stalk, Jr., and Thomas M. Hout, *Competing against Time: How Time-Based Competition Is Reshaping Global Markets* (New York: Free Press, 1990).
  45. *Ibid.*, pp. 52–53.
  46. Karen Pennar, "The Productivity Paradox," *Business Week*, June 6, 1988, p. 102.
  47. George Stalk, Jr., and Thomas M. Hout, pp. 107–8.
  48. *Ibid.*, p. 268.
  49. Joseph D. Blackburn, "The Time Factor," in Joseph D. Blackburn, ed., *Time-Based Competition: The Next Battleground in American Manufacturing* (Homewood, Ill.: Business One Irwin, 1991), p. 19.
  50. J. M. Juran, *Juran on Quality Planning* (New York: Free Press, 1988), pp. 1–2.
  51. J. M. Juran, "The Quality Trilogy," *Quality Progress*, August 1986, pp. 19–24; also, J. M. Juran, *Juran on Quality Planning*, Chapter 1.
  52. J. M. Juran, "The Quality Trilogy," pp. 19–24; also J. M. Juran, *Juran on Quality Planning*, Chapter 1.
  53. Adapted from "6 Simple Tools," Tennessee Associates International, 1985.
  9. John Naisbitt and Patricia Aburdene, *Megatrends 2000* (New York: William Morrow, 1990).
  10. William M. Bulkeley, "Get Ready for 'Smart Cards' in Health Care," *The Wall Street Journal*, May 3, 1993, p. B5.
  11. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Center for Advanced Engineering Study, Massachusetts Institute of Technology, 1986), p. 175.
  12. Lindley H. Clark, "The Outlook: De-diversification: Aid to Productivity," *The Wall Street Journal*, May 14, 1990, p. A1.
  13. Deming, *Out of the Crisis*, p. 120.
  14. Crosby, *Running Things*, pp. 78–80.
  15. Ken Yamada, "Motorola Challenges Intel in Pricing Its New Microchip," *The Wall Street Journal*, April 26, 1993, p. B1.
  16. David Woodruff and Karen Lowry Miller, "Chrysler's Neon: Is This the Small Car Detroit Couldn't Build?" *Business Week*, May 3, 1993, pp. 116–26.
  17. John H. Taylor, "Niche Guys Finish First," *Forbes*, October 26, 1992, pp. 128, 132.
  18. Gale Eisenstodt, "In Step," *Forbes*, October 26, 1992, p. 50.
  19. Ray E. Miles and Charles C. Snow, *Organizational Strategy, Structure, and Processes* (New York: McGraw-Hill, 1978). Miles and Snow originally described four types: Perilous Prospector, Anxious Analyzer, Domain Defender, and Reluctant Reactor. The prefixes have been dropped in most subsequent analyses, although they do help convey the position of the firm more clearly. The Reactor profile was also eventually dropped, as it best characterizes a firm that's likely to go out of business if it persists in this approach.
  20. There are other portfolio models. Interested readers should consult Richard G. Mammernesh and Roderick E. White, "Manage beyond Portfolio Analysis," *Harvard Business Review*, January–February 1984, pp. 103–9; and J. A. Seeger, "Revising the Images of BCG's Growth/Share Matrix," *Strategic Management Journal*, January–March 1984, pp. 93–97.
  21. Michael W. Miller, "IBM's New Chairman Shuns Tradition as He Puts Together His Own Team," *The Wall Street Journal*, April 26, 1993, p. A3.
  22. Tim Smart, "GE's Money Machine," *Business Week*, March 8, 1993, pp. 62–67.
  23. G. Christian Hill and Ken Yamada, "Motorola Illustrates How an Aged Giant Can Remain Vibrant," *The Wall Street Journal*, December 9, 1992, pp. A1, A14.
  24. Gareth R. Jones and John E. Butler, "Costs, Revenue, and Business-Level Strategy," *Academy of Management Review*, April 1988, pp. 202–13.
  25. David M. Reid, "Where Planning Fails in Practice," *Long Range Planning* 23, no. 2 (1990), pp. 85–93.
  26. G. David Wallace, "America's Leanest and Meanest," *Business Week*, October 5, 1987, pp. 78–84.
  27. Ned Hamson, "TQM Can Save Nearly \$300 Billion for Nation," *Journal of Quality and Participation*, December 1990, pp. 54–56.
  28. Tom Peters, *Thriving on Chaos: Handbook for a Management Revolution* (New York: Alfred A. Knopf, 1987), p. 68.
  29. Howard S. Gitlow and Shelley J. Gitlow, *The Deming Guide to Quality and Competitive Position* (Englewood Cliffs, N.J.: Prentice-Hall, 1987), pp. 20–22.
  30. A. M. Webber, "What's So New about the New Economy?" *Harvard Business Review*, January–February 1993, pp. 24–42.
  31. Charles Handy, "Balancing Corporate Power: A New Federalist Paper," *Harvard Business Review*, November–December 1992, pp. 59–72.
  32. Robert H. Hayes and Steven C. Wheelwright, *Restoring Our Competitive Edge: Competing through Manufacturing* (New York: John Wiley & Sons, 1984), p. 376.

## Chapter 7

1. Alfred Chandler, *Strategy and Structure* (New York: McGraw-Hill, 1962), p. 7.
2. Cited in Hill and Jones, *Strategy* (Boston: Houghton Mifflin, 1992), p. 7.
3. Philip B. Crosby, *Running Things: The Art of Making Things Happen* (New York: McGraw-Hill, 1986), p. 55.
4. D. H. Freedman, "Is Management Still a Science?" *Harvard Business Review*, November–December 1992, pp. 26–38.
5. R. M. Kanter, "The Best of Both Worlds," *Harvard Business Review*, November–December 1992, pp. 9–10.
6. Alan Deutschman, "The CEO's Secret of Managing Time," *Fortune*, June 1, 1992, pp. 135–45.
7. McKinsey & Company, "Leveraging CEO Time," cited in *ibid.*, p. 143.
8. J. A. Byrne, "Management's New Gurus," *Business Week*, August 31, 1992, pp. 44–52.

33. Quoted in "The Best Kind of Competitive Advantage." *Forbes*, December 7, 1992, p. 18.
34. David A. Garvin, *Managing Quality: The Strategic and Competitive Edge* (New York: Free Press, 1988), p. 25.
35. George Stalk and Thomas M. Hout, *Competing Against Time: How Time-Based Competition is Reshaping Global Markets*, New York: Free Press, 1990.
36. E. E. Chaffee and L. A. Sherr, *Quality: Transforming Post-secondary Education*, ASHE ERIC Higher Educational Report no. 3 (Washington, D.C.: George Washington University Press, 1992), p. 20.
37. Peter F. Drucker, *The Practice of Management* (New York: Harper & Row, 1986), pp. 46–47.
38. Colby H. Chandler, "Beyond Customer Satisfaction," *Quality Progress*, February 1989, p. 30.
39. Peters and Waterman, *In Search of Excellence*, 1982.
40. See Rafael Aguayo, *Dr. Deming: The American Who Taught the Japanese about Quality*, Secaucus, N.J.: Carol Publishing Group, 1990, p. 86.
41. W. H. Davidow and M. S. Malone, *The Virtual Corporation: Structuring and Revitalizing the Corporation for the 21st Century* (New York: HarperCollins, 1992); S. Tully, "The Modular Corporation," *Fortune*, February 8, 1993, pp. 106–14; J. A. Byrne, R. Brandt, and O. Port, "The Virtual Corporation," *Business Week*, February 8, 1993, pp. 98–102.
42. "Worthy of His Hire?" *The Economist*, February 1, 1992, p. 19.
43. Jack Szwergold, "Why Most Quality Efforts Fail," *Management Review*, August 1992, p. 5.
44. Gilbert Fuchsberg, "Total Quality Is Termed Only Partial Success," *The Wall Street Journal*, October 1, 1992, p. B7.
45. Peters, *Thriving on Chaos*, p. 68.
14. Lesley Meall, "The Power to Make Progress," *Accountancy*, January 1992, pp. 78–79.
15. Frederick Stodolak and Joseph Carr, "Systems Must Be Compatible with Quality Efforts," *Healthcare Financial Management*, June 1992, pp. 72–77.
16. Robert J. Mockler, "Strategic Intelligence Systems: Competitive Intelligence Systems to Support Strategic Management Decision Making," *SAM Advanced Management Journal*, Winter 1992, pp. 4–9.
17. Walecia Konrad and Christopher Power, "Smoking Out the Elusive Smoker," *Business Week*, March 16, 1992, pp. 62–63.
18. William M. Bulkeley, "Databases Are Plagued by Reign of Error," *The Wall Street Journal*, May 26, 1992, p. B6.
19. Esther Dyson, "End Customer Chaos," *Forbes*, August 3, 1992, p. 87.
20. Terry Breen, "Customer Software Aids Chain's Efficiency," *Restaurant Hospitality*, August 1992, p. 64.
21. John R. Wilke, "Getting Together," *The Wall Street Journal*, April 6, 1992, p. R8.
22. Paul Desmond, "Car Wash King Oversees Empire via Integrated Network," *Network World*, November 14, 1988, pp. 1, 87.
23. G. Michael Ashmore, "Telecommunications Opens New Strategic Vistas," *Journal of Business Strategy*, March–April 1990, pp. 58–61.
24. Alice LaPlante, "Networked PC's Become a Crime-Fighting Tool in New York," *Infoworld*, May 25, 1992, p. 52.
25. Jeffrey P. Stamen, "Decision Support Systems Help Planners Hit Their Targets," *Journal of Business Strategy*, March–April 1990, pp. 30–33.
26. Christopher Elias, "An 'Executive' Newcomer Takes Its Place in the Office," *Insight*, July 11, 1988, pp. 38–40.
27. Ray L. Simpson, "Why Executive Information Systems Are Important," *Nursing Management*, February 1992, pp. 18–19.
28. Anita Amirrezuani, "Fidelity Investments Builds EIS to Simplify Access to Financial Data," *Computerworld*, April 6, 1992, p. 95.
29. Jeffrey P. Stamen, "When Will EIS Deliver?" *Chief Executive*, April 1992, pp. 24–34.
30. Mark S. Van Clieaf, "Strategy and Structure Follow People: Improving Organizational Performance through Effective Executive Search," *Human Resource Planning*, 15, 1992, pp. 33–46.
31. Tor Guimaraes, Magid Igbaria, and Ming-Te Lu, "The Determinants of DSS Success: An Integrated Model," *Decision Sciences*, March–April 1992, pp. 409–30.
32. Clyde W. Holsapple and Andrew B. Whinston, *The Information Jungle* (Homewood, Ill.: Dow Jones–Irwin, 1988), p. 26.
33. Tom Bridge and Yuri Y. Lin, "Expert Systems in Banking," *Canadian Banker*, July–August 1992, pp. 20–25.
34. James Daly, "Wendy's System Finds the Beefs," *Computerworld*, September 25, 1989, p. 39.
35. Lawrence A. Berardinis, "Smart Highways Get the Green Light," *Machine Design*, August 6, 1992, pp. 66–70.
36. Michael W. Miller, "Computers May Get Vast Ability to Blend Data, Images, Sound," *The Wall Street Journal*, June 7, 1989, pp. A1, A4.
37. Cathy Hilborn, "Honey, I Shrunk the Computer," *Canadian Business*, March 1992, pp. 79–83.
38. Alan Mosher, "When It Comes to Miniatures, Versatility's the Issue," *Computing Canada*, July 6, 1992, p. 50.
39. David Rosen, "Rightsizing: Not Just an IT Fad," *Computing Canada*, July 20, 1992, pp. 1, 7.
40. Doug Harper, "Micro Muscle Delivers Mega Power," *Industrial Distribution*, August 1992, pp. 35–38.
41. Frances Misutka, "The Work Place Takes Wings," *Canadian Business*, May 1992, pp. 73–77.
42. Karen D. Loch, Houston H. Carr, and Merriel E. Warkentin,

## Chapter 8

1. Floyd Kemske, "Brains Will Replace BTUs," *Information Center*, June 1990, pp. 22–24.
2. Myron Magnet, "Who's Winning the Information Revolution," *Fortune*, November 30, 1992, pp. 110–17.
3. Harold E. Dolenga, "Management Paradigms and Practices in the Information Age," *SAM Advanced Management Journal*, Winter 1992, pp. 25–29.
4. John E. Bredehoft and Brian Kleiner, "Communications Revolution and Its Impact on Managing Organizations Effectively," *Industrial Management Data Systems* 91 (1991), pp. 15–19.
5. Robert W. Hall, "Catching Up with the Times," *Business Horizons*, July–August 1992, pp. 6–14.
6. V. Thomas Dock and James C. Wetherbe, *Computer Information Systems for Business* (St. Paul, Minn.: West, 1988), p. 36.
7. Dave Barriball, "Noah Would Have Been Proud . . ." *Telephone Engineer & Management*, July 1, 1992, pp. 64–66.
8. C. Jackson Grayson, Jr., and Carla O'Dell, *American Business: A Two-Minute Warning* (New York: Free Press, 1988), pp. 211–12.
9. Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence* (New York: Warner, 1982), p. 267.
10. Stratford Sherman, "The New Computer Revolution," *Fortune*, June 14, 1993, pp. 56–80.
11. Pete Engardio, George Wehrfritz, Neil Gross, and Peter Burrows, "The Tiny Shall Inherit the Market," *Business Week*, June 28, 1993, pp. 50–54.
12. Louis M. Benjamin, "Privacy, Computers, and Personal Information: Toward Equality and Equity in an Information Age," *Communications and Law*, June 1991, pp. 3–16.
13. Gary H. Anthes, "Matson Ships Sail Away with Few Delays," *Computerworld*, May 4, 1992, pp. 45, 47.



- “Threats to Information Systems: Today’s Reality, Yesterday’s Understanding,” *MIS Quarterly*, June 1992, pp. 173–86.
43. David C. Rudd, “IBM Prepares ‘Vaccine’ for Computer Virus,” *Chicago Tribune*, October 6, 1989, pp. 1–2.
  44. Gayle Hanson, “Computer Users Pack a Keypunch in a High-tech World of Crime,” *Insight*, April 15, 1991, pp. 8–16.

## Chapter 9

1. Hugh C. Willmott, “The Structuring of Organizational Structures: A Note,” *Administrative Science Quarterly*, September 1981, pp. 470–74.
2. Jerry Bowles, “Is American Management Really Committed to Quality?” *Management Review*, April 1992, pp. 42–45.
3. *International Quality Study* (American Quality Foundation and Ernst & Young, 1991), pp. 16–23.
4. Tom Peters, *Thriving on Chaos* (New York: Alfred A. Knopf, 1987), p. 467.
5. James Treece, “Doing It Right, Till the Last Whistle,” *Business Week*, April 6, 1992, pp. 58–59.
6. Carol J. Loomis, “Dinosaurs?” *Fortune*, May 3, 1993, pp. 36–42.
7. Frederick W. Taylor, *Principles of Scientific Management* (New York: Harper & Row, 1911).
8. Scott Madison Paton, “Joseph M. Juran—Quality Legend: Part III,” *Quality Digest*, March 1992, pp. 49–58.
9. Lloyd Dobyns and Clare Crawford-Mason, *Quality or Else* (Boston: Houghton Mifflin, 1991), p. 56.
10. Dobyns and Crawford, p. 60.
11. Marshall Sashkin and Kenneth J. Kiser, *Total Quality Management* (Seabrook, Md.: Ducochon, 1991), p. 118.
12. Charles Gartfield, *Second to None* (Homewood, Ill.: Business One Irwin, 1992), p. 164.
13. Frank Shippes and Charles C. Manz, “Employee Self-Management without Formally Designated Teams: An Alternative Road to Empowerment,” *Organizational Dynamics*, Winter 1992, pp. 48–61.
14. David Kirkpatrick, “Could AT&T Rule the World?” *Fortune*, May 17, 1993, pp. 55–66.
15. “The Quality Glossary,” *Quality Progress*, February 1992, pp. 20–29.
16. Julia Pitta, “It Had to Be Done and We Did It,” *Forbes*, April 26, 1993, p. 148–52.
17. G. Christian Hill and Ken Yamada, “Motorola Illustrates How an Aged Giant Can Remain Vibrant,” *The Wall Street Journal*, December 9, 1992, pp. A1, A14.
18. Gilbert Fuchsberg, “Decentralized Management Can Have Its Drawbacks,” *The Wall Street Journal*, December 9, 1992, pp. B1, B8.
19. Dana Milbank, “Restructured Alcoa Seeks to Juggle Cost and Quality,” *The Wall Street Journal*, August 24, 1992, p. B4.
20. Fuchsberg, pp. B1, B8.
21. Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence* (New York: Warner Books, 1982), pp. 15–16.
22. Sashkin and Kiser, p. 67.
23. Tom Peters, *Thriving on Chaos* (New York: Knopf, 1988), p. 292.
24. Philip B. Crosby, *Quality Is Free* (New York: Mentor, 1979), p. 238.
25. W. Edwards Deming, *Out of the Crisis* (Boston: MIT Center for Advanced Study, 1986), pp. 23–24.
26. V. Daniel Hunt, *Quality in America* (Homewood, Ill.: Business One Irwin, 1992), pp. 24–25.
27. Douglas McGregor, *The Human Side of Organizations* (New York: McGraw-Hill, 1960), pp. 33–34.
28. Krystal Miller, “At GM, The Three R’s Are the Big Three,” *The Wall Street Journal*, July 3, 1992, pp. B1, B6.
29. Garfield, pp. 4–5.
30. Thomas A. Stewart, “The Search for the Organization of Tomorrow,” *Fortune*, May 18, 1992, pp. 92–98.
31. Robert D. Dewar and Donald P. Simet, “A Level-Specific Prediction of Spans of Control Examining the Effects of Size, Technology, and Specialization,” *Academy of Management Journal*, March 1981, pp. 5–24.
32. Richard S. Blackburn, “Dimensions of Structure: A Review and Reappraisal,” *Academy of Management Review*, January 1982, pp. 59–66.
33. Tom Burns and G. M. Stalker, *The Management of Innovation* (London: Tavistock, 1961).
34. Max Weber, *The Theory of Social and Economic Organization*, trans. A. M. Henderson and Talcott Parsons (New York: Oxford University Press, 1947).
35. C. R. Gullet, “Mechanistic vs. Organic Organizations: What Does the Future Hold?” *Personnel Administration*, 1975, p. 17.
36. Rensis Likert, *The Human Organization* (New York: McGraw-Hill, 1967).
37. Robert C. Ford and Alan W. Randolph, “Cross-Functional Structures: A Review and Integration of Matrix Organization and Project management,” *Journal of Management*, June 1992, pp. 267–94.
38. Martin K. Starr, “Accelerating Innovation,” *Business Horizons*, July–August 1992, pp. 44–51.
39. Richard Jaccoma, “Smart Moves in Hard Times,” *Dealership Merchandising*, January 1992, pp. 164–67.
40. Paul R. Lawrence, Harvey F. Kolodny, and Stanley M. Davis, “The Human Side of Matrix Organizations,” *Organizational Dynamics*, September 1977, p. 4.
41. Stanley M. Davis and Paul R. Lawrence, *Matrix* (Reading Mass.: Addison-Wesley, 1977).
42. “Dow Draws Its Matrix Again—and Again, and Again,” *The Economist*, August 5, 1989, pp. 55–56.
43. Stanley M. Davis and Paul R. Lawrence, “Problems of Matrix Organizations,” *Harvard Business Review*, May–June 1978, pp. 131–42.
44. Much of this discussion is based on William G. Ouchi, *The M-Form Society* (Reading, Mass.: Addison-Wesley, 1987), pp. 23–25.
45. Charles C. Snow, Raymond E. Miles, and Henry J. Coleman, “Managing 21st Century Network Organizations,” *Organizational Dynamics*, Winter 1992, pp. 5–19.
46. John Byrne, Richard Brandt, and Otis Port, “The Virtual Corporation,” *Business Week*, February 8, 1993, pp. 98–102.
47. Shawn Tully, “The Modular Corporation,” *Fortune*, February 8, 1993, pp. 106–15.
48. “Why Networks May Fail,” *The Economist*, October 10, 1992, pp. 83–84.
49. Philip Crosby, *Completeness: Quality for the 21st Century* (New York: Dutton, 1992), p. 73.
50. Bruce Brocka and M. Suzanne Brocka, *Quality Management* (Homewood, Ill.: Business One Irwin, 1992), 49–50.

## Chapter 10

1. Gabriella Stern, “P&G Will Cut 13,000 Jobs, Shut 30 Plants,” *The Wall Street Journal*, July 16, 1993, p. A3.

2. John M. Ivancevich, *Human Resource Management* (Homewood, Ill.: Richard D. Irwin, 1992), p. 172.
3. Ricky W. Griffin, *Task Design: An Integrative Approach* (Glenview, Ill.: Scott, Foresman, 1982), p. 91.
4. Frederick W. Taylor, *The Principles of Scientific Management* (New York: Harper & Row, 1911), p. 21.
5. J. Barton Cunningham and Ted Eberle, "A Guide to Job Enrichment and Redesign," *Personnel*, February 1990, pp. 56–61.
6. Allan W. Farrant, "Job Rotation Is Important," *Supervision*, August 1987, pp. 14–16.
7. Charles R. Walker and Robert H. Guest, *The Man in the Assembly Line* (Cambridge, Mass.: Harvard University Press, 1952).
8. Frederick Herzberg, B. Mausner, and B. Snyderman, *The Motivation to Work* (New York: John Wiley & Sons, 1959).
9. J. Richard Hackman, "Work Design," in *Improving Life at Work*, eds. J. Richard Hackman and J. L. Suttle (Santa Monica, Calif.: Goodyear, 1976), pp. 96–162.
10. J. Richard Hackman and Greg R. Oldham, *Work Redesign* (Reading, Mass.: Addison-Wesley, 1980), pp. 77–82.
11. Hackman and Oldham, pp. 72–77.
12. Michael A. Champion and Chris J. Barger, "Conceptual Integration and Empirical Test of Job Design and Compensation Experiments," *Personnel Psychology*, Autumn 1990, pp. 525–54.
13. Edward E. Lawler, *Pay and Organization Development* (Reading, Mass.: Addison-Wesley, 1981).
14. David A. Ralston, William P. Anthony, and David J. Gustafson, "Employees Love Flextime, But What Does It Do to the Organization's Productivity?" *Journal of Applied Psychology*, May 1985, pp. 272–79.
15. C. W. Proel Jr., "A Survey of the Empirical Literature on Flexible Work Hours: Character and Consequences of a Major Innovation," *Academy of Management Review*, October 1978, pp. 837–53.
16. Randall B. Dunham and John L. Pierce, "The Design and Evaluation of Alternative Work Schedules," *Personnel Administrator*, April 1983, pp. 67–75.
17. Sue Shellenbarger, "Employees Take Pains to Make Flextime Work," *The Wall Street Journal*, August 18, 1992, p. B1.
18. Andrew Erdman, "How to Keep That Family Feeling," *Fortune*, April 6, 1992, pp. 95–96.
19. Edward E. Lawler, *High-Involvement Management* (San Francisco: Jossey-Bass, 1991), p. 37.
20. Joan E. Rigdon, "Using Lateral Moves to Spur Employees," *The Wall Street Journal*, May 26, 1992, pp. B1, B5.
21. Marshall Sashkin and Kenneth J. Kiser, *Total Quality Management* (Seabrook, Md.: Ducochon, 1991), p. 140.
22. V. Daniel Hunt, *Quality in America* (Homewood, Ill.: Business One Irwin, 1992), pp. 38–39.
23. Joseph A. Petrick and George E. Manning, "How to Manage Morale," *Personnel Journal*, October 1990, pp. 83–88.
24. Stephen L. Perlman, "Employees Redesign Their Jobs," *Personnel Journal*, November 1990, pp. 37–40.
25. Kenneth W. Thomas and Betty A. Velthouse, "Cognitive Elements of Empowerment: An 'Interpretive' Model of Intrinsic Task Motivation," *Academy of Management Review*, October 1990, pp. 666–81.
26. Brian Dumaine, "Unleash Workers and Cut Costs," *Fortune*, May 18, 1992, p. 88.
27. Myron Magnet, "Meet the New Revolutionaries," *Fortune*, February 24, 1992, pp. 94–101.
28. Thomas F. O'Boyle, "A Manufacturer Grows Efficient by Soliciting Ideas from Employees," *The Wall Street Journal*, June 5, 1992, pp. A1, A5.
29. Charles Garfield, *Second to None* (Homewood, Ill.: Business One Irwin, 1992), p. 179.

## Chapter 11

1. Tom Peters and Robert Waterman, Jr., *In Search of Excellence* (New York: HarperCollins, 1982), p.
2. David E. Bowen and Edward E. Lawler, III, "Total Quality-Oriented Human Resource Management," *Organizational Dynamics*, Spring 1992, pp. 29–41.
3. Henry S. Gilbertson, *Personnel Policies and Unionism* (Boston: Ginn, 1950), p. 17.
4. Henry Eilbert, "The Development of Personnel Management in the United States," *Business History Review*, Autumn 1959, pp. 345–64.
5. Michael Barrier, "Where 'Quality' Is a Language," *Nation's Business*, January 1993, pp. 57–59.
6. Jodi Trager Plavner, "Employment Law Lingo," *HR Magazine*, May 1992, p. 48.
7. Kenneth Sovereign, *Personnel Law* (Reston, Va.: Reston Publishing, 1984), p. 22.
8. Ann C. Wendt and William M. Slonaker, "Discrimination Reflects on You," *HR Magazine*, May 1992, pp. 44–47.
9. For an excellent discussion of federal regulations applied to HRM, see James Ledvinka, *Federal Regulation of Personnel and Human Resource Management* (Boston: Kent, 1982), p. 21.
10. Robert D. Freedman and David E. Bader, "EEO Insights: Managers and Employees Come Together," *HR Focus*, April 1992, p. 19.
11. Gunnar Myrdal, *An American Dilemma: The Negro Problem and American Democracy* (New York: Harper & Row, 1944).
12. Charles Silverman, *Crisis in Black and White* (New York: Random House, 1964).
13. The estimate was provided in discussion with an EEOC representative, Houston, Texas, office on June 30, 1987.
14. Catherine A. Oliver, "Harnassing the Overqualified," *HR Focus*, June 1992, p. B.
15. Bob Martin, "Recruitment Ad Venture," *Personnel Journal*, August 1987, pp. 46–63.
16. Kenneth Sovereign, *Personnel Law*, pp. 42–44.
17. Information Service, U.S. EEOC Office of Communication and Legislative Affairs, Washington, D.C., October 7, 1993, telephone conversation.
18. Bowen and Lawler, "Total Quality-Oriented," pp. 29–41.
19. Robert D. Freedman, "Back to the Basics of Interviewing," *HR Focus*, January 1992, p. 10.
20. Douglas D. Rodgers, "Computer-Aided Interviewing: Overcomes First Impressions," *Personnel Journal*, April 1987, pp. 148–52.
21. Clive Fletcher, "Ethical Issues in the Selection Interview," *Journal of Business Ethics*, 1992, pp. 361–67.
22. Scott L. Martin and Loren P. Lehnen, "Select the Right Employees through Testing," *Personnel Journal*, June 1992, pp. 47–51.
23. Bently Baranabus, "What Did the Supreme Court Really Say?" *Personnel Administrator*, July–August 1971, pp. 22–25.
24. Cristina G. Banks and Loriann Robertson, "Performance Appraisers as Test Developers," *Academy of Management Review*, January 1985, pp. 128–42.
25. Cory R. Fine, "Video Tests Are the New Frontier in Drug Detection," *Personnel Journal*, June 1992, pp. 152–61.
26. William Fitzgerald, "Training versus Development," *Training & Development*, May 1992, pp. 81–84.
27. Albert A. Vicere and Virginia T. Freeman, "Executive Educa-

- tion in Major Corporations: An International Survey," *Journal of Management Development*, 1990, pp. 5-16.
28. Jim M. Graber, Rober E. Breisch, and Walter E. Breisch, "Performance Appraisals and Deming: A Misunderstanding?" *Quality Progress*, June 1992, pp. 59-62.
  29. "Performance Appraisal: The Case against a Traditional Tool." *The Maryland Workplace*, Spring 1992, pp. 2-3, 10.
  30. P. C. Smith and L. M. Kendall. "Retranslation of Expectations: An Approach to the Construction of Unambiguous Anchors for Rating Scales," *Journal of Applied Psychology*, April 1963, pp. 149-55.
  31. D. P. Schwab, H. G. Henneman III, and T. A. DeCotiis, "Behaviorally Anchored Rating Scales: A Review of the Literature," *Personnel Psychology*, Winter 1975, pp. 549-62.
  32. Thomas Patton, *Pay* (New York: Free Press, 1977).
  33. James N. Finch, "Computers Help Link Performance to Pay," *Personnel Journal*, October 1988, pp. 120-26.
  34. Lawler, *Pay and Development*.
  35. Herbert Meyer, "The Pay for Performance Dilemma," *Organizational Dynamics*, Winter 1975, pp. 39-50.
  36. Andrew G. Spohn, "The Relationship of Reward Systems and Employee Performance," *Compensation and Benefits Management* 6 (Winter 1990), pp. 128-32.
  37. Victoria A. Hoevemeyer, "Performance-Based Compensation: Miracle or Waste?" *Personnel Journal*, July 1989, pp. 64-68.
  38. Ibid.
  39. Meyer, "The Pay for Performance Dilemma."
  40. Finch, "Computers Help Link Performance to Pay."
  41. Wallace and Fay, *Compensation Theory and Practice*, pp. 254-58.
  42. Carla O'Dell, *People, Performance, and Pay: America Responds to the Competitiveness Challenge* (Scottsdale, Ariz.: American Compensation Association, 1986).
  43. Milkovich and Newman, *Compensation*, pp. 303-7.
  44. Timothy L. Ross, Larry Hatcher, and Ruth Ann Ross, "The Incentive Switch," *Management Review* 78, no. 5 (May 1989), pp. 22-26.
  45. Bowen and Lawler, "Total Quality-Oriented," p. 38.
  46. Jay R. Schuster and Patricia K. Zingheim, "Improving Productivity through Gainsharing: Can the Means be Justified in the End?" *Compensation and Benefits Management* 5, no. 3 (Spring 1989), pp. 207-10.
  47. Jerry McAdams, "Alternative Rewards: What's Best for Your Organization?" *Compensation and Benefits Management* 6, no. 2 (Winter 1990), pp. 133-39.
  48. Theresa M. Welbourne and Luis R. Gomez-Mejia, "Gainsharing Revisited," *Compensation and Benefits Review* 20, no. 4 (July-August 1988), pp. 19-28.
  49. Steven E. Markham, K. Dow Scott, and Beverly L. Little, "National Gainsharing Study: The Importance of Industry Differences," *Compensation & Benefits Review*, January-February 1992, pp. 34-45.
  50. David Beck, "Implementing a Gainsharing Plan: What Companies Need to Know," *Compensation & Benefits Review*, January-February 1992, pp. 21-33.
  51. Christopher S. Miller and Michael H. Schuster, "Gainsharing Plans: A Comparative Analysis," *Organizational Dynamics* 16, no. 1 (Summer 1987), pp. 44-67.
  52. Telephone conversation with assistant to Lincoln Electric CEO Richard S. Sabo, August 23, 1993.
  53. Michael W. Horrigan and James P. Markey, "Recent Gains in Women's Earnings: Better Pay or Longer Hours?" *Monthly Labor Review*, July 1990, pp. 11-17.
  54. Bickley Townsend and Kathleen O'Neil, "American Women Get Mad," *American Demographics*, August 1990, pp. 26-29, 32.
  55. Vida Gulbinas Scarpello and James Ledvinka, *Personnel/Human Resource Management* (Boston: PWS-Kent, 1988), p. 363.
  56. "Low-Paid, with Children," *The Economist*, July 31, 1993, p. 26; Horrigan and Markey, "Recent Gains in Women's Earnings."
  57. Heisler et al., *Managing Human Resources Issues*.
  58. Barry Gerhart, "Gender Differences in Current and Starting Salaries: The Role of Performance, College Major, and Job Title," *Industrial and Labor Relations Review* 43 (April 1990), pp. 418-33.
  59. "Facts on Women," *Management Review*, March 1992, pp. 60-61.
  60. Heisler et al., *Managing Human Resources Issues*, p. 77.
  61. Michael F. Carter, "Comparable Worth: An Idea Whose Time Has Come?" *Personnel Journal*, October 1981, pp. 792-94.
  62. Robert Buchele and Mark Aldrich, "How Much Difference Would Comparable Worth Make?" *Industrial Relations*, Summer 1985, pp. 222-33.
  63. "Controlling the Costs of Employee Benefits," *The Conference Board*, 1992, p. 8.
  64. James A. Curtis, "Employee Benefits: The Next Generation," *CPA Journal* 60 (August 1990), pp. 8-10.
  65. Richard Levine, "Childcare: Inching Up the Corporate Agenda," *Management Review* 78, no. 1 (January 1989), pp. 43-47.
  66. Ibid.
  67. Cynthia D. Fisher, Lyle F. Schoenfeldt, and James B. Shaw, *Human Resource Management* (Boston: Houghton Mifflin, 1993), p. 612.
  68. "To Attract Employees, Companies Help with the Kids," *Employee Benefit Planning Review* 43, no. 8 (February 1989), pp. 68, 70.
  69. Karen Buglass, "The Business of Eldercare," *American Demographics* 11, no. 9 (September 1989), pp. 32-39.
  70. Roy S. Azarnoff and Andrew E. Scharlach, "Can Employees Carry the Eldercare Burden?" *Personnel Journal*, September 1988, pp. 60-69.
  71. Rhoda West and Art Durity, "Does My Company Need to Worry about AIDS?" *HR Focus*, April 1991, p. 5.
  72. Vaugh Alliton, "Financial Realities of AIDS in the Workplace," *HR Magazine*, February 1992, pp. 79-81.
  73. Stuart Feldman, "When It Comes to AIDS, It's Survival of the Smartest," *HR Focus*, April 1991, p. 6.
  74. "Why AIDS Policy Must Be a Special Policy," *Business Week*, February 1, 1993, pp. 53-54; and Stuart Feldman, "Three Successful Programs," *HR Focus*, April 1991, pp. 11.
  75. Helen Elkiss, "Reasonable Accommodation and Unreasonable Fears: An AIDS Policy Guide for Human Resource Personnel," *Human Resource Planning*, Month Needed 1992, pp. 183-190.
  76. Kelly Flynn, "Preventive Medicine for Sexual Harassment," *HR Focus*, March 1991, p. 17.
  77. Chris Lee, "Sexual Harassment: After the Headlines," *Training*, March 1992, pp. 23-31.
  78. Jeffrey P. Englander, "Handling Sexual Harassment in the Workplace," *The CPA Journal*, February 1992, p. 14.
  79. Jonathan A. Segal, "Seven Ways to Reduce Harassment Claims," *HR Magazine*, January 1992, pp. 84-86.
  80. Nicholas J. Caste, "Drug Testing and Productivity," *Journal of Business Ethics*, April 1992, pp. 301-6.
  81. Eric Rolfe Greenberg, "Test-Positive Rates Drop as More Companies Screen Employees," *HR Focus*, June 1992, p. 7.
  82. Laura A. Lyons and Brian H. Kleiner, "Managing the Problem of Substance Abuse . . . Without Abusing Employees," *HR Focus*, April 1992, p. 9.
  83. Martha Zetlin, "Corporate America Declares War on Drugs," *Personnel*, August 1991, pp. 1 and 8.

## Chapter 12

1. David Woodruff, "The Racy Viper is Already Winning for Chrysler." *Business Week*, November 4, 1991, pp. 36–38; and James B. Treece, "How Ford and Mazda Share the Driver's Seat," *Business Week*, February 10, 1992, pp. 94–95.
2. James P. Womack, Daniel T. Jones, and Daniel Roos, *The Machine That Changed the World* (New York: HarperCollins, 1991), p. 92.
3. Edward E. Lawler, "The New Plant Revolution Revisited," *Organizational Dynamics*, Autumn 1990, pp. 5–14. Lawler estimated the number of plants as "somewhere between 300 and 500" (p. 9).
4. Charles C. Manz as cited in Joann S. Lublin, "Trying to Increase Worker Productivity, More Employers Alter Management Style." *Wall Street Journal*, February 13, 1992, p. B1.
5. Lawler's 1980 estimate comes from personal communication, 1990. The 1990 estimate is from his keynote speech at the Self-Management Conference, University of North Texas, Denton, Texas, September 1990. See also *Business Week*, July 10, 1989, p. 59.
6. Personal communication with production manager, Diamond Star Motors, Normal, Ill., September 1991.
7. Henry P. Sims, Jr., and James W. Dean, Jr., "Beyond Quality Circles: Self-Managing Teams," *Personnel*, January 1985, pp. 25–32.
8. Esther R. Ruffner and Lawrence P. Ettkin, "When a Circle Is Not a Circle," *Advanced Management Journal* 52, no. 2 (1987), pp. 9–15.
9. W. Edwards Deming, *Out of the Crisis*, 1986, p. 137.
10. Deming, *Out of the Crisis*, p. 47.
11. David McClelland, *The Achieving Society* (Princeton, N.J.: Van Nostrand, 1961). Also see David McClelland and David H. Burnham, "Power Is a Great Motivator," *Harvard Business Review*, March–April 1976, pp. 100–10.
12. George Homans, *The Human Group* (New York: Harcourt, Brace, 1950).
13. Robert L. Kahn, D. M. Wolfe, Robert P. Quinn, J. D. Snock, and R. A. Rosenthal, *Organizational Stress: Studies in Role Conflict and Role Ambiguity* (New York: John Wiley & Sons, 1964).
14. Meryl Reis Louis, "Surprise and Sense-Making: What Newcomers Experience in Entering Unfamiliar Organizational Settings," *Administrative Science Quarterly* (June 1980), pp. 226–51.
15. Daniel Feldman, "The Development and Enforcement of Norms," *Academy of Management Review* 9, no. 1 (1984), pp. 47–53.
16. Dennis Organ and Thomas Bateman, *Organizational Behavior* (Plano, Tex.: Business Publications, 1986), p. 473.
17. Marvin Shaw, *Group Dynamics: The Psychology of Small Group Behavior* (New York: McGraw-Hill, 1971), pp. 192–204.
18. Irvin Janis, *Groupthink*, 2d ed. (Boston: Houghton Mifflin, 1982), p. 9.
19. Shirley A. Hopkins and Willie E. Hopkins, "Organizational Productivity 2000: A Work Force Perspective," *SAM Advanced Management Journal*, Autumn 1991, pp. 44–48.
20. Warren E. Watson, Kumar Kamalesh, and Larry K. Michaelson, "Cultural Diversity's Impact on Interaction Process and Performance: Comparing Homogeneous and Diverse Task Groups," *Academy of Management Journal*, June 1993, pp. 590–602.
21. Audrey K. Charlton and Jerry D. Huey, "Breaking Cultural Barriers," *Quality Progress*, September 1992, pp. 47–49.
22. Marilyn Gist, Edwin A. Locke, and M. Susan Taylor, "Organizational Behavior: Group Structure, Process, and Effectiveness," *Journal of Management* 13, no. 2 (1987), pp. 237–57.
23. S. G. Harkins, B. Latane, and K. Williams, "Social Loafing: Allocating Effort or Taking It Easy?" *Journal of Experimental Social Psychology* 16 (1985), pp. 457–65.
24. Deming, *Out of the Crisis*, p. 107.
25. Madeline Weiss, "Human Factors: Team Spirit," *CIO* 2, no. 10 (July 1989), pp. 60–62.
26. Lee W. Frederiksen, Anne W. Riley, and John B. Myers, "Matching Technology and Organizational Structure: A Case in White Collar Productivity Improvement," *Journal of Organizational Behavior Management* 6, no. 3–4 (Fall–Winter 1984), pp. 59–80.
27. Raymond Dreyfack, *Making It in Management, the Japanese Way* (Rockville Center, N.J.: Farnsworth, 1982), pp. 159–60.
28. Adapted from Thomas A. Stewart, "McKinsey's Plan," *Fortune*, May 18, 1992, p. 96.
29. This observation was made by Richard Hackman, as cited in Charles C. Manz and Henry P. Sims, Jr., "Leading Workers to Lead Themselves: The External Leadership of Self-Managing Teams," *Administrative Science Quarterly* (March 1987), p. 106.
30. Glenn M. Parker, *Team Player and Teamwork: The New Competitive Business Strategy* (San Francisco: Jossey-Bass, 1990), p. 145.
31. Deming, *Out of the Crisis*, p. 107.
32. Adapted from Gregory E. Huszycz, *Training for Team Building, Training and Development Journal* 44, no. 2 (February 1990), pp. 37–43.
33. Dreyfack, *Making It in Management, the Japanese Way*, p. 155.
34. Philip A. Miscimarra, *Employee Involvement and the Law: Outstanding Issues*. Chicago, April 6, 1992.

## Chapter 13

1. Craig Pinder, *Work Motivation* (New York: Scott Foresman, 1984), p. 8.
2. "Increasing Labor Shortages Give More Power to Workers," *Milwaukee Journal*, January 7, 1990, p. 6D.
3. Douglas McGregor, *The Human Side of Enterprise* (New York: McGraw-Hill, 1960), pp. 33–58.
4. Lyman W. Porter and Edward Lawler, *Managerial Attitudes and Performance* (Homewood, Ill.: Richard D. Irwin, 1968), p. 17.
5. Abraham H. Maslow, *Motivation and Personality* (New York: Harper & Row, 1954).
6. Frederick Herzberg, Bernard Mausner, and Barbara Bloch Snyderman, *The Motivation to Work* (New York: John Wiley, 1959).
7. See Robert J. House and Lawrence A. Wigdor, "Herzberg's Dual Factor Theory of Job Satisfaction and Motivation: A Review of the Empirical Evidence and a Criticism," *Personnel Psychology* 20 (Winter 1967), pp. 369–89. Also, Joseph Schneider and Edwin A. Locke, "A Critique of Herzberg's Classification System and a Suggested Revision," *Organizational Behavior and Human Performance* 6 (1971), pp. 441–58.
8. David C. McClelland, *The Achieving Society* (Princeton, N.J.: Van Nostrand, 1963).
9. David C. McClelland, *Motivational Trends in Society* (Morristown, N.J.: General Learning Press, 1971), p. 5.
10. Victor H. Vroom, *Work and Motivation* (New York: John Wiley & Sons, 1964).
11. Hugh J. Arnold, "A Test of the Multiplicative Hypothesis of Expectancy-Valence Theories of Work Motivation," *Academy of Management Journal*, March 1981, pp. 128–41.
12. J. Stacy Adams, "Inequity in Social Exchange," in *Advances in Experimental Social Psychology*, vol. 2, L. Berkowitz, ed. (New York: Academic Press, 1965).

13. B. F. Skinner, *Contingencies of Reinforcement: A Theoretical Analysis* (New York: Appleton-Century-Crofts, 1969).
14. Albert Bandura, *Principle of Behavior Modification* (New York: Holt, Rinehart, and Winston, 1969).
15. G. Strauss and L. Sayles, *Personnel: The Human Problems of Management* (Englewood Cliffs, N.J.: Prentice Hall, 1967).
16. R. D. Arvey and J. M. Ivancevich, "Punishment in Organizations: A Review, Propositions, and Research Suggestions," *Academy of Management Review* 5 (1980), pp. 123–32.
17. M. E. Schnake and M. P. Dumler, "Some Unconventional Thoughts on Punishment: Reward as Punishment and Punishment as Reward," *Journal of Social Behavior and Personality* 3 (1989), pp. 89–107.
18. Ibid.
19. Edwin A. Locke and Gary P. Latham, *A Theory of Goal Setting & Task Performance* (Englewood Cliffs, N.J.: Prentice Hall, 1990).
20. E. A. Locke and G. P. Latham, *Goal Setting: A Motivational Technique That Works* (Englewood Cliffs, N.J.: Prentice-Hall, 1984).
21. E. A. Locke, K. M. Shaw, L. M. Saari, and G. P. Latham, "Goal Setting and Task Performance: 1969–1980," *Psychological Bulletin* 90 (1981), pp. 125–52.
22. J. R. Hollenbeck and H. J. Klein, "Goal Commitment and the Goal-Setting Process: Problems, Prospects, and Proposals for Future Research," *Journal of Applied Psychology* 72 (1987), pp. 212–20; and J. R. Hollenbeck, J. R. Williams, and H. R. Klein, "An Empirical Examination of the Antecedents of Commitment to Difficult Goals," *Journal of Applied Psychology* 74 (1989), pp. 18–23.
23. J. M. Ivancevich and M. T. Matteson, *Organizational Behavior and Management* (Homewood, Ill.: BPI/Irwin, 1990), pp. 164–66.
24. G. P. Latham and G. A. Yukl, "A Review of Research on the Application of Goal Setting in Organizations," *Academy of Management Journal* 18 (1975), pp. 824–45.
25. Lorenzi, 1989, op cit. G. S.-Y. Change and P. Lorenzi, "The Effects of Participative versus Assigned Goal Setting on Intrinsic Motivation," *Journal of Management* 9 (1983), pp. 55–64.
26. From an interview in Robert C. Hill and Sara M. Freedman, "Managing the Quality Process: Lessons from a Baldrige Award Winner. A Conversation with John W. Wallace, Chief Executive Officer of the Wallace Company," *Academy of Management Executive* 6, no. 1 (1992), p. 80.
27. Ron Suskind, "Threat of Cheap Labor Abroad Complicates Decisions to Unionize," *The Wall Street Journal*, July 28, 1992, pp. A1, A6.
28. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Center for Advanced Engineering Study, Massachusetts Institute of Technology, 1986).
29. Crosby, 1986, pp. 17–20.
30. *The Wall Street Journal*, April 10, 1990, p. 1.
31. Labor letter, *The Wall Street Journal*, May 5, 1992, p. A1.
32. Cited in Dana Wechsler Linden with Vicki Contavespi, "Incentivize Me, Please," *Forbes*, May 27, 1991, pp. 210–11.
33. Crosby, pp. 141, 191.
34. J. R. Bratkovich and B. Steele, "Pay for Performance Boosts Productivity," *Personnel Journal*, January 1989, pp. 78–86.
35. "New Ways to Pay," *The Economist*, July 13, 1991, p. 69.
36. Carol Hymowitz, "As Aetna Adds Flextime, Bosses Learn to Cope," *The Wall Street Journal*, June 18, 1990, pp. B1, B5.
37. Mark Alpert, "The Care and Feeding of Engineers," *Fortune*, September 21, 1992, pp. 86–95.
38. J. R. Hackman and G. Oldham, "Development of the Job Diagnostic Survey," *Journal of Applied Psychology* 60 (1975), pp. 159–70. Also see J. R. Hackman and E. E. Lawler, "Employee Reactions to Job Characteristics," *Journal of Applied Psychology* 55 (1971), pp. 259–86.

## Chapter 14

1. R. Tannenbaum, I. R. Weschler, and F. Massarik, *Leadership and Organization* (New York: McGraw-Hill, 1961), p. 24.
2. Abraham Zaleznick, "Leaders and Managers: Are They Different?" *Harvard Business Review*, 1977, pp. 31–42; Abraham Zaleznick, "Real Work," *Harvard Business Review*, 1989, pp. 52–64; Abraham Zaleznick, *The Managerial Mystique* (New York: Harper & Row, 1989), pp. 1–42.
3. Robert Dahl, "The Concept of Power," *Behavioral Science* 2, 1957, pp. 201–15.
4. John R. P. French, Jr. and Bertram Raven, "The Bases of Social Power," in *Studies in Social Power*, ed. Dorwin Cartright (Ann Arbor: University of Michigan Press, 1959), pp. 150–67.
5. Ralph M. Stogdill, "Personal Factors Associated with Leadership," *Journal of Applied Psychology*, January 1948, pp. 35–71.
6. Edwin E. Ghiselli, "Managerial Talent," *American Psychologist*, October 1963, pp. 631–41.
7. Charles C. DuBois, "Portrait of the Ideal MBA," *The Penn Stater*, October 1992, p. 31.
8. Morgan W. McCall and Michael M. Lombardo, "What Makes a Top Executive?" *Psychology Today*, February 1983, pp. 26–31.
9. Ralph Katz, "Skills of an Effective Administrator," *Harvard Business Review*, October–November 1974, pp. 90–101.
10. Thomas A. Stewart, "Brace for Japan's Hot New Strategy," *Fortune*, September 21, 1992, p. 63.
11. Philip B. Crosby, *Running Things: The Art of Making Things Happen* (New York: McGraw-Hill, 1986), p. 23.
12. Rensis Likert, *New Patterns of Management* (New York: McGraw-Hill, 1961).
13. N. C. Morse and Edward Reimer, "The Experimental Change of a Major Organizational Variable," *Journal of Abnormal and Social Psychology* 52 (1956), pp. 120–29.
14. Edwin A. Fleishman and James G. Hunt, eds., *Current Developments in the Study of Leadership* (Carbondale, Ill.: Southern Illinois Press, 1973), pp. 1–37.
15. Bill Saporito, "A Week Aboard the Wal-Mart Express," *Fortune*, August 24, 1992, p. 79.
16. Fred E. Fiedler and Martin M. Chemers, *Leadership and Effective Management* (Glenview, Ill.: Scott, Foresman, 1974).
17. Victor Vroom and Art Jago, "Decision Making as a Social Process: Normative and Descriptive Models of Leader Behavior," *Decision Sciences*, 1974, pp. 743–70.
18. Steven Kerr and John M. Jermier, "Substitutes for Leadership: Their Meaning and Measurement," *Organizational Behavior and Human Performance*, December 1978, pp. 375–403.
19. Gary A. Yukl, *Leadership in Organizations* (Englewood Cliffs, N.J.: Prentice Hall, 1989), pp. 108–12.
20. J. M. Burns, *Leadership* (New York: Harper & Row, 1978), pp. 1–52; Bernard M. Bass, *Leadership: Performance Beyond Expectations* (New York: Free Press, 1985), p. 43; and Bernard M. Bass, "Leadership: Good, Better, Best," *Organizational Dynamics*, 1985, pp. 26–40.
21. The material on self-leadership has been adapted from Henry P. Sims, Jr., and Peter Lorenzi, *The New Leadership Paradigm: Social Learning and Cognition in Organizations* (Newbury Park, Calif.: Sage, 1992).
22. Marshall Sashkin, "Participative Management Remains an Ethical Imperative," *Organizational Dynamics*, Spring 1986, pp. 62–75.
23. W. Baldwin, "This Is the Answer," *Forbes*, July 5, 1982, p. 52.

24. Charles C. Manz and Henry P. Sims, Jr., *Superleadership* (New York: Berkeley, 1990), pp. xviii.
25. Howard Weiss, "Subordinate Imitation of Supervisor Behavior: The Role of Modeling in Organizational Socialization," *Organizational Behavior and Human Performance* 19 (1977), pp. 89–105.
26. M. Sashkin, "Participative Management Is an Ethical Imperative," *Organizational Dynamics* 12 (1984), pp. 5–22.
27. Martha T. Moore, "Sorting Out a Mess," *USA Today*, April 10, 1992, p. 5B.
28. H. B. Braiker, "The Power of Self-Talk," *Psychology Today*, December 1989, p. 23. See also D. D. Burns, *The Good Feeling Handbook* (New York: William Morrow, 1989).
29. Gervase R. Bushe, "Cultural Contradictions of Statistical Process Control in American Manufacturing Organizations," *Journal of Management* 14, no. 1 (1988), pp. 19–31.
30. See M. Porter, "Why Nations Triumph," *Fortune*, March 12, 1990, pp. 94–98. Also, J. Dreyfuss, "Get Ready for the New Work Force," *Fortune*, April 23, 1990, pp. 165, 168, 172, 176, 180–81.
31. William B. Johnston and Arnold E. Packer, *Workforce 2000: Work and Workers for the 21st Century* (Indianapolis, Ind.: Hudson Institute, 1987).
32. Patricia W. Hamilton, "What a Changing Work Force Means for Business," *D&B Reports*, January–February 1992, pp. 20–23.
33. Taylor H. Cox and Stacy Blake, "Managing Cultural Diversity: Implications for Organizational Competitiveness," *Academy of Management Executive*, August 1991, pp. 45–56.
34. Tim Turner, "A Women for All Seasons: An Interview with Betty Friedan," *Hemispheres*, August 1993, pp. 19–23.
35. Charles Garfield, *Second to None* (Homewood, Ill.: Business One Irwin, 1992), pp. 286–91.
36. R. Roosevelt Thomas, Jr., *Beyond Race and Gender* (American Management Association, 1991), pp. 163–66.
37. Lee Gardenswartz and Anita Rowe, *Managing Diversity* (Homewood, Ill.: Business One Irwin, 1993), p. 4.
12. Sim B. Sitkin, Kathleen M. Sutcliffe, and John R. Barrios-Choplin, "A Dual-Capacity Model of Communication Choice in Organizations," *Human Communications Research*, June 1993, pp. 563–98.
13. Richard Daft and Robert H. Lengel, "Information Richness: A New Approach to Managerial Behavior and Organization Design," in *Research in Organizational Behavior*, ed. Barry N. Staw and Larry L. Cummings (Greenwich, Conn.: JAI Press, 1984), pp. 196–97.
14. Richard Daft, Robert H. Lengel, and Linda Klebe Trevino, "Message Equivocality, Media Selection, and Manager Performance: Implications for Information Systems," *MIS Quarterly* 1 (1987), pp. 353–64.
15. Richard K. Allen, *Organizational Management through Communication* (New York: Harper & Row, 1977), p. 2.
16. Howard S. Gitlow and Shelly J. Gitlow, *The Deming Guide to Quality and Competitive Position* (Englewood Cliffs, N.J.: Prentice-Hall, 1987), p. 147–48.
17. Gary L. Kreps, *Organizational Communication* (New York: Longman, 1986), pp. 53–54.
18. K. Weick, *The Social Psychology of Organizing* (Reading, Mass.: Addison-Wesley, 1969).
19. Cheryl Hamilton and Cordell Paret, *Communicating for Results* (Belmont, Calif.: Wadsworth, 1990), p. 127.
20. S. M. Jourard, *Disclosing Man to Himself* (Princeton, N.J.: Van Nostrand, 1968).
21. Ted Holden and Suzanne Woolley, "The Delicate Art of Doing Business in Japan," *Business Week*, October 2, 1989, p. 120.
22. Stephen R. Covey, *The 7 Habits of Highly Effective People* (New York: Fireside, 1990), p. 237.
23. John R. Ward, "Now Hear This," *IABC Communication World*, July 1990, pp. 20–22.
24. Patricia Buhler, "Managing in the 90s: The Other Component of Communication—Listening," *Supervision*, May 1992, pp. 19–20, 26.
25. Carol Birkland, "Huh? Or the Art of Good Communication," *Fleet Equipment*, January 1992, pp. 36–37.
26. Kenneth R. Thompson, "A Conversation with Robert W. Galvin," *Organizational Dynamics*, Spring 1992, pp. 56–69.
27. John Naisbitt and Patricia Aburdene, *Re-inventing the Corporation* (New York: Warner Books, 1985), p. 62.
28. Tom Varian, "Communicating Total Quality inside the Organization," *Quality Progress*, June 1991, pp. 30–31.
29. Cooper, p. 5.
30. Les Landes, "Total Quality & Communications: Principles and Opportunities," *Executive Speeches*, January 1991, pp. 19–25.
31. Quinby, Parker, and Weimerskirch, pp. 52–54.
32. Varian, pp. 30–31.
33. Karl J. Skutski, "Conducting a Total Quality Communications Audit," *Public Relations Journal*, April 1992, pp. 32, 29–31.
34. Jean L. Farinelli, "Motivating Your Staff," *Public Relations Journal*, March 1992, pp. 18–20.
35. Patrick J. McKeand, "GM Division Builds a Classic System to Share Internal Information," *Public Relations Journal*, November 1990, pp. 24–26, 41.
36. Sushkin and Kiser, p. 30.
37. John P. Kotter and Leonard A. Schlessinger, "Choosing Strategies for Change," *Harvard Business Review*, March–April 1979, pp. 106–16.
38. Richard G. Charlton, "The Decade of the Employee," *Public Relations Journal*, January 1990, pp. 26, 36.
39. Kotter and Schlessinger, p. 112.
40. Eleanor Davidson, "Communicating with a Diverse Workforce," *Supervisory Management*, December 1991, pp. 1–2.
41. "Public Relations Must Pave the Way for Developing Diversified Workforce," *Public Relations Journal*, January 1992, pp. 12–13.

## Chapter 15

1. V. Daniel Hunt, *Quality in America* (Homewood, Ill.: Business One Irwin, 1992), p. 186.
2. Chester Barnard, *The Functions of the Executive* (Cambridge, Mass.: Harvard University Press, 1938).
3. Frank M. Corrado, *Getting the Word Out* (Homewood, Ill.: Business One Irwin, 1993), p. 10.
4. E. A. More and R. K. Laird, *Organisations in the Communications Age* (Sidney, Australia: Pergamon Press, 1985), p. 1.
5. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Center for Advanced Engineering Study, Massachusetts Institute of Technology, 1986), p. 78.
6. Charlie Quinby, Lynd Parker, and Arnold N. Weimerskirch, "How, Exactly, Do You Communicate Quality?" *Quality Progress*, June 1991, pp. 52–54.
7. Robert K. Cooper, *The Performance Edge* (Boston: Houghton Mifflin, 1991), p. 70.
8. D. L. Kanter and P. H. Mirvis, *The Cynical Americans, Living and Working in an Age of Discontent and Disillusion* (San Francisco: Jossey-Bass, 1989).
9. "CEOs Say They Neglect Employee Communications," *Public Relations Journal*, May 1990, p. 13.
10. Marshall Sushkin and Kenneth J. Kiser, *Total Quality Management* (Seabrook, Md.: Ducocoon Press, 1991), pp. 74–75.
11. Stephen R. Axley, "Managerial and Organizational Communication in Terms of the Conduit Metaphor," *Academy of Management Review*, July 1984, pp. 428–37.

42. More and Laird, p. 163.
43. Skutski, pp. 32, 29–31.
44. Michael S. Hunn and Steven I. Meisel, "Internal Communication: Auditing for Quality," *Quality Progress*, June 1991, pp. 56–60.

## Chapter 16

1. Joseph M. Juran, *Juran on Leadership for Quality: An Executive Handbook* (New York: Free Press, 1989), p. 145.
2. Walter A. Shewhart, *Statistical Method from the Viewpoint of Quality Control* (Washington, D.C.: Graduate School, U.S. Dept. of Agriculture, 1939), p. 1.
3. W. Edwards Deming, *Out of the Crisis* (Cambridge, Mass.: Center for Advanced Engineering Study, Massachusetts Institute of Technology, 1986), Chapter 9, esp. pp. 276–77.
4. *Ibid.*, pp. 290–91, 294.
5. *Ibid.*
6. Michel Perigord, *Achieving Total Quality Management* (Cambridge, Mass.: Productivity Press, 1990), Chapter 8.
7. *Ibid.*, p. 121.
8. Patricia Sellers, "Companies That Serve You Best," *Fortune*, May 31, 1993, pp. 74–88.
9. Howard Rothman, "The Power of Empowerment," *Nation's Business*, June 1993, pp. 49, 52.
10. Deming, *Out of the Crisis*, p. 28.
11. Kathleen Kerwin and David Woodruff, "Is Detroit Pulling Up to Pass?" *Business Week*, January 11, 1993, p. 63.
12. See John M. Ivancevich and William Glueck, *Foundations of Personnel*, 5th ed. (Homewood, Ill.: Richard D. Irwin, 1992).
13. Peter Lorange and Declan Murphy, "Considerations in Implementing Strategic Control," *Journal of Business Strategy*, Spring 1984, pp. 27–35.
14. George Schreyogg and Horst Stenman, "Strategic Control: A New Perspective," *Academy of Management Review*, January 1987, pp. 91–103.
15. Luis R. Gomez Mejia, Henry Tosi, and Timothy Hinkin, "Managerial Control, Performance, and Executive Compensation," *Academy of Management Journal*, March 1987, pp. 51–70.
16. Ivancevich and Glueck, *Foundations of Personnel*, Chapter 2.
17. Joel G. Siegel and Matthew S. Rubin, "Corporate Planning and Control through Variance Analysis," *Managerial Planning*, September–October, 1984, pp. 33–36.
18. Frank Collins, Paul Munter, and Don W. Finn, "The Budgeting Games People Play," *Accounting Review*, January 1987, pp. 29–49.
19. Lawrence L. Stenmetz and H. Ralph Todd, Jr., *First-Line Management*, 3d ed. (Homewood, Ill.: Richard D. Irwin, 1986).
20. Burton A. Kolb and Richard DeMong, *Principles of Financial Management*, 2d ed. (Homewood, Ill.: Richard D. Irwin, 1988); and Diane Harrington and Brent D. Wilson, *Corporate Financial Analysis*, 2d ed. (Homewood, Ill.: Richard D. Irwin, 1986).
21. Avi Rushinek and Sara F. Rushinek, "Using Financial Ratios to Predict Insolvency," *Journal of Business Research*, February 1987, pp. 74–77.
22. Ralph H. Garrison, *Managerial Accounting: Concepts for Planning, Control, Decision Making*, 5th ed. (Homewood, Ill.: Richard D. Irwin, 1988).
23. Stephen G. Green and M. Ann Welsh, "Cybernetics and Dependence: Reframing the Control Concept," *Academy of Management Review*, April 1988, pp. 287–301.
24. Gabriel A. Pall, *Quality Process Management* (Englewood Cliffs, N.J.: Prentice-Hall, 1987), p. 94.
25. Lloyd Dobyns and Clare Crawford Mason, *Quality or Else* (Boston: Houghton Mifflin, 1991), Chapter 6.

26. Sellers, "Companies That Serve You Best," p. 76.
27. Thomas Pyzdek, *What Every Manager Should Know about Quality* (New York: Marcel Dekker, 1991), p. 3.
28. A. V. Feigenbaum, *Total Quality Control* (New York: McGraw-Hill, 1991); Mary Walton, *The Deming Management Method* (New York: Perigree, 1986), pp. 122–30; and Kaoru Ishikawa, *What is Total Quality Control?* (Englewood Cliffs, N.J.: Prentice Hall, 1985), pp. 90–94.
29. Feigenbaum, *Total Quality Control*, p. 5.
30. Ishikawa, *What Is Total Quality Control?* p. 44.
31. Feigenbaum, *Total Quality Control*, p. 828.
32. *Ibid.*, pp. 828–33.
33. Pyzdek, *What Every Manager Should Know about Quality*, pp. 3–4.
34. Thomas J. Peters and Robert H. Waterman, *In Search of Excellence* (New York: Harper & Row, 1982).
35. "Productivity from Control," *Nation's Business*, June 1993, p. 38.
36. Karen Lowry Miller, "The Factory Guru Tinkering with Toyota," *Business Week*, May 17, 1993, pp. 95–97.
37. Deming, *Out of the Crisis*, pp. 380–87.
38. Juran, *Juran on Leadership for Quality: An Executive Handbook*, Chapter 5.
39. *Ibid.*, pp. 147–48.
40. *Ibid.*, pp. 148–50.
41. Feigenbaum, *Total Quality Control*, pp. 204–9.
42. See George E. Wollner, "The Law of Producing Quality," *Quality Progress*, January 1992, pp. 35–40.
43. Gilbert Fuchsburg, "'Total Quality' Is Deemed Only Partial Success," *The Wall Street Journal*, October 1, 1992, pp. B1, B7.

## Chapter 17

1. Alicia Swasey and Carol Hymowitz, "The Workplace Revolution," *Wall Street Journal Reports*, February 9, 1990, p. R6.
2. Vincent A. Mabert, "Operations in the American Economy: Asset or Liability," *Business Horizons*, July–August 1992, pp. 3–5.
3. Samuel Huber, *Efficiency and Uplift* (Chicago: University of Chicago Press, 1964).
4. Richard B. Chase and Nicholas J. Aquilano, *Production and Operations Management: A Life Cycle Approach* (Homewood, Ill.: Richard D. Irwin, 1989), pp. 19–20.
5. Erwin S. Stanton, *Reality-Centered People Management: Key to Improved Productivity* (New York: AMACOM, 1982).
6. Joseph H. Boyett and Henry P. Conn, *Workplace 2000* (New York: E. P. Dutton, 1991), pp. 23–27.
7. Peter F. Drucker, "The Emerging Theory of Manufacturing," *Harvard Business Review*, May–June 1990, pp. 94–102.
8. Gery Reiner, "Lessons from the World's Best Product Developers," *The Wall Street Journal*, August 6, 1990, p. A12.
9. Gary Slutsker, "Struggling against the Tide," *Forbes*, November 12, 1990, pp. 312–14.
10. Ani Hadjian, "Andy Grove: How Intel Makes Spending Pay Off," *Fortune*, February 22, 1993, pp. 56–61.
11. William J. Stevenson, *Production and Operations Management* (Homewood, Ill.: Richard D. Irwin, 1990), p. 624.
12. Peter Turnbull, Nick Oliver, and Barry Wilkinson, "Buyer–Supplier Relations in UK Automotive Industry," *Strategic Management Journal*, February 1992, pp. 159–68.
13. Philip B. Crosby, *Quality Is Free* (New York: McGraw-Hill, 1979), pp. 200–1.
14. Mark Maremont, Thane Peterson, and Lori Bongiorno, "These Repair Jobs Are Taking a Little Longer than Expected," *Business Week*, April 27, 1992, pp. 117–21.

15. Fleur Templeton, "May Tailor? Kind of a By-the-Numbers-Type—But Good," *Business Week*, May 11, 1992, p. 101.
16. Mark Hornung and Richard A. Moran, *Opportunities in Micro-electronic Careers* (Lincolnwood, Ill.: NTC Group, 1985), pp. 27–28.
17. Fleur Templeton, "A Dial-Twisting Robot That Keeps Testing Gear Honest," *Business Week*, July 6, 1992, p. 65.
18. Susan Moffat, "Personalized Production," *Fortune*, October 22, 1990, pp. 132–35.
19. Philip B. Crosby, *Completeness: Quality for the 21st Century* (New York: E. P. Dutton, 1992), p. 116.
20. David Woodruff, "A New Era for Auto Quality," *Business Week*, October 23, 1990, pp. 84–96.
21. "Epidemic of Recalls Embarrasses Japanese Electronics Industry," *Houston Post*, March 29, 1990, p. A10.
22. Neal Templin, "Despite Big 3's Claims of Higher Quality, Japanese Still Boast Fewer Safety Recalls," *The Wall Street Journal*, March 24, 1992, pp. B1, B10.
23. Crosby, 1979, pp. 101–7.
24. Marion Mills Steeples, *The Corporate Guide to the Malcolm Baldrige National Quality Award* (Homewood, Ill.: Business One Irwin, 1992), p. 312.
25. Cyndee Miller, "U.S. Firms Lag in Meeting Global Quality Standards," *Marketing News*, February 15, 1993, pp. 1, 6.
26. Sherie Posesorski, "Here's How to Put Statistical Process Control to Work for You," *Canadian Business*, December 1985, p. 163.
27. Allen E. Puckett, "People Are the Key to Productivity," *Industrial Management*, September–October 1985, pp. 12–15; and Philip E. Atkinson and Brian W. Murray, "Managing Total Quality," *Management Services*, October 1985, pp. 18–21.
28. Robert C. Camp, "Learning from the Best Leads to Superior Performance," *Journal of Business Strategy*, May–June 1992, pp. 3–6.
29. Charles Garfield, *Second to None* (Homewood, Ill.: Business One Irwin, 1992), pp. 215–17.
30. "Quality Circles: A Worthy Tool to Use under the QIP Umbrella," *Quality Update*, Fall 1990, pp. 26–29.
31. Anatoly Brylov, "Aeroflot Taking the Dollar under Its Wing," *Business in the USSR*, September 1990, pp. 38–39.
32. Richard Melcher and Rose Brady, "Soviet Breakup? Coup? That's Minor Turbulence," *Business Week*, February 17, 1992, pp. 70–72.
33. Jay Matthews and Peter Katel, "The Cost of Quality," *Newsweek*, September 7, 1992, pp. 48–49.
34. Gilbert Fuchsberg, "Total Quality Is Termed Only Partial Success," *The Wall Street Journal*, October 1, 1992, pp. B1, B7.
35. Crosby, *Completeness*, p. xv.
36. *Ibid.*
37. Joseph Spiers, "Productivity Looks Promising," *Fortune*, March 9, 1992, pp. 21–22.
38. Edmund Faltermayer, "Invest or Die," *Fortune*, February 22, 1993, pp. 42–52.
39. Thomas J. Peters and Robert H. Waterman, Jr., *In Search of Excellence: Lessons from America's Best-Run Companies* (New York: Harper & Row, 1982), p. 249.
40. *Ibid.*, p. 239.
41. Albert R. Karr, "The Corporate Race Belongs to the Safest," *The Wall Street Journal*, July 5, 1990, pp. B1, B5.
42. Tom W. Ferguson, "Job Injury Burden Could Disable Some Companies," *The Wall Street Journal*, July 10, 1990, p. A17.
43. Michael D. Lemonick, "The Ozone Vanishes," *Time*, February 17, 1992, pp. 60–63.
44. Nancy C. Morey and Robert V. Morey, "Business and the Environment in the 21st Century," *Business Forum*, Winter 1992, pp. 51–55.
45. Paul Hofheinz, "The New Soviet Threat: Pollution," *Fortune*, July 27, 1992, pp. 110–14.
46. Caleb Solomon, "Refiner Begins Making Gasoline from Used Oil," *The Wall Street Journal*, February 11, 1992, pp. B1–B2.
47. Dianna Solis and Sonia L. Nazario, "U.S., Mexico Take on Border Pollution," *The Wall Street Journal*, February 25, 1992, pp. B1, B8.
48. Jeffrey Taylor, "New Rules Harness Power of Free Markets to Curb Air Pollution," *The Wall Street Journal*, April 14, 1992, pp. A1, A4.
49. Dori Jones Yang and Andrea Rothman, "Boeing Cuts Its Altitude as the Clouds Roll In," *Business Week*, February 18, 1993, p. 25.
50. Zachary Schiller, "GE's Appliance Park: Revise, or Pull the Plug?" *Business Week*, February 8, 1993, p. 30.

## Chapter 18

1. James Brian Quinn and Christopher E. Gagnon, "Will Services Follow Manufacturing into Decline?" *Harvard Business Review*, November–December 1987, pp. 95–103.
2. James L. Heskett, W. Earl Sasser, Jr., and Christopher W. L. Hart, *Service Breakthroughs* (New York: Free Press, 1990), p. 1.
3. Steven J. Skinner, *Marketing* (Boston: Houghton Mifflin, 1990), p. 631.
4. *Statistical Abstracts of the United States*, 1992, p. 429.
5. Howard Banks, "What's Ahead for Business," *Forbes*, May 25, 1992, p. 37.
6. Peter K. Mills and James H. Morris, "Clients as 'Partial' Employees of Service Organizations: Role Development in Client Participation," *Academy of Management Journal*, December 1986, pp. 726–35.
7. Christopher H. Lovelock, "Classifying Services to Gain Strategic Marketing Insights," *Journal of Marketing*, Summer 1983, pp. 9–20.
8. Leonard L. Berry, David R. Bennett, and Carter W. Brown, *Service Quality: A Profit Strategy for Financial Institutions* (Homewood, Ill.: Dow Jones-Irwin, 1989), p. 26.
9. Stephen W. Brown, "Building Quality into Service Calls for More than Just 'Smile Training,'" *Marketing News*, September 26, 1988, p. 16.
10. Karl Albrecht, "Total Quality Service," *Quality Digest*, January 1993, pp. 18–19.
11. Gregg Fields and Joan Chrissos, "Service without a Smile a Growth Industry," *Herald-Leader* (Lexington, Ky.), October 4, 1987, pp. A1, A14.
12. Leonard L. Berry and A. Parasuraman, *Marketing Services* (New York: Free Press, 1991), p. 15–16.
13. Monci Jo Williams, "Why Is Airline Food So Terrible?" *Fortune*, December 19, 1988, pp. 169–72.
14. Thomas C. Keiser, "Strategies for Enhancing Service Quality," *Journal of Services Marketing*, Summer 1988, pp. 65–70.
15. Patricia Sellers, "How to Handle Customers' Gripses," *Fortune*, October 24, 1988, pp. 88–100.
16. Tatiana Pouschine, "In the Shadows of American Express," *Forbes*, October 26, 1992, pp. 154–59.
17. A. Parasuraman, "Customer Oriented Corporate Cultures Are Crucial to Services Marketing Success," *Journal of Services Marketing*, Summer 1987, pp. 39–46.
18. Peter F. Drucker, "The New Productivity Challenge," *Harvard Business Review*, November–December 1991, pp. 70–79.
19. Curtis R. McLaughlin and Sydney Coffey, "Measuring 'Productivity' in Services," in *Managing Services*, ed. Christopher H. Lovelock (Englewood Cliffs, N.J.: Prentice Hall, 1992), pp. 395–96.



20. C. Jackson Grayson, Jr., and Carla O'Dell. *American Business: A Two-Minute Warning* (New York: Free Press, 1988), pp. 36–38.
21. Alfred L. Malabre, Jr., and Lindley H. Clark, Jr., "Productivity Statistics for the Service Sector May Understate Gains," *The Wall Street Journal*, August 12, 1992, pp. A1, A12.
22. Drucker, "New Productivity Challenge," pp. 70–79.
23. Ronald Henkoff, "Piety, Profits, and Productivity," *Fortune*, June 29, 1992, pp. 84–85.
24. Lucinda Harper, "Travel Agency Learns Service Firms' Perils in Slimming Down," *The Wall Street Journal*, March 20, 1992, pp. A1, A6.
25. James H. Donnelly, Jr., and Steven J. Skinner, *The New Banker* (Homewood, Ill.: Dow Jones-Irwin, 1989), pp. 33–34.
26. Christopher W. L. Hart, James L. Heskett, and W. Earl Sasser, Jr., "The Profitable Art of Service Recovery," *Harvard Business Review*, July–August 1990, pp. 148–56.
27. Donnelly and Skinner, *The New Banker*, pp. 21–24.
28. *Ibid.*, pp. 21–26.
29. Scott W. Kelley, "Discretion and the Service Employee," *Journal of Retailing*, Spring 1993, pp. 104–26.
30. James Brian Quinn, Thomas L. Doorley, and Penny C. Paquette, "Technology in Service: Rethinking Strategic Focus," *Sloan Management Review*, Winter 1990, pp. 79–87.
17. Wendell L. French and Cecil H. Bell, Jr., *Organizational Development: Behavioral Science Interventions for Organizational Improvement* (Englewood Cliffs, N.J.: Prentice-Hall, 1990), p. 170.
18. J. L. Franklin, "Improving the Effectiveness of Survey Feedback," *Personnel*, May–June 1978, pp. 11–17.
19. An excellent framework for developing a team-building program is provided by Cynthia Reedy Johnson in "An Outline for Team Building," *Training*, January 1986, pp. 48ff.
20. Richard L. Hughes, William E. Rosebach, and William H. Glover, "Team Development in an Intact, Ongoing Work Group," *Group and Organizational Studies*, June 1983, pp. 161–81.
21. For other strategies for team building effectiveness, see Paul S. George, "Team Building without Tears," *Personnel Journal*, November 1987, pp. 122ff.
22. Kenneth P. deMeuse and S. Jay Liebowitz, "An Empirical Analysis of Team-Building Research," *Group and Organizational Studies*, September 1981, pp. 357–78.
23. W. J. Heisler, "Patterns of OD in Practice," in *Organization Development*, ed. Daniel Robey and Steven Altman (New York: Macmillan, 1982), pp. 23–29.
24. Peter F. Drucker, "There's More than One Kind of Team," *The Wall Street Journal*, February 11, 1992, p. 12.
25. "Empowered People Get Results at Chrysler," *Fortune*, September 23, 1991, p. 121.
26. Richard S. Wellins, William C. Byham, and Jeanne M. Wilson, *Empowered Teams* (San Francisco: Jossey-Bass, 1991).
27. Richard E. Walton, *Interpersonal Peacemaking: Confrontation and Third Party Consultation* (Reading, Mass.: Addison-Wesley, 1969), pp. 147–48.
28. Robert R. Blake and Jane S. Mouton, *The New Managerial Grid* (Houston: Gulf Publishing, 1978).
29. Brochure for Scientific Methods, Inc., Austin, Tex., 1981.
30. A summary is provided in Robert R. Blake and Jane S. Mouton, "An Overview of the Grid," *Training and Development Journal*, May 1975, pp. 29–37.
31. Fred Luthans, *Organizational Behavior* (New York: McGraw-Hill, 1992), p. 616.
32. Jerry Porras and P. O. Berg, "The Impact of Organizational Development," *Academy of Management Review*, April 1978, pp. 249–66.
33. From Clark Clifford's testimony on BCCI to U.S. Congressional Committee, *New York Times*, September 12, 1991, p. D7.
34. Charles J. Fombrum, *Turning Points* (New York: McGraw-Hill, 1992).
35. Charles J. Fombrum, "Corporate Culture, Environment, and Strategy," *Human Resource Management*, 1983, pp. 139–52.
36. Edward E. Lawler, *Ultimate Advantage* (San Francisco: Jossey-Bass, 1992).
37. "Raging Bull: The Trimmer New Look at Merrill Lynch," *Business Week*, November 25, 1991, pp. 218–21.
38. "Pumping Up the Baby Bell's: R&D Arm," *Business Week*, August 5, 1991, pp. 68–69.
39. "The First Draft of IBM's Future," *New York Times*, December 6, 1991, pp. D1–D2.

## Chapter 19

1. Leon Martel, *Mastering Change* (New York: Simon & Schuster, 1986), pp. 29–30.
2. Gary D. Kissler, *The Change Riders* (Reading, Mass.: Addison-Wesley, 1991).
3. Rosabeth Moss Kanter, "Transcending Business Boundaries: 12,000 Managers View Change," *Harvard Business Review*, May–June 1991, pp. 15–.
4. "An American Tragedy," *The Economist*, August 22, 1992, pp. 56, 58.
5. "Hidden Japan," *Business Week*, August 26, 1991, pp. 34–38.
6. For a discussion of the positive role that change resistance plays in organizational change effort, see Perry Pascarella, "Resistance to Change: It Can Be a Plus," *Industry Week*, July 27, 1987, pp. 45ff.
7. Bruce Brocka and M. Suzanne Brocka, *Quality Management* (Homewood, Ill.: Business One Irwin, 1992), pp. 232–33.
8. David A. Nadler, "Concepts for the Management of Organization Change," in *The Management of Organizations*, ed. Michael Tushman, Charles O'Reilly, and David A. Nadler (New York: Harper & Row, 1989), pp. 490–504.
9. Kate Lademan, "Measuring Skills and Behavior," *Training & Development*, November 1991, pp. 61–66.
10. Thomas H. Berry, *Managing the Total Quality Transformation* (New York: McGraw-Hill, 1991), pp. 18–42.
11. Richard J. Pierce, *Leadership, Perspective, and Restructuring for Total Quality* (Milwaukee: ASQC Quality Press, 1991).
12. Noel Tichy, "How Different Types of Change Agents Diagnose Organizations," *Human Relations*, 1975, pp. 771–79.
13. Philip Kotler and Gary Armstrong, *Principles of Marketing* (Englewood Cliffs, N.J.: Prentice-Hall, 1989), p. 87.
14. Jack Honomichl, "Missing Ingredients in New Coke's Research," *Advertising Age*, July 22, 1985, p. 1FF.
15. W. Warner Burke, *Organization Development: A Normative View* (Reading, Mass.: Addison-Wesley, 1987), p. 9.
16. Roger Harrison, "Choosing the Depth of Organizational Intervention," *Journal of Applied Behavioral Science*, 1970, pp. 181–202.
1. David H. Holt, *Entrepreneurship* (Englewood Cliffs, N.J.: Prentice-Hall, 1992), p. 3.
2. Richard Cantillon, *Essai sur la nature du commerce en général*, trans. H. Higgs (London: Macmillan, 1931), pp. 47–49, 53, 151–53.

## Chapter 20

3. This definition is a modified version of one offered by Robert C. Ronstadt. *Entrepreneurship: Text, Cases, and Notes* (Dover, Mass.: Lord, 1984), p. 28.
4. John Case, *From the Ground Up* (New York: Simon & Schuster, 1992), pp. 32–33.
5. John J. Kao, *The Entrepreneur* (Englewood Cliffs, N.J.: Prentice-Hall, 1991), p. 16.
6. Ralph Waldo Emerson, "On Self-Reliance," in *Essays*, ed. Eugene F. Irey (New York: Garland, 1981).
7. Roger Kaplan, "Entrepreneurship Reconsidered: The Anti-management Bias," *Harvard Business Review*, May-June 1987, p. 89.
8. Robert B. Reich, "Entrepreneurship Reconsidered: The Team as Hero," *Harvard Business Review*, May-June 1987, pp. 77–83.
9. Michael Barrier, "The Quality Leaders," *Nation's Business*, March 1993, pp. 38–40.
10. Gifford Pinchot III, *Intrapreneuring* (New York: Harper & Row, 1985).
11. Hollister B. Sykes, "Lessons from a New Venture Program," *Harvard Business Review*, May-June 1986, pp. 69–74.
12. Hans Schollhammer, "Internal Corporate Entrepreneurship," in *Encyclopedia of Entrepreneurship*, ed. Calvin A. Kent, Donald L. Sexton, and Karl H. Vesper (Englewood Cliffs, N.J.: Prentice-Hall, 1982), pp. 209–23.
13. Lee Tom Perry, *Offensive Strategy* (New York: Harper Business, 1990), pp. 87–88.
14. "Anitox Corp.: Rewards in a Premium Product," in *Real World Lessons for America's Small Businesses*, a *Nation's Business* special publication, 1992, pp. 37–38.
15. Peter F. Drucker, *Innovation and Entrepreneurship* (New York: Harper & Row, 1985), p. 143.
16. James W. Carland, Frank Hoy, William R. Boulton, and Jo Ann C. Carland, "Differentiating Entrepreneurs from Small Business Owners: A Conceptualization," *Academy of Management Review*, April 1984, pp. 354–59.
17. "The Richest People in America," *Forbes*, October 19, 1992.
18. Discussion of Mr. Gates is adapted from Brenton R. Schlender, "Microsoft's Gates Uses Products and Pressure to Gain Power in PCs," *The Wall Street Journal*, September 25, 1987, pp. 1, 5; and Richard Brandt, "The Billion-Dollar Whiz Kid," *Business Week*, April 13, 1987, pp. 68ff.
19. *Meeting the Special Problems of Small Businesses* (New York: Committee for Economic Development, 1974), p. 14; and *The State of Small Business: A Report to the President* (Washington, D.C.: U.S. Government Printing Office, March 1983), p. 28.
20. David L. Birch, "The Truth about Start-Ups," *Inc.*, January 1988, pp. 14–15.
21. Jeremy Main, "Breaking Out of the Company," *Fortune*, May 25, 1987, p. 83.
22. Richard Greene, "Do You Really Want to Be Your Own Boss?" *Forbes*, October 21, 1985, pp. 86, 87.
23. Patrick R. Liles, *New Business Ventures and the Entrepreneur* (Homewood, Ill.: Richard D. Irwin, 1974), pp. 14–15.
24. Wilson Harrell, "Entrepreneurial Terror," *Inc.*, February 1987, pp. 74–76.
25. Curtis Hartman, "Main Street, Inc.," *Inc.*, June 1986, p. 52.
26. Main, "Breaking Out of the Company," p. 83. See also Faye Rice, "Lessons from Late Bloomers," *Fortune*, August 31, 1987, pp. 87–91; and Harry Bacas, "Leaving the Corporate Nest," *Nation's Business*, March 1987, pp. 14ff.
27. See Susan Fraker, "Why Women Aren't Getting to the Top," *Fortune*, April 16, 1984, pp. 40–44; and Alex Tayler III, "Why Women Managers Are Bailing Out," *Fortune*, August 18, 1986, pp. 16–23.
28. Hartman, "Main Street, Inc.," p. 54.
29. "Starting Their Own," *Nation's Business*, May 1987, pp. 23–24. Also see "Women-Owned Companies," *Inc.*, January 1987, p. 11.
30. Liz Claiborne is one of a number of entrepreneurs who launched a business with a spouse. For a look at profiles of successes, failures, and the special challenges experienced by married cofounders of businesses, see Marie Jeanne Juilland, "The Good, the Bad, the Ugly," *Venture*, January 1988, pp. 39ff; and Teresa Carson, "Honey What Do You Say We Start Our Own Company?" *Business Week*, September 15, 1986, pp. 115–18.
31. Discussion of Liz Claiborne is based on Patricia Sellers, "The Rag Trade's Reluctant Revolutionary," *Fortune*, January 5, 1987, pp. 36–38; and "Store Wars," *Forbes*, January 11, 1988, p. 75.
32. This discussion is drawn primarily from Donald L. Sexton and Nancy Bowman, "The Entrepreneur: A Capable Executive and More," *Journal of Business Venturing* 1, no. 1 (1985), pp. 129–40.
33. These examples are described excellently in Holt, *Entrepreneurships*, p. 102.
34. Ron Zemke, *The Service Edge* (New York: New American Library, 1989), pp. 186–89.
35. Jerry Flint, "A Little Guy from Brooklyn," *Forbes*, March 1, 1993, pp. 90–93.
36. For example, see *USA Today*, March 13, 1987, p. 13.
37. Dun & Bradstreet, *Business Failures Record* (New York: Dun & Bradstreet Business Economics Department, 1986), pp. 1–10.
38. Harry Bacas and Nancy L. Croft, "Go Out on Your Own?" *Nation's Business*, March 1986, pp. 18–21.
39. See Erik Larson, "The Best-Laid Plans," *Inc.*, February 1987, pp. 60–64; and Bruce G. Posner, "Real Entrepreneurs Don't Plan," *Inc.*, November 1985, pp. 129–35.
40. Richard L. Osborne, "Planning: The Entrepreneurial Ego at Work," *Business Horizons*, January–February 1987, pp. 20–24.
41. "Pizza, Pizza, and Tigers, Too," *Business Week*, September 14, 1992, p. 108.
42. Thomas F. Jones, *Entrepreneurism* (New York: Donald I. Fine, 1987), pp. 80–84.
43. *Ibid.*, p. 168.
44. Robert A. Mamis, "Details, Details," *Inc.*, March 1988, pp. 96–98.
45. Dan Steinhoff and John F. Burgess, *Small Business Management Fundamentals* (New York: McGraw-Hill, 1986), p. 339.
46. Gary Brenner, Joel Ewan, and Kenry Custer, *The Complete Handbook for the Entrepreneur* (Englewood Cliffs, N.J.: Prentice-Hall, 1990), p. 178.

## Chapter 21

1. Herb Brody, "Great Expectations: Why Technology Predictions Go Awry," *Engineering Management Review*, Fall 1991, pp. 20–23.
2. J. J. Servan-Schreiber, *The American Challenge* (New York: Atheneum, 1967), pp. 49–50.
3. Blake L. White, *The Technology Assessment Process* (New York: Quorum Books, 1988), p. 24.
4. C. L. Herlin and M. Roznowski, "Organizational Technologies: Effects on Organizations' Characteristics and Individuals' Responses," in *Research in Organizational Behavior*, ed. Larry L. Cummings and B. M. Staw (Greenwich, Conn.: JAI Press, 1985), p. 47.
5. F. Berniker, "Understanding Technical Systems," paper presented at Symposium on Management Training Programs: Implications of New Technologies, Geneva, Switzerland, 1987, p. 10.

6. Robert Fisher, *Science, Man, & Society* (Philadelphia: W. B. Sanders, 1975), pp. 5–7.
7. "High Technology," *Business Week*, January 11, 1993, pp. 78–82.
8. F. M. Scherer, *International High-Technology Competition* (Cambridge, Mass.: Harvard University Press, 1992), p. 1.
9. Joseph G. Morone, *Winning in High-Tech Markets* (Cambridge, Mass.: Harvard Business School Press, 1992), p. 1.
10. "Technology and Global Competitiveness," National Science Board, *Science & Engineering Indicators* (Washington, D.C.: U.S. Government Printing Office, 1991), pp. 133–40.
11. Michael E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (New York: Free Press, 1985), pp. 33–200; and Michael E. Porter, *The Competitive Advantage of Nations* (New York: Free Press, 1990), pp. 41–46.
12. White, *The Technology Assessment Process*, p. 61.
13. Porter, *op. cit.*, p. 33.
14. Richard N. Foster, *Innovation: The Attacker's Advantage* (New York: Summit Books, 1986), p. 31.
15. Christopher-Friedrich von Braun, "The Accelerator Trap," *Engineering Management Review*, Fall 1991, pp. 13–19.
16. Foster, *Innovation*, pp. 214–17.
17. Hans J. Thamkain, "Developing the Skills You Need," *Research, Technology, Management*, March-April 1992, pp. 42–47.
18. James P. Womack, Daniel T. Jones, and Daniel Roos, *The Machine That Changed the World* (New York: Rawson Associates, 1990), pp. 11–29.
19. Chris Pappas, "Strategic Management of Technology," *Journal of Product Innovation Management*, Spring 1984, pp. 30–35.
20. Four steps suggested in *ibid.*, p. 34.
21. Richard S. Rosenbloom and William J. Abernathy, "The Climate for Innovation in Industry: The Role of Management Attitudes and Practices in Consumer Electronics," *Research Policy*, Spring 1980, pp. 209–25.
22. Richard S. Rosenbloom and Michael A. Cusumano, "Technological Pioneering and Competitive Advantage: The Birth of the VCR Industry," *The Management of Innovation*, ed. Michael L. Tushman and William L. Moore (Cambridge, Mass.: Ballinger, 1988), p. 16.
23. Modesto A. Maidique and Robert B. Hayes, "The Art of High Technology Management," *Sloan Management Review*, Winter 1984, p. 19.
24. J. Fierman, "How Gallo Crushes the Competition," *Fortune*, September 1986, pp. 87–91.
25. Louis N. Mogavero and Robert S. Shane, *Technology, Transfer and Innovation* (New York: Marcel Dekker, 1982), p. 1.
26. Michael K. Banarvy, "Technology and Strategic Advantage: Managing Corporate Technology Transfer in the USA and Japan," *Engineering Management Review*, Summer 1991, pp. 63–69.
27. H. Takeuchi and I. Nonaka, "The New Product Development Game," *Harvard Business Review*, January-February 1986, pp. 137–46.
28. P. R. Naryak and J. M. Ketteringhorn, *Breakthroughs* (New York: Rawson Associates, 1986).
29. Robert Lucky, paper presented at the National Academy of Engineering Symposium on Engineering as a Societal Enterprise, Washington, D.C., October 3, 1990.
30. The discussion of market-driven transfer and process-and-product improvement transfer is based and draws upon William G. Howard, Jr., and Bruce R. Gluck, *Profiting from Innovation* (New York: Free Press, 1992), pp. 19–30.
31. R. E. Gomory, "From the Ladder of Science to the Product Development Cycle," *Harvard Business Review*, November-December 1989, p. 102.
32. Joseph T. Visey, "The New Competitors: They Think in Terms of Speed-to-Market," *Academy of Management Executive*, May 1991, pp. 23–33.
33. For an excellent discussion of strategies for international technology transfer, see Robert T. Keller and Ravi R. Chinta, "International Technology Transfer: Strategies for Success," *Academy of Management Executive*, May 1990, pp. 33–43.
34. Ben L. Kedia and Rabi S. Bhagat, "Culture Constraints on Transfer of Technology across Nations: Implications for Research in International and Comparative Management," *Academy of Management Review*, October 1988, pp. 559–71.
35. Jason Zunsheng Yin, "Technological Capabilities as Determinants of the Success of Technology Transfer Projects," *Technological Forecasting and Social Change*, Spring 1992, pp. 17–29.
36. Timothy M. Collins and Thomas L. Doorley, *Teaming Up for the 90s* (Homewood, Ill.: Business One Irwin, 1991), p. 90.
37. Jay Peterzel, "When Friends Become Moles," *Time*, May 1990, p. 50.
38. Bob Sablatura and Jim Dagleish, "Businessmen Arrested for Allegedly Trying to Buy Dow Trade Secrets," *Midland Daily News*, August 1, 1988, p. 1.
39. William M. Carley, "How the FBI Snared Two Scientists Selling Drug Company Secrets," *The Wall Street Journal*, September 5, 1991, p. 1.
40. "As Cold War Fades, Some Nations' Spies Seek Industrial Secrets," *The Wall Street Journal*, June 17, 1991, p. A1.
41. E. M. Goodman, "The Japanese Information-Gatherers," *Research, Technology, Management*, July-August 1992, p. 47.
42. An excellent discussion of issues, strategies, and debates is presented in S. J. Kline and D. E. Kash, "Do We Need a Technology Policy?" *IEEE Technology and Society Magazine*, Summer 1992, pp. 18–31.
43. Lewis M. Branscomb, "Toward a U.S. Technology Policy," *Issues in Science and Technology*, Summer 1991, pp. 50–55.
44. "Settling the Frontier," *The Economist*, July 25, 1992, pp. 21–23.
45. Morone, *Winning*, pp. 263–65.
46. Teresa Amabile, *The Social Psychology of Creativity* (New York: Springer Verlag, 1983).
47. E. Raudsepp, "Profile of the Creative Individual," *Creative Computing*, August 1983, p. 62.
48. Sheidan Tatsumo, *The Technopolis Challenge* (New York: Prentice-Hall, 1986).
49. *Ibid.*
50. Lee Tom Perry, *Offensive Strategy* (New York: Harper Business, 1990), p. 169.
51. W. Guzzardi, "The National Business Hall of Fame," *Fortune*, 1990, p. 19.
52. Rosabeth Moss Kanter, *The Change Masters* (New York: Simon & Schuster, 1983).
53. Thomas Kiely, "The Idea Makers," *Technology Review*, January 1993, pp. 32–40.

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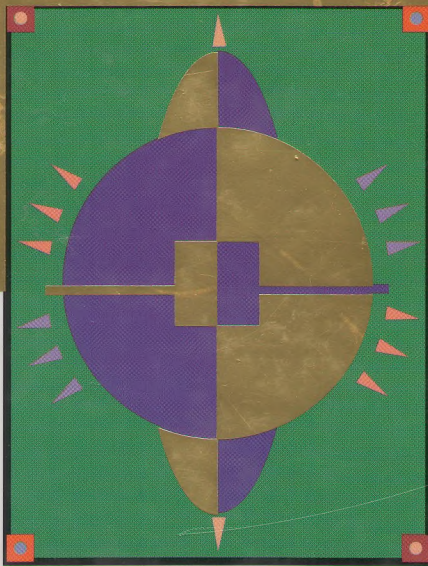
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ISBN 0-256-12453-1



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11-4069-01