# TOTAL QUALITY MANAGEMENT

TOWARD THE EMERGING PARADIGM



McGRAW-HILL INTERNATIONAL EDITIONS

Management and Organization Series

GREG BOUNDS LYLE YORKS MEL ADAMS

GIPSIE RANNEY

# **Beyond Total Quality Management**

## Toward the Emerging Paradigm

**Greg Bounds** 

University of Tennessee

Lyle Yorks

Eastern Connecticut State University

Mel Adams

University of Alabama in Huntsville

Gipsie Ranney

University of Tennessee

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New York St. Louis San Francisco Auckland Bogotá Caracas Lisbon London Madrid Mexico City Milan Montreal New Delhi San Juan Singapore Sydney Tokyo Toronto

### BEYOND TOTAL QUALITY MANAGEMENT Toward the Emerging Paradigm INTERNATIONAL EDITIONS 1994

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93-38388

3 4 5 6 7 8 9 0 KKP FC 9 8 7 6 5 4

This book was set in New Baskerville by Monotype Composition Company. The editors were Lynn Richardson, Josh Pincus, and Joseph F. Murphy; the production supervisor was Annette Mayeski. The cover was designed by Carla Bauer.

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

Beyond total quality management: toward the emerging paradigm / Greg Bounds . . . [et al.].

p. cm. - (McGraw-Hill series in management)

Includes bibliographical references and index.

ISBN 0-07-006678-7

1. Total quality management. I. Bounds, Gregory M. II. Series.

HD62.15.B49 1994

658.5'62-dc20

When ordering this title, use ISBN 0-07-113238-4

Printed in Singapore

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### About the Authors

**Greg Bounds** is a Research Associate in the College of Business Administration at the University of Tennessee. He earned a B.A. in Psychology at Davidson College, Davidson, North Carolina, and a Ph.D. in Industrial and Organizational Psychology at the University of Tennessee, Knoxville. Before completing his Ph.D., Dr. Bounds did managerial and nonmanagerial work as Branch Office Manager with the federal government; Advertising Sales Team Manager and Salesman; Program Analyst; Line Worker and Shift Supervisor in a Food Processing Plant; and Work Crew Supervisor in agricultural industries. Dr. Bounds has engaged in consulting, training, and applied research with a variety of organizations.

In his tenure at UT, Dr. Bounds has managed a research program focused on the transformation of companies toward the new paradigm; served as a member of intervention teams at the University of Tennessee's world-renowned Management Development Center; and helped found the Center for the Advancement of Organizational Effectiveness at the University of Tennessee, which sponsors interdisciplinary research focused on the themes of the new paradigm. Dr. Bounds is a cocreator and coauthor of many of the principles that are taught in the Institutes of the Management Development Center. Dr. Bounds is a coeditor and contributing author for 15 of the 34 chapters for *Competing Globally through Customer Value* (Westport Conn.: Quorum, 1991), a book recommended by the Total Quality Forum.

**Lyle Yorks** is Professor of Management Sciences at Eastern Connecticut State University, where he coordinates the Master of Science in Organizational Relations program. He is also a member of the faculty of the Executive Development Program at the University of Tennessee. He is also a Principal of the Marshall Group in Scottsdale, Arizona. His consulting work and research focuses on organizational restructuring and the development of effective work groups in support of corporate strategy. He has

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more than 20 years' experience in developing high-involvement work systems and processes. His articles have appeared in professional journals such as the *Academy of Management Review*, the *California Management Review*, *Planning Review* and *Personnel*. Included among the companies he has worked with are Arizona Public Service, American Express, General Electric, General Motors, Coopers & Lybrand, Florida Power & Light, and Eastman Chemical.

Mel Adams is Assistant Professor of Management at the University of Alabama in Huntsville. He received his Ph.D. in Business Administration from the University of Tennessee, where he was elected to Beta Gamma Sigma. He previously managed program development for Oak Ridge Associated Universities, a Department of Energy prime contractor, where he worked closely with many major U.S. energy companies. Dr. Adams is the recipient of several research grants and contracts and the author of several publications in journals and proceedings. He has also consulted with Fortune 500 firms and many small businesses on strategic planning and continuous process improvement. He also has experience in management development, training, and training program management, and he has been recognized for his teaching and assistance to small businesses.

**Gipsie Ranney** is a consultant in system improvement and statistical methodology. She was a member of the statistics faculty of the University of Tennessee for fifteen years. While at the University, she was a founder of The Institute for Productivity through Quality. In 1988, she joined the General Manager's staff of the General Motors Powertrain Division. Subsequently, she was Director of Statistical Methodology for General Motors' Powertrain Group. Dr. Ranney is a member of the Board of Directors of the Ohio Quality and Productivity Forum. She serves as consultant to the Westmoreland County Deming Study Group in Pittsburgh. She is a member of the Board of Directors of the Physical and Mathematical Sciences Foundation of North Carolina State University. Dr. Ranney has developed and conducted numerous seminars for engineers and managers on theory and methods for organizational improvement. She has coauthored a variety of publications on statistical methods and managing for improvement. She has consulted with managers in both manufacturing and service organizations for more than a decade, in addition to collaborating with researchers in education and health care. Dr. Ranney holds a B.S. in Mathematics from Duke University and a Ph.D. in Statistics from North Carolina State University.

### **Preface**

When we started drafting Beyond Total Quality Management: Toward the Emerging Paradigm, some of our colleagues scoffed and asked us why we should bother to write a textbook for a market that does not yet exist. At that time, only a few business and engineering schools offered courses on Continuous Improvement or Total Quality Management (TQM). Many professors regarded these topics as passing fads (and some still do). Working closely with industry, however, we came to believe that the organizations of the future would need managers who have been educated on these topics. Today, our vision has been realized. Industry now demands that schools of business and engineering educate students on the continuous improvement of business processes and systems to provide superior customer value. As authors, we have anticipated our own customers' needs and have provided a means to meet those needs. This customer focus embodies one key principle in what we describe as a new, emerging paradigm for management.

We wrote this text for use in any class designed to prepare students for management in the coming decades. But because the philosophies and practices discussed in this book go well beyond the traditional rubric of management, this text will also be useful in marketing and industrial engineering courses which address the emerging quality paradigm as a natural part of their content coverage. One would be likely to find this text in courses ranging from "Contemporary Issues in Management" to "Strategy Formulation and Implementation." Some schools have created new courses on TQM or Continuous Improvement, while others have kept an existing course title but revamped the content to focus on the themes of this text. By whatever means, and by whatever label, almost all schools of business and engineering are incorporating the quality themes of this text into their curriculum. We hope that this text will be useful for years to come in helping you educate students on these important topics.

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This text is suitable for use at both the undergraduate and graduate/MBA level. While the concepts are challenging, undergraduates should find the book readable and accessible. In our classroom tests of the material, we have found that students enjoy the conceptual rigor because it gives them a taste of the challenge that real managers face every day. Through studying this text students will be better prepared for the demands they will encounter as managers in the future.

### ► THE EMERGING PARADIGM

In simple terms, a managerial paradigm can be defined as the way people think and act in conducting business. It provides rules and standards as well as accepted examples of managerial practice, laws, theories, applications, and instrumentation.

To educate the reader on the new, emerging paradigm, we have created an original framework of ideas that integrates various topics that were previously treated as separate issues. These topics include systems theory, strategic management, managerial roles, organizational culture, variation theory, marketing research and measurement, and quality improvement. We have attempted to exemplify this integrative framework with current, comprehensive case studies, but we have also addressed connections to existing theories of management. Our text is integrated by three themes of the emerging quality paradigm that are addressed in every chapter: customer value strategy, organizational systems, and continuous improvement.

**Theme 1—Customer Value Strategy:** Customer value is defined as a combination of benefits derived from using a product or service and the sacrifices required of the customer. The customer value strategy is the company's plan for offering value to customers, including product characteristics, attributes, mode of delivery, support services, and so on.

**Theme 2—Organizational Systems:** Organizational systems are the means that provide customer value. These systems cut across functional and departmental boundaries and broadly include material and human inputs, process technology, operating methods and work practices, streams of work activity, information flows, and decision making.

**Theme 3—Continuous Improvement:** To keep pace with the changes in the external environment, managers have to change the organization. Managers have always made improvements. However, with rates of change increasing in the external environment, managers must improve differently and at a greater rate than in the past. They must pursue continuous improvement, which is a constant striving to learn, change, and make things better. Such relentless change can help create the company's future through both radical and incremental improvements in products, processes, and systems.

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### ► KEY MESSAGE OF THE TEXT

From this text students will learn that Total Quality Management, properly implemented, can never be just another program or a managerial style or a motivational gimmick for application at the lowest level of the organization. Rather, TQM should be a cultural transformation that is driven by the redefinition of managerial roles. The notion of paradigm shift implies a change of theory (or rationale) and action in the practice of management. This means that managers have to change the way they think about and do their work. It is not enough for them to be supportive of such change by their subordinates. They must change themselves. This managerial change cannot be accomplished by simply using quality tools and techniques. It requires a fundamental change in the values, beliefs, and assumptions about how business should be conducted.

### ► RATIONALE FOR THE TITLE: Beyond Total Quality Management

First, what is Total Quality Management? TQM is often used to refer to any collection of changes, techniques, and programs that managers choose to institute in the name of improvement. To somewhat more thoughtful managers, the word *total* conveys the idea that all employees, throughout every function and level of an organization, pursue quality. The word "quality" applies to every aspect of the organization. This begins with the strategic management process and (in the case of a manufacturing organization) extends through product design, manufacturing, marketing, finance, and so on. In short, TQM is as much about the quality process as it is about quality results or quality products.

Second, what does it mean to go beyond TQM? In a nutshell, it means that a paradigm shift is a more fundamental change than the programmatic approach often designated as TQM. We see TQM as a convenient label for the thoughts and practices currently being adopted that are different from traditional management. In the period of paradigm shifting, managers often use a label to signify that they are doing something different. Once the shift to the new paradigm is complete, the buzzword will no longer be needed. Managers will simply refer to these new ideas and practices as management. In the interim, it may be useful to think of TOM as simply an important milestone in an ongoing evolution of the field of management. Total Quality is a buzzword that marks the beginning of a new era in which managers will focus on customer value, cross-functional systems, and continuous improvement, the three themes of this text. Viewing TQM as another step in the evolution of management reminds us to continue seeking improvement, to go beyond current TQM theory and practice, rather than settling into another period of preserving the status quo.

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### ▶ SIGNIFICANT FEATURES OF THIS TEXTBOOK

- **1—Case Studies:** One of the most important features of the text is the inclusion of original, in-depth case studies. Each case is current and describes the managerial practices of a leading company that is shifting to the emerging paradigm as we approach the twenty-first century. The cases are diverse in their coverage of both service and manufacturing organizations. The service sector is represented by companies like Federal Express and St. Mary's Medical Center, while manufacturing companies like Toyota, Hewlett-Packard, and IBM Rochester are also featured. The cases are also diverse in their coverage of managerial issues. For example, the four-part Toyota case describes how they focus on customer satisfaction to guide improvements throughout their company's manufacturing and logistical systems. Meanwhile, the Federal Express case describes the managerial systems they have put in place to support their strategy for serving customers.
- **2—Quality in Action:** Each conceptual chapter contains a special feature called *Quality in Action: A Message to the Student*. These twenty-two messages (one or two per chapter) were commissioned exclusively for this text and were written by recognized professional leaders in the quality movement such as Paul Allaire, Chairman and CEO of Xerox. These messages are intended to (1) inspire the student to learn about the concepts and techniques of management that will be an unavoidable part of managerial practice in the future, and (2) educate the student on the thoughts and practices of recognized leaders. *Quality in Action* gives students a unique chance to learn directly from the people who are building the foundations of the emerging paradigm—from Edwin Artzt, Chairman and CEO of Procter and Gamble, to Owen Bieber, President of United Auto Workers, to Curt Reimann, Director of the Malcolm Baldrige National Quality Award.
- **3—Pedagogical Features:** The concepts presented throughout the text should be intellectually challenging, while also captivating for the student because of the real world flavor given by the examples and cases. Every chapter and case study contains questions and exercises that require the student to think critically about the material, for example, by analyzing the case studies using the models and principles presented in the chapters. Students are also asked to suggest what the company should do next, based upon the concepts and principles learned in other cases and chapters. The discussion questions and experiential exercises require the student to communicate analyses in both oral and written form. Other useful pedagogical features include chapter overviews, summaries of key points, lists of key terms, and an end-of-book glossary.
- **4—Authorship:** Each author is both a practitioner and a theorist. This text was written by people who are actively engaged in helping public and private organizations (large and small) to integrate these philosophies

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and methods into everyday practice. In addition, we are all actively developing and publishing the theoretical basis for the emerging quality paradigm. While practitioners should find the text enlightening, students will find that the authors' practical experiences have provided the solid foundation of an accessible approach aimed at their special educational needs.

**5—Classroom Testing:** Beyond Total Quality Management was thoroughly classroom-tested. All four authors of this text have been teaching the principles of the emerging paradigm in both academic and industrial settings for years. Most of the chapters and cases were used repeatedly as reading material in graduate and undergraduate business classes at three universities. We actively engaged our customers, more than 300 students, in the product development process. They gave us invaluable feedback on our writing and on the pedagogical features of this text.

**6—Currency:** The rates of change in the field of management are increasing, which makes it important for this text to be current in its coverage. To make it as up-to-date as possible, we have drawn recent examples from the popular press and trade journals as well as from our own experiences with companies attempting to make the shift. The case studies were all written in the 1990s and describe the issues and approaches that are of vital importance in today's environment.

**7—International Focus:** This textbook includes extensive coverage of international issues. Chapter 1 is devoted entirely to the global competitive context. Many of the *Quality in Action* messages refer to international competition. For example, the message from Chairman and CEO Donald V. Fites of Caterpillar describes how global competition inspired culture change in the company. There are many examples within the chapters that allude to international competition. Most of the cases feature companies that operate globally and discuss numerous issues in international management. For example, the Xerox case explicitly addresses a "globally integrated supply chain."

**8—Ethical Foundations:** The text prescribes a value system that can guide managers in decision making. For example, improving the efficiency of resource utilization is a socially responsible thing to do in an era of dwindling resources and population explosion. The focus on customer value provides an important decision criterion for ethical decisions. The emphasis on teamwork and long-term investment leads managers not to abuse employees for short-term gains, and to avoid taking short-term gains at the expense of long-term prosperity and job security. In fact, the entire book emphasizes that managers must build systems that serve customers and thereby serve all stakeholders (internal and external to the organization) over the long term. What could be more appropriate as a guiding framework for ethical decision making and social responsibility?

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**9—Instructor's Supplements:** We are pleased to offer adopters a complete Instructor's Manual for use with this text. The Instructor's Manual was prepared by Dr. Kim Melton of Virginia Commonwealth University, an experienced classroom instructor and professional consultant in the field of quality management. In addition to traditional teaching aids, the instructor's manual offers a tools and techniques supplement for instructors whose quality course has a more quantitative and technical orientation. Dr. Melton also provides instructors with numerous suggestions for connecting the concepts covered in the theory chapters with related real world applications in the case studies. Finally, the Instructor's Manual features a complete Test Bank which, true to the spirit of the emerging paradigm, contains questions that force students to think critically about the material they have learned and apply the theories and methods within a creative learning context. A computerized version of the Test Bank is also available to adopters.

**10—Customization:** The entire book is available on PRIMIS, McGraw-Hill's electronic custom publishing system. PRIMIS allows you to take selections from this text and combine them with a wide variety of articles, case studies, and other McGraw-Hill textbook chapters to create a unique text tailored to your specific classroom needs. For further information on this option, please contact your local McGraw-Hill sales representative.

### **▶ OVERVIEW OF CHAPTER CONTENT**

Chapter 1 focuses on *Global Competitiveness* and gives readers an appreciation for the pervasiveness of change that organizations face and why a shift to the continuous improvement paradigm is important. It explains the popular but often misunderstood terms "paradigm" and "paradigm shift" and also summarizes the major contrasts between the new and old paradigms of management.

Chapter 2 discusses the *Foundations of TQM* and overviews the field of quality and continuous improvement to give the reader a historical perspective and basic understanding of popular terms and authors. A key feature of this chapter is the explanation of the term "Total Quality Managment."

Chapter 3 provides students with the foundations for *Understanding Organizational Culture* and describes the culture of organizations pursuing the new paradigm. It prepares the student for learning about the specific methods, tools, and approaches which accompany the core concepts of the new paradigm. The first section of the chapter elaborates on the "key principles" of the emerging paradigm.

Chapter 4 focuses on designing *Managerial Roles* and overviews the network of interrelated managerial roles and provides and integrative framework for role elaborations in the remainder of the textbook. It also sets the stage for Chapters 5 to 10, which emphasize that a customer-

focused strategy should be the starting point for continuous improvement and the purpose that guides the design of managerial roles and responsibilities.

Chapter 5 examines *Customer Value Concepts* and defines customer value in terms of the combination of benefits enjoyed and sacrifices required of customers. It also explains how the concept of customer value compares to other notions of "value" such as Porter's ideas about the "value chain" and "buyer value."

Chapter 6 is devoted to *Strategic Management* and provides a model of the strategic management process that is based on customer value and that thrives on continuous improvement. This chapter also relates traditional concepts of strategy to a firm's customer value-based strategy and reviews some key managerial tools for strategic planning.

Chapter 7 highlights *Customer Value Measurement* and develops a model for measuring quality, customer value, and customer satisfaction. It reviews various marketing research methods for learning about what customers need and translating those requirements into products and processes. It also teaches the reader how to use survey and other measurement techniques to monitor a firm's success in providing value to customers.

Chapter 8 focuses on *Understanding and Improving Systems* and emphasizes the importance of integrating across functional and departmental boundaries to overcome hierarchical management and provide superior customer value. This chapter reviews the benefits and drawbacks of various approaches to managing and improving the systems of an organization.

Chapter 9 covers the key issues in *Interpreting the Meaning of Variation* and provides an introduction to concepts and methods that improve the manager's ability to understand variation and interpret the messages it contains about the causes that produce it.

Chapter 10 continues this discussion by providing students with a basis for *Understanding the Causes of Variation*. This chapter illustrates the complex cause and effect relationships that combine to produce organizational results. It also provides insight on how systems thinking and understanding of variation can improve managerial practice.

Finally, Chapters 11 and 12 address the transformation of an organization toward the emerging paradigm.

Chapter 11 stresses the importance *Employee Involvement* and discusses how to link strategy and operations through employee involvement.

Chapter 12 focuses on *Cultural Change and Organizational Learning* and discusses the concepts of transformational change and continuous learning that will be necessary for the new paradigm.

### **► ACKNOWLEDGMENTS**

The help of many capable reviewers has made an immeasurable contribution to the book. We wish to acknowledge the contributions of the people who reviewed earlier drafts of our chapters and cases: xxvi Preface

Paul Bobrowski, Syracuse University

Albert J. Cole, Senior Logistics Officer, Central Intelligence Agency Stefanie Fenton, Quality Improvement Networks Manager, The Healthcare Forum

Stephen Haag, University of Minnesota—Duluth

Barbara Hastings, University of South Carolina—Spartanburg

Janelle Heineke, Boston University

Gary M. Kern, Indiana University-South Bend

David A. Lewis, University of Massachusetts-Lowell

Joe Sparks, Director of Continuous Process Improvement, Teledyne-Brown Engineering

Robert Stottle, President/Founder, Thermal Corporation

Mark Treleven, John Carroll University

We also appreciate the contributions of the industry leaders who were gracious enough to contribute pieces for our "Quality in Action: A Message to the Student" feature:

Paul A. Allaire, Chairman and CEO, Xerox Corporation

Edwin L. Artzt, Chairman and CEO, The Procter & Gamble Company

Thomas E. Bennett, President and CEO, Ingersoll-Dresser Pump Company

Owen F. Bieber, President, United Automobile Workers

James L. Broadhead, Chairman and CEO, Florida Power & Light Company James M. Brogden, President, Master Industries

Fujio Cho, President and CEO, Toyota Motor Manufacturing, U.S.A., Inc.

Albert J. Cole, Senior Logistics Manager, Central Intelligence Agency Donald V. Fites, Chairman and CEO, Caterpillar Inc.

Roger E. Handberg, Executive Vice President, Ceridian Corporation

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Roy Merrills, Chairman, Northern Telecom Inc.

Masaki Morita, Former Chairman, Sony Corporation of America

Sharon A. Ostby, Manager, Quality & Information Systems, Ceridian Corporation

Curt W. Reimann, Director, Malcolm Baldrige National Quality Award Stephen B. Schwartz, Senior Vice President, IBM Market-Driven Quality Thomas W. Sidlik, Vice President, Customer Satisfaction & Vehicle Quality, Chrysler Corporation

Ray Stata, Chairman and CEO, Analog Devices Inc.

Kenneth L. St. Cyr, Corporate Director, Apple Quality Management, Apple Computer Inc.

We are also grateful to the industry leaders who contributed epigraphs and discussion questions to this text:

Nolan D. Archibald, Chairman and CEO, The Black and Decker Corporation

Thomas F. Clarkson, Assistant Vice President, Quality Development, Allstate Insurance Company

Robert W. Coggin, Senior Vice President, Marketing, Delta Airlines L. D. DeSimone, Chairman, Minnesota Mining & Manufacturing Comp.

L. D. DeSimone, Chairman, Minnesota Mining & Manufacturing Company (3M)

Christopher B. Galvin, Senior Executive Vice President, Motorola Inc.

R. L. Heidke, Vice President and Director, Corporate Quality, Eastman Kodak Company

Michael J. McKenna, President, North American Division, Crown Cork and Seal Company

Alex Trotman, President and COO, Automotive Group, Ford Motor Company

We thank everyone at McGraw-Hill for their support and dedication to this textbook. We are particularly grateful for the efforts of the following people: Lynn Richardson, Josh Pincus, Becky Kohn, Joe Murphy, and Annette Mayeski.

We also thank the students who endured the earlier drafts of this text for the past four semesters. They gave us many helpful comments for improvement. We are particularly indebted to the following very special students: Chris Bolton, Zach Davidson, John Harmon, Gary Hunter, Pat Kruczek, Karl Manrodt, Anne Marie Ricardi, Jerry Williams, Tim Williams, and Sharon Yarbrough.

We thank all of those individuals of the College of Business Administration at the University of Tennessee who supported this project. In particular, we appreciate the support of Warren Neel, Dean of the College, and John Riblett, Director of the Management Development Center. Without their faith in us and constant goading, we may not have written this text. We are particularly thankful for Al Cole's many helpful questions and comments on our early drafts of many of these chapters and cases. We thank Larry A. Pace for contributing ideas in the early stages of preparing this textbook. We also thank Kim Melton for her invaluable contributions to this project and the ancillary package.

Finally, we acknowledge our families and friends for their patience and assistance. We dedicate this work to Greg's wife, Tuck, for her patience and love, and sons, buddy Matthew and partner Joseph; to Lyle's wife Joanne for her faithful support, and his children, Lyle Jr., Tracy, and Russell; to Mel's patient and loving daughter, Melody, and his parents for their prayers and support; to Judy Snow, Statistics Department secretary at the University of Tennessee, for her help and support, and to the