

Second Edition

MANAGEMENT ACCOUNTING

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SECOND EDITION

MANAGEMENT ACCOUNTING

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PREFACE

Management Accounting, second edition, has been written to introduce students to the vital role that management accounting information plays in organizations. Today, management accounting information is used for decision-making, learning, planning, and controlling activities. The information that management accounting systems produce supports the operational and strategic needs of the enterprise. Measures of the economic condition of the enterprise—such as the cost and profitability of the organization's products, services, and customers—are available only from management accounting systems.

Employees use management accounting information to receive rapid feedback on their performance so that they can learn from the recent past and improve for the future. Used in this way, management accounting information supports the organization's continuous learning and improvement activities. Management accounting information measures the economic performance of decentralized operating units such as business units, divisions, and departments. It provides feedback to senior management about the units' performance and also serves as the linkage between the strategy of the organization and the execution of that strategy in individual operating units.

INTENDED AUDIENCE

Several audiences will find the study of management accounting principles to be interesting and valuable. First, obviously, are individuals who expect to become management accountants. Historically, public practice with professional accounting and auditing firms was the glamour field for accounting students. Now the challenging new environment for manufacturing, service, not-for-profit, and governmental organizations has created exciting opportunities for management accountants. Until quite recently, financial people in organizations played staff roles. They were scorekeepers, sitting apart from the action, making sure that the organization's records complied with external regulatory procedures. They also issued periodic retrospective reports on internal operations.

In today's competitive environment, management accountants have become part of the management team, participating in formulating and implementing strategy. Management accountants can translate strategic intent into operational and managerial measures. Rather than just being caretakers of data and producers of historical reports, they can become the designers of an organization's critical management information systems.

Unfortunately, education of management accountants has not kept pace with these new opportunities. A research project sponsored by the Institute of Management Accountants and the Financial Executives Institute (IMA/FEI) surveyed U.S. corporate accounting and financial executives about the relative importance of various accounting knowledge and skill areas (AKSAs) and the extent to which entry level accountants bring these AKSAs to their first job. The four AKSAs rated as most important for management accountants were budgeting,

product and service costing, control and performance evaluation, and strategic cost management, including activity-based costing. These four AKSAs, however, are the fields where the largest gap between corporate expectations and actual preparation of entry-level accountants exists. The areas in which management accountants were over-trained, relative to corporate needs, included taxation, external auditing, and FASB pronouncements.

This book's intense focus on demands for managerial accounting information provides comprehensive treatments of the IMA/FEI report's four most highly rated accounting knowledge and skill areas and should contribute to closing the gap between corporate expectations on the one hand and student preparation and performance in management accounting positions on the other hand. For individuals who aspire to a career in management accounting, this book provides a valuable perspective on how the measures and information they produce as management accountants create value in manufacturing, service, and government/not-for-profit organizations.

Many students who take an introductory management accounting course, however, do not expect to become management accountants. Nonetheless, their time in a management accounting class is well spent. For example, scientists and engineers benefit from studying modern management accounting practices. Organizations use management accounting information to measure the impact and success of engineers' and scientists' product and process designs. Proposed investments in new products, new projects, and new equipment will all be viewed through the lens of the organization's management accounting system. Knowing the rules of the measurement game and being able to understand and explain when organizational management accounting systems could be hindering the company's goal for technological excellence and innovation will be powerful assets for technologists.

Another important audience consists of the individuals who expect to become managers, either general managers who control organizations or the leaders of important departments such as market research, investment analysis, human resources, research and development, information systems, and strategic planning. A modern management accounting course will help general managers and staff members understand the active role they must play in demanding excellence from their organization's management accounting systems.

Managers must learn that the design of management accounting systems is too important to be left solely to management accountants. For many years, managers were intimidated by the professional training and certification of the accounting people within organizations. These managers were passive consumers of the information produced by the organization's accounting systems. While recognizing that the information from these systems was generally late, reported at too aggregate a level, plagued with arbitrary allocations, and frequently distorted, it was the only accounting system available. Managers expressed their feelings toward their accounting system by describing it as "a system designed by accountants for accountants."

Competitive challenges today require that management accounting systems have a customer focus that provides valuable information to company managers rather than simply serving the needs of the accounting staff. Managers should learn that management accounting systems can provide timely, accurate, and relevant information for them. Managers must insist that their management accounting staff redesign any systems that do not meet these criteria. This book addresses

the demands for information for managers in line and staff positions, technical personnel, and front-line employees. It also illustrates how individuals aspiring to become management accounting professionals can design and operate information systems that are valuable for their organizations.

CONCEPTUAL FRAMEWORK

Management Accounting, second edition, uses activities—the collection of tasks and processes performed by organizational employees to create value for customers—to provide a unified framework for the textual material. Chapter 1, “Management Accounting: Information That Creates Value,” introduces the nature of management accounting information and describes how it must be customized to the different needs of front-line operators, middle managers, and senior executives. The demand for management accounting information is derived from explicit managerial needs such as making decisions about products, services and customers; improving existing activities and processes; and aligning organizational activities toward long-term strategic objectives. This chapter introduces the reasons that leading manufacturing and service organizations are adopting activity-based costing; sharing financial and operating information on a timely basis with front-line employees; and guiding strategy implementation through a balanced system of financial and nonfinancial measures of activities, processes, and outcomes. Chapter 2, “The Organization as a System of Activities,” builds on this activity framework and illustrates how managers can develop and use management accounting information to improve activity performance.

Chapter 3, “Cost Concepts,” introduces basic cost concepts within an activity framework. It integrates recent advances in the foundations of activity costing into a general framework for describing cost behavior. Chapter 4, “Cost Behavior,” builds on the activity-based framework established in Chapter 3 by highlighting the distinction between the cost of supplying organizational resources and the cost of using organizational resources to produce and deliver products and services to customers. This key distinction provides a rich foundation for describing cost behavior, embedding it in a general management framework that incorporates the demands for organizational resources, the nature of contracting for organizational resources, and management actions that, over time, adjust the supply of organizational resources to current and anticipated demands.

Chapter 5, “Basic Product Costing Systems,” introduces the basics of product costing, such as job order and process cost systems. This material is presented using the activity costing foundation established in Chapter 3 and 4. Chapter 6, “Two-Stage Allocations and Activity-Based Costing Systems,” extends this foundation by introducing activity-based cost (ABC) systems, including the two-stage process of assigning service department costs to production departments and activities, and then from cost centers and activities down to products and services. The chapter identifies the distortions arising from traditional costing systems that rely only on volume-related cost drivers. ABC systems use unit, batch, and product-sustaining cost drivers to avoid these distortions. Selling and distribution costs also are treated as components of product and customer costs.

With the foundations of using activity-based costing for measuring the costs of products, services, and customers established in Chapters 5 and 6, Chapter 7,

“Pricing and Product-Mix Decisions,” illustrates how managers use this information for decisions such as short- and long-term pricing and selection of product mix. In Chapter 8, “Process and Activity Decisions,” students learn how managers use cost information to make decisions that enhance profitability through activity and process improvements. This chapter integrates management accounting information with organizational improvement initiatives, such as total quality management and cycle time (just-in-time) management.

Chapters 1 through 8 represent a new approach to teaching management accounting. These chapters derive the demand for managerial accounting information from an integrated treatment of organizational objectives, an orientation to meeting customer expectations, and a focus on activities as the unit of analysis for measurement of cost, quality, and time.

Chapter 9, “Budgeting: Resource Allocation to Achieve Organizational Objectives,” builds on the activity framework of Chapters 1 through 8 by forecasting the supply and spending on resources based on the demands by customers for products and services. Chapter 9 shows how short-term fixed expenses arise from authorizations made in the budgeting process. The chapter not only provides the analytic aspects of budgeting, but it also recognizes the behavioral effects of how people react to budgets. Chapter 10, “Capital Budgeting,” extends the budgeting process to incorporate the acquisition of long-lived assets through capital budgeting and discounted cash flow procedures.

Chapter 11, “Planning and Control,” revisits themes established in Chapters 1 and 2 of how the organization plans and develops goals for its various stakeholders: external shareholders, customers, suppliers, employees, and communities in which it operates. This chapter introduces formal planning and control procedures that enable the organization to achieve its desired goals. Chapter 12, “Financial Control,” deals with the particular issues arising from the use of financial controls, including responsibility centers and associated performance measurement systems, such as flexible budgets and return-on-investment metrics. The strengths as well as the weaknesses of financial control systems are discussed.

Chapter 13, “Contemporary Management Accounting,” is a new chapter for the second edition. It introduces the innovative management accounting procedures that leading organizations are using. Working with a total life cycle costing approach as an organizing framework, the chapter integrates target costing, kaizen costing, quality costing, and benchmarking, and it illustrates how each method improves decision making and performance.

The final two chapters address incentive, behavioral, and organizational issues that arise when using management accounting information. Chapter 14, “Compensation Issues,” describes how compensation systems help to align employees’ motivation, incentives, and rewards with achieving overall organizational goals. Chapter 15, “Management Accounting and Control System Design,” brings together several important topics related to effective implementation and use of management accounting systems. It discusses the impact of the design of such systems on managers’ motivation and behavior.

The entire text blends contemporary theory and the latest thinking in management accounting with practical applications and actual company experiences. A supplementary readings book, specifically designed to complement and support *Management Accounting*, second edition, and described later in the preface, enables students and instructors to study important issues in greater depth.

EMPHASIS ON REAL-WORLD EXAMPLES

Recognizing that today's students respond best to material drawn from actual events at actual companies, we have made a concerted effort to support our text with examples wherever possible.

The emphasis on actual business settings goes well beyond the use of examples within the textual narrative: The text is also well illustrated with full-color and black-and-white illustrations taken from the annual reports and newsletters of over a hundred companies. These photos add to the richness of the text's real-world flavor and emphasize that management accounting information has actual, tangible applications in a variety of workplace settings. From Microsoft's Windows '95 to EMI Records Group, these examples help make management accounting more relevant to students.

Consider This . . . features are boxed inserts that focus on a particular point of interest. Some of these features look at current or emerging practices in management accounting, such as ethics in budgeting. Other Consider This . . . boxes offer an insight into an actual company's operations. Management accounting comes alive in these features, which look at Pizza Hut, Walt Disney, Bristol-Myers Squibb, General Mills, Whirlpool, and scores of other businesses.

The text is supplemented with a set of **videotapes** containing actual footage of operations supplied by Fortune 500 service and manufacturing companies. Videos are also available containing excerpts from a variety of ABC News programs that deal with management accounting topics. A special series, *On Location!*, contains footage, custom-made, to accompany *Management Accounting*.

REVISIONS FOR THE SECOND EDITION

Changes in Content and Sequence

The sequence of chapters in *Management Accounting*, second edition, has been revised so that the basic cost concepts, from Chapter 3 ("Cost Concepts") to Chapter 8 ("Process and Activity Decisions") are covered in order, without interruption. Other important changes follow.

- Chapter 1 introduces the Balanced Scorecard, a measurement system that includes financial and nonfinancial measures of performance. The balanced scorecard is the framework for much of the text's presentation.
- Coverage of JIT, which appeared in the second chapter in the first edition, has been shortened and moved to Chapter 8, "Process and Activity Decisions."
- Budgeting for Operations, which had been the fifth chapter in the first edition, now appears as Chapter 9. In this way we move from basic cost ideas—Chapter 3, "Cost Concepts," and Chapter 4, "Cost Behavior"—directly into the sequence of chapters that focus on activity-based costing and activity-based management. Chapter 5 ("Basic Product Costing Systems"), Chapter 6 ("Two-Stage Allocations and Activity-Based Costing Systems"), Chapter 7 ("Pricing

and Product-Mix Decisions”), and Chapter 8 (“Process and Activity Decisions”) evolve most effectively in this improved sequence.

- Chapter 13, “Contemporary Management Accounting: Methods to Stay Competitive,” is a new chapter that addresses innovative management accounting procedures, including benchmarking and life-cycle, target, quality, and kaizen costing.
- Much of the mathematical presentation has been taken out of the running text and is now displayed. This presentation will help students find appropriate mathematical references as they work through the assignment material.

Changes in Assignment Material

We have considerably improved the assignment material in this revision.

- Problem material has been revised for clarity and coverage. Each chapter has at least four new problems.
- Problems are now divided into two categories, Fundamental and Challenging. This division eases the instructor’s task in making assignments. Also, students are able to evaluate their progress by understanding the degree of difficulty in the problems.
- Each exercise, problem, and case now has a label stating its topical coverage, which further helps the instructor in making assignments.
- Midchapter summary problems and end-of-chapter summary problems, with fully worked-out solutions, have been added as appropriate. These features give students a benchmark for their understanding of the chapter’s content and a framework to which they can refer as they work on their assignments.

A Special Note on Numerical Exhibits

Data in some exhibits were produced using a computer spreadsheet. When the exhibits are printed they may show only four or five significant digits even though the computer is calculating the results with more significant digits. For example, when the computer multiplies \$1 million by 0.348609425, it obtains the correct answer as 3,486,094.25 but may only report the answer to four significant digits, as 3,486,000. You should assume that the figures reported in the exhibits are correct although they may differ in the last digit from what you calculate based on the other numbers in the exhibit because of this rounding effect.

Special Features

Each chapter begins with a set of **Learning Objectives** to give students a preview of what material the chapter covers. These learning objectives appear again in the margins of the text adjacent to where the objectives are first addressed. They serve as a roadmap for the first read and for quick reference in review.

Key terms are displayed in bold-face type when first introduced in the text. Marginal definitions are provided for these key terms, which also serve as a vehicle for student review.

Chapters end with a **Summary**, which reinforces important topics. The **Key Term** list, with the terms referenced to the page where they are defined, follows. We then present the **Assignment Material**, which offers a range of Questions, Exercises, Problems, and Cases.

The end of the book offers a complete glossary and company and subject indexes.

SUPPLEMENTS AND SERVICE FOR THE INSTRUCTOR

THE PRENTICE HALL ACCOUNTING AND TAXATION HOTLINE 1-800-227-1816/or Hotline E-Mail: patti_dant@prenhall.com. Prentice Hall's unique Accounting and Taxation Hotline is your direct link to satisfying all your adoption needs! By calling our toll-free telephone number, you can receive information on Prentice Hall's Accounting and Tax texts and supplements. The Hotline will also process your orders and keep you up-to-date on the upcoming Prentice Hall Accounting Seminars for Educators (PHASE) in your area.

INSTRUCTOR'S MANUAL/VIDEO GUIDE. This supplement provides an overview, an outline, and a 10-minute quiz for each text chapter. In addition, the *Instructor's Manual* suggests readings that appear in the supplemental text *Readings in Management Accounting* by S. Mark Young. These are transition notes for faculty found after each chapter overview. The Video Guide, another component of the *Instructor's Manual*, provides a brief synopsis of the video content, suggested assignment material, and discussion questions for each video found in the ABC/PH Video Library for *Management Accounting*.

SOLUTIONS MANUAL/CHECK FIGURES. Solutions for all questions, exercises, problems, and cases in the text are provided in the *Solutions Manual*. Each solution has been triple-checked for accuracy. A list of check figures provides key amounts for all numerical exercises, problems, and cases. Check figures are also available in quantity for the classroom by contacting the Prentice Hall Accounting and Taxation Hotline.

SOLUTIONS TRANSPARENCIES. Every page of the *Solutions Manual* has been recreated as an acetate for use on the overhead projector.

TEST ITEM FILE. The *Test Item File* contains approximately 1,500 components, including true/false questions, multiple-choice questions, exercises, problems, and critical-thinking questions.

PRENTICE HALL CUSTOM TEST. Available in both DOS and WINDOWS, this easy-to-use computerized testing program is available on 3.5" diskettes. This user-friendly program allows you to create an exam and evaluate and track student results. The *PH Custom Test* also provides on-line testing capabilities. Test material is drawn from the *Test Item File*.

PH PROFESSOR: A Classroom Presentation on PowerPoint for *Management Accounting*. PowerPoint slides are available for each chapter of the text. This computerized supplement by Jamie Doran provides the instructor with an interactive presentation, which outlines the chapter material using colorful graphics and charts. It is not necessary to have PowerPoint in order to run the presentation. However, having PowerPoint will provide instructors with the flexibility to add slides or modify the existing ones to meet course needs.

TEACHING TRANSPARENCIES. Derived from the *PH Professor: A Classroom Presentation on PowerPoint for Management Accounting* are four-color teaching transparencies that instructors can use on an overhead projector.

THE ABC NEWS/PRENTICE HALL VIDEO LIBRARY ON LOCATION! FOR MANAGEMENT ACCOUNTING. Video is a dynamic way to enhance your classroom lectures, and the quality of the video material and how well it relates to your course can still make all the difference. For these reasons, Prentice Hall and ABC News have worked together to bring you the best and most comprehensive video ancillary available on the college market.

ABC NEWS. Through its wide variety of award-winning programs, such as "Nightline," "Business World," "On Business," "This Week with David Brinkley," "World News Tonight," and "The Wall Street Journal Report," ABC offers a resource for feature and documentary-style videos to enhance text concepts and applications. The programs have extremely high production quality, present substantial content, and feature well-versed, well-known anchors as hosts.

ON LOCATION! These videos, commissioned exclusively for Prentice Hall, are included in the *ABC/Prentice Hall Video Library On Location for Management Accounting*. Broadcast journalism and accounting education meet to create a series of custom produced case videos. These videos contain all the fast-paced and engaging qualities of TV and focus on the successful management accounting activities of several companies. You can take your students *On Location* to companies such as the Ritz-Carlton, Grand Canyon Railway, Nally & Gibson Georgetown, Inc., and Deer Valley Ski Resort. Each video runs approximately eight to ten minutes.

The video library features plant-tour footage provided by Fortune 500 service and manufacturing companies such as Chrysler, Avnet, Con Edison, and Quaker State as well as footage on the Malcolm Baldrige Award Winners of 1990 and 1991. A Video Guide in the *Instructor's Manual* helps instructors carefully integrate the videos into classroom lectures.

INSTRUCTOR'S GUIDE TO USING READINGS IN MANAGEMENT ACCOUNTING. This guide links *Readings in Management Accounting*, by S. Mark Young, to topics found in current management accounting texts. The discussion questions at the end of each reading invite students to test their analytical skills.

PRENTICE HALL'S WEBSITE FOR MANAGEMENT ACTIVITY. The Prentice Hall Website for *Management Accounting* located at <http://www.prenhall.com/phbusiness> is a new resource that ties directly with the text. It provides up-to-date news articles relating to management accounting as well as numerous teaching resources and activities for the classroom. The Prentice Hall website also provides links to the websites of companies highlighted in the book to give students the opportunity to explore the businesses they are studying.

SUPPLEMENTS FOR THE STUDENT

STUDY GUIDE. For each chapter in the text, the *Study Guide* by S. Mark Young and Ella Mae Matsumura provides an overview, a review, and a self-test to help students prepare for examinations.

POWER NOTES. This convenient tool contains print-outs of each Power-Point slide and additional space for taking notes. Power Notes allow students to focus their attention on the class lecture and take down additional explanations and examples given by the instructor. This efficient note-taking supplement is also a great tool for studying!

READINGS IN MANAGEMENT ACCOUNTING. This supplement by S. Mark Young is a compilation of recent business press and academic articles that parallel the contents of the book. Sources include *The Journal of Cost Management*, *Management Accounting*, *The Wall Street Journal*, *Fortune Magazine*, *The Harvard Business Review*, and other sources. The introduction for each chapter summarizes key points in the provided readings. Each reading concludes with a thought-provoking question.

SPREADSHEET TEMPLATES. Students can use these templates by Albert Fisher to solve selected exercises and problems from the text. The documentation includes a short tutorial on how to use Excel as well as step-by-step instructions for completing each template. Students need not have an in-depth knowledge of spreadsheet programming techniques. Rather, the templates are designed to focus students on the appropriate accounting concepts. Spreadsheet solutions are available on disk to the instructor upon adoption of the text.

CAREER PATHS IN ACCOUNTING CD-ROM. Winner of the New Media INVISION Gold Award in Education, separately or with the text, this CD-ROM provides students with a dynamic, interactive job-searching tool. Included are workshops in career planning, resume writing, and interviewing skills. Students can learn the latest market trends and facts as well as the skills required to get the right job. In addition, the CD-ROM provides the student with salary information, video clips describing specific jobs, and profiles of practitioners in the field.

ACTIVITIES IN MANAGEMENT ACCOUNTING. Show your students the importance of teamwork and let them experience reading, analyzing, interpreting, and evaluating management accounting information for business decision making. This workbook by Martha Doran contains interactive learning assignments designed to help students see beyond the technical aspects of accounting through active learning. A variety of real-world situations will give students the opportunity to practice the concepts taught in the classroom. In addition, these group activities fulfill the AECC recommendations by providing students with the chance to practice and improve their writing, speaking, and reasoning skills. An *Instructor's Manual* provides a summary overview for each activity. The notes also highlight important content and process objectives, and provide step-by-step instructions for running each activity.

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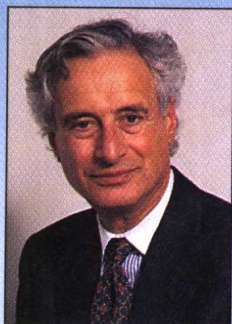
is currently the Society of Management Accountants of Ontario Professor in the School of Accountancy at the University of Waterloo. Atkinson received a Bachelor of Commerce and M.B.A. degrees from Queen's University in Kingston, Ontario, M.S. and Ph.D. in Industrial Administration degrees from Carnegie-Mellon University in Pittsburgh, and the designation of Certified Management Accountant in Nova Scotia. He has written or co-authored two texts, monographs, and over 35 articles on performance measurement and costing. In 1989, the Canadian Academic Accounting Association awarded Atkinson the Haim Falk Prize for Distinguished Contribution to Accounting Thought for his monograph that studied transfer pricing practice in six Canadian companies. He has served on the editorial boards of two professional and five academic journals and in 1996 was appointed Editor Elect of the *Journal of Management Accounting Research*. Atkinson also served as a member of the Canadian government's Cost Standards Advisory Committee, for which he developed the costing principles it now requires of government contractors.



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has taught at Carnegie-Mellon University, University of Minnesota and Dartmouth College. Banker graduated from the University of Bombay at the top of his class and received a doctorate in business administration from Harvard University. He received two awards for teaching excellence at Carnegie-Mellon University and the Outstanding Teacher Award at the University of Minnesota.

Banker has published more than 90 articles in leading research journals in accounting, information systems, computer science, operations management, management science, and economics, including articles in the *Accounting Review*, *Journal of Accounting and Economics*, and the *Journal of Accounting Research*. He has received five awards for his research articles. Banker's current research in management accounting includes issues pertaining to strategic cost management, activity-based costing, costs of quality, and value of performance-based incentive plans, among other issues. His research has been supported by the National Science Foundation, the Institute of Management Accountants, and several leading corporations.



ROBERT S. KAPLAN

since 1984 has been the Arthur Lowes Dickinson Professor of Accounting at the Harvard Business School. Formerly, he was on the faculty of the Graduate

School of Industrial Administration at Carnegie-Mellon University and served as Dean of that school from 1977 to 1983. He received a B.S. and M.S. in Electrical Engineering from M.I.T. and a Ph.D. in Operations Research from Cornell University. In 1994, he was awarded an honorary doctorate from the University of Stuttgart.

Kaplan has authored or coauthored more than 100 papers and 8 books. Kaplan received the Outstanding Accounting Educator Award in 1988 from the American Accounting Association (AAA) and the 1994 CIMA Award from the Chartered Institute of Management Accountants (U.K.) for Outstanding Contributions to the Accountancy Profession.

Recent publications include *The Balanced Scorecard: Translating Strategy into Action* (Harvard Business School Press, 1996) and a four-part video tape series "Measuring Corporate Performance," which presents concepts and companies' experiences with activity-based cost management and the Balanced Scorecard.

Kaplan consults on the design of performance and cost management systems with many leading companies in North America and Europe.



S. MARK YOUNG

Professor of Accounting at the Leventhal School of Accounting at the University of Southern California, is Associate Editor of the *Journal of Management Accounting Research* and past Associate Editor of *The Accounting Review*.

He also serves on several other major editorial boards including *Accounting, Organizations and Society*. Young received an A.B. from Oberlin College, an M.Acc. from The Ohio State University, and a Ph.D. from the University of Pittsburgh. He is the recipient of four outstanding teaching awards at the undergraduate and graduate levels, including the Golden Apple Teaching Award from the MBA Program at USC. He has published over 40 papers and made over 100 presentations of his research in Europe, Asia, Australia, and the United States. Young has been a KPMG Peat Marwick Faculty Fellow and has received research grants from the National Science Foundation, The Institute of Management Accountants, the Consortium for Advanced Manufacturing International, The Institute of Internal Auditors, and the Center for Innovation Management Studies. In 1994, together with coauthor Frank Selto, Young won the Management Accounting Section's (AAA) Notable Contribution to the Management Accounting Literature Award. Most recently, Dr. Young has conducted research or consulted with Nevada Power Company, Texas Instruments, the Economic Analysis Corporation, First Data Corporation, Chrysler, and General Motors.

BRIEF CONTENTS

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