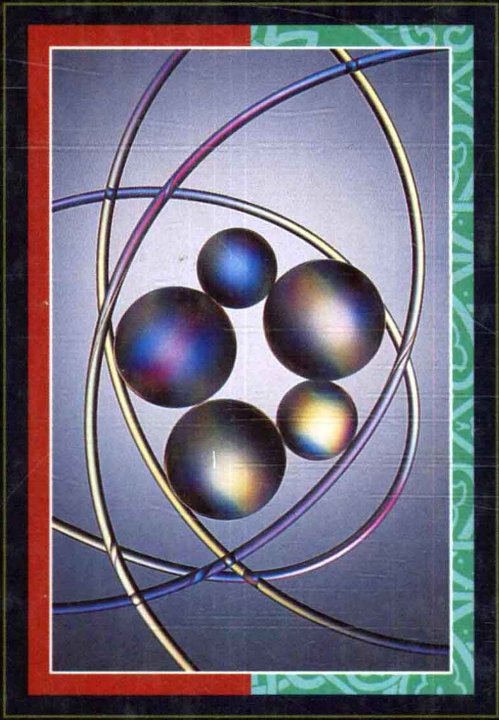

MANAGEMENT ACCOUNTING

A STRATEGIC APPROACH

Morse, Davis, and Hartgraves

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SOUTH-WESTERN College Publishing

An International Thomson Publishing Company

Sponsoring Editor: Elizabeth A. Bowers
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Production House: CompuText Productions, Inc.
Cover and Internal Designer: Michael H. Stratton
Cover and Internal Photos: Photonica
Marketing Manager: Steven W. Hazelwood

AQ68AA

ISBN: 0-538-84435-3

1 2 3 4 5 6 7 8 9 VH 3 2 1 0 9 8 7 6 5

Printed in the United States of America

I Ⓣ P
International Thomson Publishing

Library of Congress Cataloging-in-Publication Data

Morse, Wayne J.
Management accounting : a strategic approach / Wayne J. Morse, James R. Davis, Al L. Hartgraves.
p. cm.
Includes index.
ISBN 0-538-84435-3
1. Managerial accounting. I. Davis, James Richard. 1947-
II. Hartgraves, Al L. III. Title
HF5635.M865 1995
658. 15' 11--dc20 95-18158
CIP

PREFACE

Management accounting is a discipline concerned with the use of financial and related information by managers and other persons inside specific organizations to make strategic, organizational, and operational decisions. It provides a framework for identifying and analyzing decision alternatives and for evaluating success in accomplishing organizational goals. Although accountants have an important role to play in the management accounting process, management accounting is too important to be left exclusively to accountants. Furthermore, in an era of global competition, continuous improvement, process reengineering, and employee empowerment, management accounting is used by decision makers at all levels, rather than just by personnel traditionally classified as "managers." **The purpose of this book is to introduce students to management accounting as it is practiced today.**

Because this is an introductory text, we have elected to provide a survey of many topics, carefully relating them to each other. Whereas this book is written for a general audience, we have strived to place management accounting in a broad context, relating management accounting to other subject areas. We have left the in-depth coverage of many topics to other, more specialized, books on cost accounting, finance, production, statistics, marketing, policy, and so forth. We hope this book, like the trunk of a tree, will serve as a strong base for the future growth of knowledge and as a means of unifying the branches of management.

This book is intended for students who have had one course in accounting, a college-level economics course, and a college-level math course. While we use basic probability concepts, some statistical notation, and make reference to regression analysis, a background in statistics is not essential.

Although we are experienced authors, we elected to reengineer this textbook rather than to incrementally improve previous management accounting texts. The result is a book that is unique in several respects:

1. It is a 13-chapter text that can be covered in its entirety in a single semester.
2. It thoroughly integrates issues such as global competition, ethics, customer focus, the value chain, process management, activity-based costing, and target costing that have become important during the past ten years.
3. Its starting point is the use of management accounting as a tool for employee and manager empowerment.
4. It stresses the theme of global competition on the basis of price, quality, and service.
5. It focuses primarily on cost drivers within the value chain rather than on the distinction between product and nonproduct costs.
6. It is based on a belief that the accounting distinction between product and nonproduct costs (introduced early in virtually all management accounting texts):

- should not be the central theme of a management accounting text.
- is misleading.
- diverts attention from the analysis of the complete value chain.
- forces an unnecessary distinction between manufacturing and nonmanufacturing organizations.

We take a cost driver approach within the context of an organization's internal value chain. We believe the result is a book that is more relevant, interesting, and usable for students whose primary concerns are something other than financial reporting. Traditional financial reporting issues related to inventory costing are deferred to the end of the book, rather than introduced early in the book. Students use the knowledge gained in the early chapters to critically examine inventory cost system alternatives, rather than using basic "product costing" concepts (originally developed for financial reporting) as a foundation for learning. By taking this approach, the instructor also avoids the need to explain the shortcomings of traditional approaches to product costing to students who have just completed the first few weeks of studying management accounting.

In financial accounting, product costs are defined as the cost of direct materials and all costs incurred to convert direct materials into finished goods. We agree with the criticism that this definition starts too late and stops too early. Throughout the first three parts of this text, we place product costs in a strategic context, regarding them as the costs of physical products or services across the internal value chain. In the last part of the text, which considers product costing for financial reporting, we distinguish between strategic product costs and inventoriable product costs, stressing the importance of context in understanding the inclusiveness of product costs. The book ends on a philosophic note that relates topics examined throughout the text to each other and that suggests future directions for management accounting.

Organization

The book is divided into four parts and 13 chapters:

I. Essentials of Management Accounting
   1. World-Class Competition and Employee Empowerment
   2. Cost Estimation and Cost-Volume-Profit Analysis
   3. Relevant Costs and Differential Cost Analysis

II. Strategic Cost Management
   4. Strategic Cost Management I: Value Chain Analysis and Activity-Based Costing
   5. Strategic Cost Management II: Price, Cost, and Quality
   6. Strategic Cost Management III: Capital Budgeting

III. Budgeting and Profitability Analysis
   7. Operational Budgeting
   8. Responsibility Accounting and Performance Assessment
   9. Profitability Analysis of Strategic Business Segments

IV. Inventory and Service Costing
  10. Job Costing and the Manufacturing Environment
  11. Process Costing for Goods and Services
  12. Allocating Indirect Costs and Inventory Valuation Approaches
  13. Activity-Based Product Costing and Just-In-Time Inventory Management

Developing a book that can be used in a single semester, while integrating many new concepts, required careful attention to organization. Chapters build on each other and issues raised in early chapters are revisited in later chapters. Although some chapters (such as Chapters 6 and 11) or portions of some chapters (such as the second part of Chapter 12) and appendix materials may be omitted, we recommend assigning chapters in numerical order. Chapter 1 is important and worthy of study, rather than being a light overview that may be lectured on, but not assigned. In most management accounting texts, Chapter 2 is primarily concerned with terminology. To limit the number of chapters, we avoid the use of a terminology chapter and, instead, introduce terms where needed. **Key terms** are in bold type when they are first introduced and are defined at the end of each chapter, as well as in a comprehensive glossary at the end of the text.

All chapters contain **learning objectives** linked to major chapter headings and **management accounting practices** linked to chapter topics. The management accounting practices are adapted from real-life business scenarios and are intended to broaden students' perspectives and to motivate them by discussing interesting applications of chapter topics. **Additional examples** of the application of chapter materials are woven into the text. Many chapters contain **suggested readings**. The suggested readings may be used by students interested in learning more about chapter materials, as an initial reading list for papers, or as additional assignment material.

Global business activities, employee empowerment, the value chain, process management, activity-based costing, and competition on the basis of cost, quality, and service are so woven into the text that it is difficult to single out examples of these topics. **Ethics** also receives extensive coverage. Ethics is introduced within the context of measurement and management in Chapter 1 and discussed further in Chapters 5, 6, 7, and 8. Management accounting practices in Chapters 1, 6, 7, and 8 also highlight the importance of ethics in management accounting. Assignment material dealing with ethics is included in Chapters 1, 2, 3, 4, 5, 6, and 7.

Assignment Materials

A variety of assignment materials accompanies the chapters. Each chapter contains one or two review problems. Solutions to review problems are presented at the end of each chapter's assignment materials (rather than immediately following the review problem) to encourage students to solve the problems before reviewing the solutions. Chapters contain a range of assignment materials in the form of review questions, exercises, problems, discussion questions, and cases. Although many assignment materials deal with new concepts, there are ample materials dealing with important traditional topics.

- **Review questions**, sequenced to reflect the order of materials presented in the chapter, focus on the recall of basic chapter materials.
- **Exercises** are relatively short and straightforward applications of individual chapter topics. They focus on recall and application.
- **Problems** contain more rigorous and comprehensive applications of chapter materials, often requiring the ability to organize and present information. Many problems also contain straightforward requirements calling for decisions, interpretation, or "what if" analysis.
- **Discussion questions** typically require students to conceptualize chapter materials and, sometimes, relate them to materials in previous chapters. They focus on comprehension, synthesis, and evaluation. Discussion questions can be used as written assignments or, with relatively limited amounts of advanced student preparation, as a basis of classroom or group discussion.
- **Cases** involve rigorous analysis, synthesis, and evaluation. They often integrate materials contained in several chapters and require students to extend their thought processes to new situations. While the coverage of cases, especially at the undergraduate level, will likely require the guidance of the instructor, the selective use of case materials helps prepare students for the difficult transition from the classroom to the business world. The cases are also excellent for group assignments.

Ancillary Materials

This textbook is part of a comprehensive and carefully prepared educational package that offers various forms of assistance to both instructors and students. A variety of ancillary materials is available.

- A **solutions manual**, prepared by the authors, contains detailed solutions to all assignment materials.
- **Transparency acetates** for the solutions to assignments requiring extensive computations are available to adopters.
- Computerized **PowerPoint™ teaching transparencies** of key exhibits and related text examples are available to adopters.
- A **test bank**, prepared by Professor Marvin Bouillon of Iowa State University, is available in printed and microcomputer (MicroExam III) versions. Comprised of a collection of problems, questions, and exercises, the test bank is designed to save time in preparing and grading periodic and final exams.
- A **study guide**, prepared by Professor Stephen V. Senge of Western Washington University, reemphasizes and reinforces basic concepts and techniques.
- Recognizing that some schools find it necessary to cover financial statement analysis and cash flows in management accounting, the authors have prepared a soft-cover supplement to cover these topics. The materials in

this supplement—Chapter 14, Financial Statement Analysis, and Chapter 15, Statement of Cash Flows—may be used before or after the other text materials. The solutions to supplement assignments are contained in the regular solutions manual.

Overview of Chapter Content

The following paragraphs provide an overview of the content of each chapter.

Part 1, Essentials of Management Accounting, consists of three chapters that place a number of essential management accounting topics within the framework of strategic cost management.

Chapter 1, World-Class Competition and Employee Empowerment, begins by contrasting financial accounting and management accounting and continues by examining organizations and their goals. Included is a discussion of strategic position analysis, a topic more often found in policy texts, and a discussion of how management accounting can assist in achieving goals. We stress how cost information can help individual employees do a better job. With reductions in the levels of management and the empowerment of employees to perform tasks previously reserved for upper and/or middle managers, employees at all levels need to use management accounting concepts. Along with empowerment comes an increased need to be aware of the ethical issues in developing and using information.

The chapter next discusses the changing business environment and the importance of competition on the basis of price, quality, and service. The theme of competing on these three interrelated dimensions is continued throughout the text. The chapter turns to a classification of cost drivers as (1) structural, (2) organizational, and (3) activity. This classification scheme was developed by the authors to relate the activity-based costing literature to the strategic cost management literature. Our task was to relate accepted ABC terminology to broader strategic cost management concepts. This framework is expanded in subsequent chapters.

Basic cost structures are introduced in Chapter 1 with a focus on how cost structures have changed during the past 50 years. We point out the difficulty of relating total costs to a single independent variable and the need to understand the multitude of factors that drive costs.

Chapter 2, Cost Estimation and Cost-Volume-Profit Analysis, contains many of the expected topics. Care is taken in the cost estimation materials to use illustrations where costs are logically driven by a single activity. Although the initial illustration of cost estimation uses the high-low method, the material continues through a discussion of multiple regression analysis. While reluctant to add the complexity of equations with summation signs and several independent variables, we felt exposure to multiple regression analysis was a good foundation for analyzing costs when there are multiple cost drivers. Optional appendices contain material on the computational details of least-squares analysis and the use of computer spreadsheets in least-squares analysis.

The CVP material stresses the usefulness of CVP analysis in the early stages of planning for a single product, event, or service where "it may be reasonable to assume the single independent variable is the cost driver." We discuss the limitations of CVP analysis when there are multiple cost drivers. We revisit the categories of cost drivers introduced in Chapter 1 and discuss how activity cost drivers (the third category) may be placed in a variety of hierarchies, depending on the interests of management. The chapter concludes by illustrating (1) cost prediction with a four-level activity cost hierarchy in a two-product firm and (2) the cost prediction errors that may occur when predictions are based on a single independent variable.

Chapter 3, Relevant Costs and Differential Cost Analysis, covers many traditional relevant cost topics such as to accept or reject special orders and to sell or process further. A unique aspect of Chapter 3 is the use of an activity cost hierarchy and a two-product example as the framework for identifying relevant costs. Other texts typically introduce this material within the framework of variable and fixed product and period costs for a single-product company. In this text, however, the make or buy decision is recast in a broader framework dealing with the internal or external acquisition of components or services. This allows us to consider the growing importance of outsourcing. The final topic in the chapter, how best to use limited resources, is related to the theory of constraints. An appendix considers the role of models in decision making, provides a classification scheme for models, and introduces linear programming as an illustrative optimizing model that uses accounting information.

Part 2, Strategic Cost Management, consists of three chapters.

Chapter 4, Strategic Cost Management I: Value Chain Analysis and Activity-Based Costing, begins with the introduction of the value chain, defined as the set of value producing activities stretching from basic raw materials to the final customer. We consider how an organization's internal value chain may be a link in a much longer value chain and the value enhancing opportunities of developing upstream linkages with vendors and downstream linkages with customers. The internal value chain is then broken into major processes, and the processes are further dissected into activities. We discuss the usefulness of process mapping and the development of storyboards in process analysis. The identification of processes and activities within the context of the value chain serves as the framework for examining continuous improvement, process reengineering, and the important distinction between value-added and nonvalue-added activities.

The chapter concludes with an introduction to the two-stage activity-based costing model. Significantly, ABC is first introduced within the context of an organization's entire internal value chain, rather than within the context of product costs. ABC is discussed, as appropriate, throughout the balance of the text, including Chapter 13, where the determination of product costs is studied as a specific application of ABC.

Chapter 5, Strategic Cost Management II: Price, Cost, and Quality, builds on Chapter 4 to discuss strategic management issues related to price competition, cost management, and quality. Most of the topics in Chapter 5 concern activity and organizational cost drivers. The chapter begins with an examination of traditional approaches to the pricing decision, including cost-based approaches to determining tax rates. Next, the shortcomings of cost-based pricing are examined and target costing is introduced as a proactive approach to cost management. Other topics, such as design for manufacture and life-cycle costs, are introduced within the context of target costing. We stress the interface between marketing, design, and manufacturing, and the need for people in these functions to understand the cost consequences of their actions.

This chapter extends the continuous improvement topic from Chapter 4 by introducing continuous improvement costing as the next logical step after target costing new products or services. Chapter 5 concludes with an examination of quality costs, ISO certification for quality management and environmental management, and benchmarking.

Chapter 6, Strategic Cost Management III: Capital Budgeting, relates capital budgeting to structural cost drivers, the most fundamental type of cost driver, introduced in Chapter 1. The chapter contains the expected material on capital budgeting models. There are also extensive discussions of the capital budgeting process and high-tech investments. An appendix provides an introduction to the time value of money.

While capital budgeting is often viewed as a finance topic, many capital expenditure decisions are strategic cost drivers and capital budgeting is frequently covered in management accounting. We elected to include this material but developed it so that Chapter 6 may be omitted without loss of continuity.

Part 3, Budgeting and Profitability Analysis, contains three chapters.

Planning elements were considered throughout Parts 1 and 2. **Chapter 7, Operational Budgeting,** integrates these plans in a budget. Institutional and behavioral factors dealing with the development of budgets and alternative approaches to budgeting are examined. In addition to the traditional example of an operating budget found in most texts, we consider activity-based budgeting for products and departments. Recognizing that some instructors prefer to defer the complexity of manufacturing budgets, our comprehensive budget example is for a merchandising organization. Manufacturing budgets are considered in an optional appendix. Review problems consider budgeting in both merchandising and manufacturing organizations.

Chapter 8, Responsibility Accounting and Performance Assessment, relates performance reporting to organizational structure and plans, considers nonfinancial as well as financial performance measures, and identifies several types of responsibility centers. The focal point is performance reports for cost and revenue centers. After introducing flexible budget variances and the computation of detailed variances for variable cost items, the interpretation of variances is examined in detail. Optional appendices take a closer look at fixed overhead variances and provide a simple reconciliation of budgeted and actual net income.

Chapter 9, Profitability Analysis of Strategic Business Segments, discusses the profitability analysis of investment and profit centers. After discussing the pros and cons of centralization and decentralization, the chapter examines reporting alternatives for strategic business segments, such as divisions, products, and territories. Special attention is given to direct and common segment costs and segment decisions. Chapter 9 also contains material on transfer pricing, return on investment, and residual income (sometimes referred to as economic value added).

Part 4, Inventory and Service Costing, consists of four chapters. The notions of product costs to this point have concerned costs across the internal value chain. To avoid confusion with previous product costing notions, we distinguish between strategic and inventoriable product costs and stress the importance of context in determining the scope of product costs.

Chapter 10, Job Costing and the Manufacturing Environment, begins with an examination of inventory costs in different organizations and the differences between inventory costing and service costing. The chapter continues with an analysis of inventory costing for financial reporting and the various types of product costs. After considering production planning and scheduling, and the impact of computers on manufacturing, job costing is examined in detail. The chapter concludes with a discussion of job costing for services.

Chapter 11, Process Costing for Goods and Services, provides an overview of process costing and the application of process costing concepts to services. Although mentioned, FIFO process costing is not illustrated because we believe this topic is better deferred to cost accounting. Chapter 11 concludes with a discussion of costing multiple products (where the problem of cross-subsidization is examined) and a consideration of issues involved in designing a costing system. These ending segments provide the basis for several innovative cost system design cases in the accompanying assignment materials.

Optional appendices provide a brief overview of costing joint products and by-products and illustrate the use of standard costs to simplify inventory costing. To boil down the presentation, only one account is used to accumulate all cost variances. Hence, students are able to understand this appendix even if they do not have a complete grasp of cost variance computations.

The first part of **Chapter 12, Allocating Indirect Costs and Inventory Valuation Approaches,** provides an introduction to traditional service department cost allocation topics, such as cost objectives, cost pools, allocation bases, and direct and indirect department costs. Service department cost allocation is related to the use of department overhead rates, and the direct and step methods of service department cost allocation are illustrated. While the linear algebra method is discussed, a detailed example of this method of service department cost allocation is deferred to cost accounting. The second part of the chapter considers absorption and variable costing for inventory valuation.

Chapter 13, Activity-Based Product Costing and Just-In-Time Inventory Management, concludes the book by tying inventory costing back to more current management accounting topics. ABC for inventory valuation is compared to traditional product costing systems. Included is a detailed example of the product costing continuum, anchored on one end by the use of a plant-wide overhead rate and at the other by ABC. The section on ABC concludes with a discussion of implementation issues.

Just-in-time inventory management is presented as a comprehensive inventory management philosophy that includes coordination through the value chain, reduced inventory, reduced production times, increased product quality, and increased employee involvement and empowerment. This theme allows us to examine accounting in a just-in-time environment and to revisit issues raised throughout the book. An optional appendix contains material on the economic order quantity for purchases and the economic lot size for manufacturing.

ACKNOWLEDGMENTS

We were motivated in our approach to organizing this book by speakers at numerous meetings, conversations with business people, returning students with professional experience enrolled in graduate programs, participants in executive development programs, our colleagues in accounting and other disciplines, and researchers working on the cutting edge of management accounting. The writings of many of these people are included in the suggested readings at the end of most chapters. We were especially influenced by Peter Drucker's numerous writings on management, Robert Kaplan's and Robin Cooper's work in the areas of activity-based costing and activity-based management, John Shank's and Vijay Govindarajan's writings on the value chain and strategic cost management, and Michael Porter's writings on strategic position analysis and the value chain.

Five books that influenced our conceptual framework for thinking about management accounting are: *Megatrends* by John Naisbitt, published by Warner Books; *The Third Wave* by Alvin Toffler, published by William Morrow & Co.; *Relevance Lost* by H. Thomas Johnson and Robert S. Kaplan, published by the HBS Press; *Strategic Cost Management* by John K. Shank and Vijay Govindarajan, published by The Free Press; and *Reengineering the Corporation* by Michael Hammer and James Champy, published by Harper Business. These books helped us put management accounting within the context of the broad sweep of events affecting business and society at the end of the 20th century.

We are indebted to the following professors who served as reviewers and offered helpful comments on the manuscript:

- Susan Borkowski (LaSalle University)
- Margaret Gagne (University of Colorado at Colorado Springs)
- Judith Harris (Bryant College)
- Dolan Hinson (University of North Carolina at Charlotte)
- Ronald Huefner (State University of New York at Buffalo)
- Larry Paquette (Westfield State College)
- Jeffrey Schatzberg (University of Arizona)
- Stephen Senge (Western Washington University)
- Audrey Taylor (Wayne State University)
- Leslie Turner (Northern Kentucky University)

We thank our students at Clarkson University, Clemson University, and Emory University. We appreciate both their tolerance and their feedback as we tested many of the new ideas and assignment materials contained in this book. We also appreciate the assistance of our graduate students who reviewed the accuracy of assignment material. A special note of appreciation is extended to Dolan Hinson (University of North Carolina at Charlotte) and James Emig

(Villanova University) who provided a complete verification of the solutions to assignment materials; Margaret Gagne (University of Colorado at Colorado Springs) for verification of the test bank; and James Emig for verification of the study guide. Finally, we appreciate the encouragement, support, and detailed suggestions for improvement provided by Dave Shaut, Mary Draper, and Leslie Kauffman of South-Western College Publishing. Working with them has been a pleasure.

Appreciation is extended to the Institute of Certified Management Accountants for permission to use adaptations of problem materials from past Certified Management Accounting Examinations; these materials are identified as "CMA Adapted." We are also indebted to the American Institute of Certified Public Accountants for permission to use materials from the Uniform CPA Examination; these materials are identified as "CPA Adapted."

Despite the efforts of the many people who assisted in this project, there is always room for further improvement. To assist us in continuously improving this product so that it better fits your needs and the needs of your students, comments and suggestions are most welcome. Users wishing to contact us with comments, suggestions, or questions, may send electronic mail correspondence to us over the Internet through South-Western College Publishing at morse_mngt_acctg@itp.thomson.com.

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