

COST ACCOUNTING



Shane Moriarity
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Third Edition

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Third Edition



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COST ACCOUNTING

To the Student: This text will be an important reference source in your future professional career. You should retain it for your personal library.

A Study Guide for this textbook is available through your college bookstore under the title **Study Guide to Accompany COST ACCOUNTING**, Third Edition, by **Shane Moriarity** and **Carl P. Allen**. The Study Guide can help you with course material by acting as a tutorial, review, and study aid. If the Study Guide is not in stock, ask the bookstore manager to order one for you.

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PREFACE

Increased global competition has forced businesses to reexamine the processes by which they produce their goods and services. In turn, progressive firms have been adjusting their internal accounting systems to provide information that more accurately reflects the realities of the current business environment. These firms have discovered that an accurate cost accounting system is vitally important for business survival. The well-trained management accountant is a critical feature of an effective accounting system. Through analysis of operations and the planning process, the management accountant directly affects the firm's ability to succeed in a competitive environment. In this text we seek to provide you with the managerial accounting tools needed to make you a valuable member of a winning management team.

MAJOR FEATURES OF THE TEXT

Our Approach

In our first edition, we chose to break away from texts that relied on rote. Instead, we concentrated on the objectives for internal accounting and the alternate means to meet those objectives. We involved the student in applying the concepts to specific situations by providing an ample selection of realistic problems set in a variety of contexts.

In the third edition, we continue to use this approach. For example, we identify the key accounting issues raised under the rubric "the new manufacturing environment." We then provide depth, and reinforce the importance of these issues, through numerous new problems that illustrate the effects of change in concrete terms. We are convinced that this is a pedagogically sound approach; it helps students realize that there is not just one way to do cost accounting. Instead, we should use the tools that are appropriate to whatever the specific environment requires. A side benefit is that our approach also provides the instructor with substantial flexibility. Through the choice of the problems assigned, the emphasis for a particular course (behavioral considerations, the effects of automation, computer applications to accounting, applications to service organizations, and so on) can be easily altered.

Organization

Once again, we split the text into five parts. The parts are ordered in a logical sequence that we prefer, but users report that they have successfully reordered the

parts. In the text we make frequent reference to how the topic under discussion fits in with the rest of the text. This should help students integrate the material even under alternative sequencing.

The Comprehensive Cases that appeared in the first two editions have been moved out of the text. They are now available in the Instructor's Manual for those instructors who wish to use them.

Assignment Material

We have added over 170 new problems, many of which deal with the emerging new issues in cost accounting. We have also altered approximately 150 problems from the second edition by changing key numbers. We hope that these changes will render certain student files obsolete.

We continue to make selective use of problem material from professional accounting groups. In this edition, we introduce material used by the Institute of Chartered Accountants in Australia. These items are identified in the problem by (ICAA). As with the problems we use from other organizations outside the United States, we have maintained the spellings and terminology used in the original. This is intended as a service to our non-U.S. readers, but it also helps our U.S. readers become acquainted with other practices.

The sources of problems we have used from other organizations are identified as follows. The Institute for Management Accounting of the National Association of Accountants (CMA), The American Institute of Certified Public Accountants (CPA), The Society of Management Accountants of Canada (SMA), The Canadian Institute of Chartered Accountants (CICA), and The Institute of Internal Auditors (CIA). We thank each of these professional groups for allowing us to use selected items from their materials.

Learning Aids in the Text

Comprehensive Problems with Solution These problems at the end of each chapter integrate the major points raised in the chapter. The solution illustrates an approach to solving problems dealing with the issues in the chapter. We always urge our students to read and study these problems. Those that do tell us they find them extremely helpful.

Chapter Summaries At the beginning of each chapter, we provide a list of the major topics to be covered in order to give the reader a perspective on what is to come. Each chapter also ends with a review of the major issues raised in the chapter and gives an indication of their importance to management accounting.

Key Terms and Concepts Major terms are highlighted in boldface type in the text. These terms are also listed at the end of the chapter to facilitate review. As with the previous editions, we list alternative terms that are equivalent in meaning.

Further Reading At the end of each chapter, we provide a list of articles relating to the topics discussed in the chapter (and any associated appendix). For the most part, these articles have been selected to provide a starting place for a student

writing an undergraduate term paper. We have chosen publications that are likely to be widely available in libraries and articles that are consistent with the typical undergraduate's level of training.

Glossary A glossary at the end of the book defines the cost accounting terms used throughout the text.

Computer Use

A computer diskette containing the BASIC programs referenced in the text is available to instructors who adopt the text. These programs may be freely copied for personal use by students enrolled in the course.

Our emphasis on the use of computers is to aid the understanding of cost accounting; we do not use them as an end in themselves. To meet this objective, we have devoted considerable effort to the development of interesting problem material that makes nontrivial use of the computer while also concentrating on accounting issues. Problems for which a computer is required or recommended are called to the reader's attention by a diskette symbol in the margin. We also reference the name of the appropriate program in the problem.

We have modified the programs to include the ability to print the output from each, even those where the output is only a few lines long. This adaptation was requested by many of our users. We have also modified the programs to return the user to the main menu when the user is done using a specific program.

We have not modified the programs to "do everything," however. Students must still enter as data those figures that require a knowledge of cost accounting concepts. We also are still providing the programs in source code so that you can easily make alterations if you wish to do so (for example, changing DIMENSION statements to solve larger problems). Most of the programs run quickly in source code, but you may wish to compile the simulation programs if you desire faster results.

The LOTUS 1-2-3 supplement prepared by Gerald M. Myers for our second edition proved to be very popular, so much so that he has now prepared a stand-alone package for use in cost accounting courses. He has, however, identified many of our problems as being particularly appropriate for use with his materials. These problems are marked with a computer screen symbol in the margin. While these problems are compatible with Professor Myers' work, the problems need not be solved with a spreadsheet program. In fact, they were all written with the intent that they would be solved manually.

CHANGES IN THE THIRD EDITION

In addition to the many new problems and the slight structural changes previously described, we have made some general and some specific changes. Among the general changes, we have moved more of the data for examples out of the textual discussion and into exhibits. This should make it easier for the reader to refer back

to the initial data and assumptions as the example is being worked out. Some of the specific changes we have made are summarized by chapter as follows.

1. We have added a section on ethics, and have reproduced the National Association of Accountant's Statement on Standards of Ethical Conduct for Management Accountants, in Chapter 1. We have also noted in the analysis of assignment material provided in the Instructor's Manual those problems throughout the text that raise ethical issues.
2. We note the distinction between scope and scale of operations in Chapter 2. A discussion of the significance of scope-related costs is provided in Chapter 5.
3. We expanded Chapter 3's discussion of using regression for cost estimation. This allows use of the computer program to derive cost functions without getting into the technical details raised in the appendix. The chapter also includes a discussion of multiple overhead cost pools and a section on selecting the best cost drivers for overhead.
4. We added a section on cost-based pricing to Chapter 4. It raises the issues involved with life-cycle (or forward) pricing. The discussion of cost-volume-profit analysis with bonuses and taxes has been clarified by using a more intuitively appealing bonus formula in our example. We continue to warn the reader, however, that firms can define the criteria for calculating the bonus in any manner they wish.
5. Chapter 5 reinforces the need to allocate overhead on a cause-and-effect basis in the context of decision making. A section has also been added illustrating the potential effect of diseconomies of scope.
6. We discuss the effects of different operating environments in Chapter 7. This includes reducing setup costs so that firms can produce to demand rather than to inventory, the effect of adopting a just-in-time philosophy, and the effects of using an integrated versus a functional plant layout on in-process inventories. We are careful to discuss the tradeoffs involved in each case so that students will not fall into the trap of believing that one approach is always superior to the other.
7. In Chapter 9, we have changed our approach to analyzing the effect of income taxes on capital budgeting decisions. Because tax laws change so quickly, we have abandoned the attempt to incorporate the latest U.S. rules. Instead, we discuss the various issues that the existence of taxes raise. Then, by listing specific assumptions in each of the problems, we are able to expose students to a wide variety of tax regimes. This should provide a better base from which to address whatever the current set of tax rules happens to be.
8. Chapter 11 includes a discussion of the effects that arise over time from the use of inappropriate allocation bases. The notion of activity costing is also raised here.
9. In Chapter 12 we have clarified that the final user of a service department's services may be a nonmanufacturing department. We also indicate that some service department costs might be traced directly to product lines. The section on the step method of allocation has been rewritten to illustrate the procedural issues in more detail.

10. Chapter 14 illustrates that the relative profitability of jobs may be distorted if inappropriate allocation bases are used. The discussion of the disposition of over- or underapplied overhead has been expanded to more clearly reflect the effect of different choices.
11. We recognize, in Chapter 15, that firms using process costing must choose a time period for determining unit cost. We discuss the tradeoffs in accuracy involved in using a long versus a short time period.
12. We have expanded the discussion of the interpretation of the variable overhead price and quantity variances in Chapter 18. We show that their interpretation is quite different from the similar variances for materials and labor.
13. Appendix 18A has been rewritten to improve clarity. Appendix 18B was previously located after Chapter 20; its new location places it closer to the major points in the text to which it relates.
14. Chapter 20 points out that the use of standards can have a stifling effect on innovation during the early stages of a product's life cycle.
15. We discuss the behavioral consequences of using various performance measures to evaluate profit managers in Chapter 21. We have also added a section on the U.S. tax requirements for international transfer prices.

SUPPLEMENTS FOR THE STUDENT

Practice Case

A new supplement, *Prime Valve: A Cost Accounting Systems Case*, is now available for adoption. It asks students to interpret the results of operations reported for a firm using an out-of-date accounting system. Students are then led through the process of preparing new reports using an improved cost system. After preparing new reports, students are asked to reinterpret operating results. The case is designed to demonstrate the complexity of a multi-product environment, the need for allocations in such an environment, and the importance of selecting appropriate cost allocation bases. The case requires approximately 20 hours to complete.

Study Guide

A *Study Guide* summarizes the major points to be learned from each chapter, provides alternative explanations of difficult points, and includes many solved exercises and problems. Self-tests allow students to identify subjects requiring further study and "TIPS for Traps" warn of common errors.

Lotus 1-2-3 Applications in Cost and Managerial Accounting

This supplement by Gerald M. Myers, described previously, gives students the opportunity to use Lotus 1-2-3 to solve cost accounting problems.

SUPPLEMENTS FOR THE INSTRUCTOR

Instructor's Manual

The *Instructor's Manual* has been revised by Dick D. Wasson of Central Washington University. It provides a wealth of information not only for first-time adopters, but also for seasoned users. The manual includes a list of check figures for the problems; learning objectives for each chapter; analysis of the assignment material by learning objective, length, and conceptual difficulty; two sets of lecture outlines, one for a first course in cost accounting and another for an intermediate-level course; comments on topics students tend to find difficult; suggestions for extending the text material; suggestions for addressing ethics in class; hints on alternative topic sequences; examples that can serve as the basis for lectures; and lecture transparency masters.

Solutions Manual

A separate *Solutions Manual* supplies complete solutions to every question, exercise, problem, and case in the text. Every problem has been solved by us and at least one outside reviewer as a check on our calculations.

Test Bank and Microtest

The *Test Bank* has been revised by Duane R. Milano of East Texas State University and Dick D. Wasson of Central Washington University. For each chapter, it contains objective questions and short problems that range from straightforward to challenging.

The *Test Bank* is also available in software format for the IBM PC and Macintosh computers. Microtest offers the professor a number of valuable options—the ability to generate a large number of test questions randomly from any chapter; easy question selection (instructor can lock in desired question type and chapter number); and test previewing prior to printing.

Transparencies

A set of transparencies for the solutions to the longer problems in the text is also available to adopters.

BASIC Programs

A diskette containing programs written in BASIC is again free to instructors who have adopted the text. The programs are self-contained, including instructions for their use. A short manual explains the diskette to those new to the personal computer.

ACKNOWLEDGMENTS

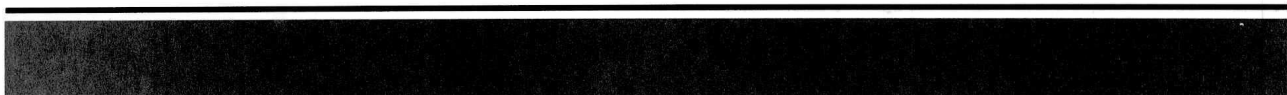
We have dedicated each edition of the text to our students—past, present, and future. Our past students' questions about why particular techniques are used in cost accounting, and how the various topics articulate, led us to undertake the task of writing a new text. Our present and future students motivate us to structure the text to get them to think about objectives, and means to achieve those objectives, rather than memorizing rules. For as the world becomes more competitive, firms will need information that accurately reflects the cost to produce goods and services. As production processes change, our graduates must be able to apply the basic concepts we teach them so they can adjust the accounting systems to meet the needs of management. There will be no place for the random numbers produced by the mindless application of arbitrary rules. For their success and ours, our students must learn to think.

We would like to thank the following reviewers and survey respondents for their valuable suggestions:

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We also thank all the individuals who have called or written with compliments or suggestions. We welcome your comments on the third edition.

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