

MANAGERIAL ACCOUNTING

An Introduction

Third Edition

James H. Rossell University of Pittsburgh

William W. Frasure University of Pittsburgh

Revised by Donald H. Taylor University of Arkansas

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PREFACE

Any book written for classroom use should possess at least two attributes. First of all, the book should have clearly established goals and definite ideas on its role in the discipline's curriculum. Second, the text should be constructed to accomplish these goals and fulfill its avowed role. The purpose of this preface is to explain why this new edition of the book contains the above-listed attributes and how to use it most effectively.

Because of its applicability to "real world" business decisions, managerial accounting has become an increasingly important subject in both undergraduate and graduate business administration curriculums. Many schools teach managerial accounting in their second course in the introductory sequence. Undergraduate accounting majors must take three to six additional hours of courses that contain "managerial" subjects such as standard costing, contribution margin analysis, and capital budgeting. In addition, many MBA programs require at least one course in managerial accounting.

We feel that the subject matter of managerial accounting serves three purposes (not necessarily mutually exclusive) in the business administration undergraduate and graduate curriculums.

- Undergraduate business administration students who do not major in accounting need a basic understanding of product cost determination and the uses of cost data for planning, control, and other decisionmaking purposes. Because such students will probably use rather than prepare cost data, their study need not include the intricate details traditionally included in the "cost" course taken by accounting majors.
- 2. Undergraduate business administration students who major in accounting need a *detailed* understanding of such subjects as job order and process costing methods, standard cost variance analysis, and capital budgeting techniques. The major task of cost data preparation and interpretation will fall upon this group. To provide for this depth of understanding, many schools teach the basic elements of managerial accounting in the second introductory accounting course. With this background, the more advanced managerial courses should provide accounting majors the required level of sophistication.
- 3. MBA students with no undergraduate business administration background need a survey managerial accounting course that contains some mechanics and a special emphasis on decision-making tools for prospective middle and top managers. Like undergraduate nonac-

counting majors, MBA students have little or no need to become expert preparers of cost data.

Our goal for this third edition has been to provide managerial accounting material that will (a) serve the needs of nonaccounting undergraduate business administration students, (b) provide an adequate background for accounting majors who are required to take an "in-depth" cost or managerial accounting course at a later time, and (c) provide sufficient coverage for a survey MBA course taken by students with no previous background in this area.

To accomplish these goals, we have designed this edition with the following characteristics:

- 1. The chapter explanations, diagrams, and tables are straightforward and easy to follow. In many cases, we have rounded the numbers used to illustrate the narrative to whole dollars or thousands of dollars.
- 2. The immediate end-of-chapter problem material relates to the chapter narrative and illustrations. Appendix B at the end of the text contains additional optional problems. Instructors may choose any of these problems that are compatible with their own explanations of the chapter material.
- 3. We have placed some of the more technical topics, such as explanations of the least squares statistical technique, in the supplements of the appropriate chapters. It has been our experience that placement of such topics in a chapter supplement facilitates optional use by instructors.
- 4. We have arranged the text material to allow for instructor flexibility in the chapter sequence coverage. For example, Chapters 14, 15, and 16 contain a review of the balance sheet, income statement, statement of changes in financial position, and financial statement analysis. If instructors choose, they may cover any or all of these chapters at the beginning of the course to provide a preliminary review of financial accounting. The instructors' decision depends on their perception of how much financial accounting review is needed. Text Appendix A discusses highly technical statistical techniques that can be covered or omitted by instructors.
- 5. We have made the end of chapter material comprehensive and versatile. The review questions cover the chapters' major points and can be used for tests. The analytical questions require the user to think through the chapter material; they can stimulate interesting discussions. We have identified the problems as either straightforward or complex. Students can work the straightforward problems by looking at chapter narratives and illustrations. Students must study the complex problems more carefully because of the absence of direct reference to the text. Each chapter contains bold italic key terms and phrases. At the end of each chapter, these key concepts are listed.

We have divided the text into six major sections. We believe that the first four sections contain material that should be covered to accomplish the goals set forth in this preface. All or any part of the fifth section can be used at the instructor's option. The sixth section contains the appendices to the text.

Section One, the first chapter, introduces the topic of managerial accounting. This chapter discusses the basic differences between financial and managerial accounting, and it contains detailed explanations of the many cost classifications used in the remainder of the text.

Section Two delves into product costing and the preparation of financial statements for manufacturing firms. We have arranged the chapter sequences so that the complexity of material increases with each succeeding chapter, thus carefully guiding the student through the necessary techniques. Chapter 2 explains, in general terms, the flow of product costs through a company's accounts. Chapter 3 goes into more depth and shows the differences between job order and process costing. Chapter 4 provides a detailed narrative of cost allocations in general and predetermined overhead rate allocations in particular.

Section Three examines the use of cost data for planning and control purposes. Chapter 5 lays a framework for planning by discussing budgeting for financial statements. Chapters 6, 7, and 8 follow in order with discussions of (a) standard costing for materials and labor, (b) flexible budgeting for overhead, and (c) overhead variance analysis. Chapter 5 could be postponed until a later point in the course. However, Chapters 6, 7, and 8 provide a logically sequential coverage of the techniques for planning and controlling manufacturing costs (with an emphasis on standards).

Section Four explores the uses of cost data to aid in special managerial decisions. We emphasize the use of relevant cost figures for the particular decision at hand. Chapters 9 and 10 discuss cost-profit-volume relationships. Chapter 9 discusses break-even analysis and direct costing for the firm as a whole. Chapter 10 picks up with an analysis of company segments such as product lines, territories, and divisions. These two chapters should be studied in the listed sequence. Chapter 11 analyzes divisional performance, with a special emphasis on motivational aspects. Divisional rates of return and transfer pricing are the key elements of the chapter. Chapter 12 discusses relevant costing and cost/price relationships. Chapter 13 contains an easily followed analysis of capital expenditures.

Section Five, Chapters 14–16, contains financial accounting topics that are less essential than those of the first thirteen chapters. Coverage of any or all of these chapters will be beneficial, however.

VI PREFACE

Appendix A has highly technical discussions of statistical techniques. Instructors may find it useful as extra assigned reading. Appendix B contains optional problems categorized by subject matter and chapter reference so that instructors can easily assign them to the appropriate chapter.

We have intended to provide users of this text with basic, easy to follow explanations of managerial accounting. After studying the materials in this book, nonaccounting majors should possess an understanding of cost data that is used for product costing, planning and control, and special managerial decisions. Accounting majors should have a solid basis for developing skills to both prepare cost data for and interpret cost data to management.

We would like to thank the American Institute of Certified Public Accountants, Inc., for permission to reproduce and adapt questions and problems from Uniform CPA Examinations. A similar thanks goes to the Institute of Management Accounting of the National Association of Accountants for permission to reproduce and adapt questions and problems from CMA Examinations.

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Sole responsibility for all errors rests with the authors.

J. H. Rossell W. W. Frasure D. H. Taylor

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section one INTRODUCTION TO MANAGERIAL ACCOUNTING

in this section:

- basic differences between financial and managerial accounting
- detailed explanations of cost classifications used throughout this text

chapter one

CONCEPTS AND COST CLASSIFICATIONS

It is important to understand the traditional distinctions between the functions of financial and managerial accounting. Financial accounting refers to collecting, summarizing, and reporting data to facilitate its use by investors, government agencies, and those parties external to a company's management. Managerial accounting provides data to aid managers in making decisions. Financial accounting is sometimes referred to as external accounting, and managerial accounting is often called internal accounting.

DITTEREST USES OF THE SAME DATA

In reality, much of the distinction between the terms financial and managerial relates to the different uses made of the same numerical data. A company need not collect a completely new set of data for managerial decision making. Different arrangements of the same numbers usually suffice, as in these examples:

- Collect data that show the cost of acquiring or producing merchandise.
 For financial accounting, these costs must be assigned properly to the
 inventory and cost-of-goods-sold sections of the financial statements,
 in accordance with generally accepted accounting principles. For managerial accounting, these costs should be compared periodically with
 budgeted amounts to maintain adequate cost control.
- 2. Collect data that show the cost of expenditures related to the factory equipment. For the financial statement, you should make a distinction between capital and revenue expenditures, in accordance with generally accepted accounting principles. However for managerial accounting, these expenditures should be assigned to the responsibility unit (department, division, etc.) that has control over such costs.
- 3. Collect data that show the cost of fixed assets acquired by the company. For financial accounting, you should report the cost and depreciation thereon, in accordance with generally accepted accounting principles. For managerial accounting, you should follow policies that result in "reasonable" assignments of depreciation and other fixed asset expenses to the income statements developed by the various segments of the firm.

GENERAL DISTINCTIONS BETWEEN LINANCIAL AND MANAGERIAL ACCOUNTING

The most noteworthy difference between financial and managerial accounting is in financial accounting's adherence to generally accepted accounting principles. Financial statements prepared for "external" use should conform to certain principles, conventions, and concepts formulated over a period of years. For example,

- 1. State assets at cost, reduced by such credits as accumulated depreciation and allowance for doubtful accounts.
- 2. Match expenses incurred for the purpose of earning revenues against such revenues.
- 3. Make proper disclosures in the financial statements, for example, types of inventory and depreciation methods used.

Managerial accounting is not bound by the constraints of generally accepted accounting principles. Because of this freedom, for certain purposes (explained in Chapter 11), some assets are stated at amounts other than cost. Also, managerial accounting emphasizes aspects of planning and control of expenses rather than the matching of expenses. Generally, management can disclose whatever it wishes in reports intended only for internal use.

Financial accounting generates data that are used to (a) help prospective stockholders and creditors make investment decisions, (b) satisfy the requirements of local, state, and federal governmental agencies, and (c) provide present stockholders and management with general reviews of company operations as a whole. On the other hand, managerial accounting generates data that are used to (a) plan company operations, (b) control costs, (c) help make a variety of "internal" decisions, and (d) motivate employees toward certain desirable, or away from certain undesirable, courses of action.

Historically, financial accounting reports have been confined to company operations as a whole. Managerial accounting reports, on the other hand, show amounts for company segments, such as departments, divisions, and territories. In recent years, however, this difference has lessened because many firms show selected income statement data for their various lines of business in their published reports.

For the most part, financial accounting reports on historical events. However, a large part of managerial accounting involves planning and decision making for the future; for example, managerial accounting considers such questions as

- 1. How to allocate resources among company segments to maximize total company profit.
- 2. Whether to invest in assets that will be used for a number of years.
- 3. Whether to close a company department or territory that appears to have low profitability.

For some managerial decisions, the numerical analyses are used differently than they are for financial accounting. For instance, in calculating the fixed asset total that appears in a company's financial statements, you would take care to "balance" the control account with the detail of the subsidiary ledger. However, in making a decision to purchase a long-term fixed asset, management might accept a *general* estimate of its cost or the dollar amount of money returns you expect to generate from the asset. You must take care in making the estimate, but you will achieve

less precision because the decision involves a projected result rather than a past transaction.

In considering the distinctions between financial and managerial accounting, you should not conclude that financial accounting is unimportant; it is useful and purposeful. The data are arranged in report styles suitable to the needs of stockholders, creditors, and government units. However, in managerial accounting, which is not constrained by generally accepted accounting principles but is designed to satisfy the short- and long-term needs of all levels of management, you simply need to arrange and report the data in different ways.

THE USES OF ACCOUNTING DATA

Accounting data are used in a variety of ways, and we could list several types of usage classifications. But for this text, we have categorized such data according to the following potential benefits: (a) calculating product costs and preparing periodic financial statements; (b) planning and controlling company financial operations; and (c) aiding management in making special decisions.

To find the cost of manufactured products, a company must arrange and classify accounting data in a manner that facilitates the use of the same data for managerial planning, control, and special decision making. This is called *product costing*. Product costing is related to both financial and managerial accounting. Traditionally, therefore, product costing is discussed in a managerial accounting text. Moreover, some managers might wish to use product costing as an aid in pricing and controlling costs.

Planning and controlling financial operations are vital to the economic health of a company. Accumulating, reporting, and interpreting the accounting data constitute important elements in planning and control. Most medium and large businesses are divided into segments, such as product lines, departments, divisions, and territories. Some segments have managers who maintain authority over financial matters and who also have responsibility for financial operating results. Such segments are referred to as responsibility units, and accounting data are important to their operations.

Imagine a department, a responsibility unit, that engages in part of the product manufacturing process such as assembling. The manager of this department is expected to budget or plan the department costs for future accounting periods. In addition, the manager is expected to main-

tain control of actual costs and to keep them within tolerable limits of the budgeted amounts. Historical financial statements of the firm as a whole are of little use to the manager in making reasonable budget forecasts. The department needs individual cost data with the numbers arranged accordingly.

Managers of responsibility units, as well as other types of managers and supervisors, are faced with a wide variety of financial decisions. Accounting data arranged in proper formats can be invaluable in helping to make these decisions. Assume, for instance, that management is faced with the question of whether to maintain or close a certain product line. The financial statements of the company as a whole will not provide meaningful information for this purpose. However, dollar amounts taken from the data that produced the financial statements can be taken, rearranged, and placed in a format that will be useful in making the decision on the product line.

Assume again that a manager is faced with the question of retention or disposal of equipment. Financially, the major considerations in accounting for fixed assets include (a) assuring that the asset is recorded at cost, and (b) properly accounting for the depreciation. The manager of our responsibility unit, then, would be interested in other data such as the estimated disposal value of the old equipment and the anticipated cost of any replacement asset

Because the use of accounting data for product costing, planning and control, and special decisions can provide many ways to motivate company employees, the budgeting process can be used as an incentive to keep costs at tolerable levels. For instance, the internal price that one company segment charges other segments for goods and services can serve as a device to prevent loss of profits. Also, the accounting methodology chosen to determine gains and losses on fixed asset sales can prevent irrational asset replacement decisions.

COST CLASSIFICATIONS

A cost can generally be defined as the sacrifice made to acquire goods or services or to obtain an objective. External users of financial statements do not normally concern themselves with classifications of cost other than the functional arrangements within the balance sheet, income statement, or statement of changes in financial position. Managers, however, need to view accounting data in a number of different ways. The same data must be rearranged for many diverse internal purposes, such as product costing, planning, cost control, and special decisions.