COST ACCOUNTING

Michael Chatfield

Denis Neilson

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Michael Chatfield
California State University, Fresno

Denis Neilson
University of San Francisco

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HARCOURT BRACE JOVANOVICH, INC.
New York San Diego Chicago San Francisco Atlanta
London Sydney Toronto

Printed in the United States of America
Library of Congress Catalog Card Number: 82–082703
ISBN: 0–15–514140–6

PREFACE

Cost accounting has the reputation of being hard to teach and hard to learn. Most current texts in the area have done little to alleviate this problem. This book takes a new approach to the subject: teaching by example. The discussion of each topic that involves conceptual or computational difficulties is immediately followed by a numerical illustration. This method of instruction is reinforced by a solved comprehensive review problem at the end of most chapters.

This book is divided into three parts. Parts One and Two (Chapters 1–14) deal with cost accumulation and the use of cost information for planning and control purposes. These chapters are meant to be covered sequentially and comprise the basic materials for a one-term cost accounting course for undergraduate accounting majors. The more computationally challenging topics in Part Three (Chapters 15–22) may be covered at the instructor's discretion or as time permits. Alternatively, the entire text can be taught in a two-term sequence, with the first course providing coverage of those topics needed by all undergraduate business students and the second term devoted to the more specialized and technical subjects needed by accounting undergraduates. Finally, selective coverage of appropriate chapters provides a text suitable for the introductory managerial accounting course taken by graduate students entering an MBA program.

In this book, we cover a specified and "generally accepted" body of knowledge, and support approved accounting methods with citations from authority. Our discussion of the various aspects of cost accounting combines practice, theory, and authoritative statements of best practice—and, where such exist, statements of required practice. This is the essential format of nearly all intermediate and advanced financial accounting texts. Recent efforts to regulate and standardize cost accounting procedures parallel financial accounting developments of the 1930s and 1940s, and seem to call for a similar pedagogical response.

Although this text covers more topics and offers a wider range of quantitative analysis than many cost accounting books, the level of discussion is not beyond the abilities of most accounting undergraduates. We assume that the student has already taken an introductory course in financial accounting but has no cost accounting background. Those attempting Part Three will find it easier if they have had some previous exposure to basic college algebra and elementary statistics. However, the problem materials are arranged in order of difficulty, allowing the more quantitative chapters to be taught either comprehensively or on a survey basis.

Assignment materials are an important component of any textbook. The questions, exercises, cases, and problems contribute significantly to the strength of this text as a total teaching–learning package. All assignment materials have been written entirely by the authors, and are, therefore, fully coordinated and consistent with the techniques, concepts, and terminology presented in the chapters.

These assignment materials have been successfully class tested for more than four years in accounting courses at the University of California, Berkeley; University of San Francisco; California State University, Hayward; San Francisco State University; Saint Mary's College; and College of Marin. To those students who used these materials in their developmental form, we express our sincere thanks for their numerous suggestions, comments, and criticisms.

Many colleagues also provided suggestions and encouragement during the development and writing of this text. In particular, our personal thanks to Dean Bernard L. Martin, McLaren College of Business Administration, University of San Francisco; Richard Bagozzi, Massachusetts Institute of Technology; Greg Buckman, California State University, Hayward; Alan P. Johnson, California State University, Hayward; Frank Lowenthal, California State University, Hayward; and John Grant Rhode, McLaren College of Business Administration, University of San Francisco. Robert H. Trezevant, College of Marin, has been of invaluable assistance in contributing a substantial amount of the material incorporated into the instructor's Solutions Manual. The following professors provided helpful reviews of the manuscript as it developed: Alison Hubbard Ashton, New York University; James Bedingfield, University of Maryland, College Park; Charles Brandon, Rollins College; William Call, New Mexico State University; John A. Caspari, Bradley University; Joseph R. Curran, Northeastern University; Carl Dennler, Florida Atlantic University; Joseph Goetz, Jr., Iowa State University; Lawrence A. Gordon, University of Maryland, College Park; Michael Haselkorn, Bentley College; Ronald W. Hilton, Cornell University; Robert R. Irish, University of Toledo; Robert S. Main, Butler University; Charles D. Mecimore, University of North Carolina, Greensboro; Ronald Pawliczek, Boston College; Gordon Pirrong, Boise State University; and Harry Wolk, Drake University.

Financial assistance was provided by the Accountancy Council of McLaren College of Business Administration at the University of San Francisco. Secretarial, reproduction, and inspirational assistance were provided by the following people at various stages of the project: Sandy Anderson, Anita Doleman, Gini Ferguson, Barbara Gunderson, Sharon Kwiatkowski, M. Kaye Long, Patricia G. Murphy, Kiyo Noji, Hannah Peña, Peggy L. Renk, Gloria Rodriguez, Barbara Rothman, Nancy Six, and Connie Wong. We also wish to acknowledge the editorial assistance of Steve Dowling and Karen Bierstedt, both formerly part of the College Department of Harcourt Brace Jovanovich.

We appreciate the help received from all of these individuals. However, they are absolved from responsibility for what appears in the text. Any errors remaining are the property of the authors. Comments from users are welcome.

Finally, a word of personal thanks from one of the authors to some very special people—John, Joe, Jaime, Jeff, and Sweetie Pie. In the words of a prominent spokesman from another field, "Thank you for making this whole thing necessary!"

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Denis Neilson

CONTENTS

PART TWO
COST INFORMATION FOR PLANNING AND CONTROL

1

ACCOUNTING INFORMATION FOR MANAGEMENT

LEARNING OBJECTIVES

After studying Chapter 1, you should be able to:

1. *Describe the principal management tasks and explain how top managers delegate authority to perform those tasks.*
2. Explain the nature and purposes of financial accounting and management accounting.
3. Discuss how cost accounting is related to both financial and management accounting.
4. Identify three purposes of management accounting
5. Prepare an income statement for a manufacturing business.
6. Explain the basic uses of budgets in a management accounting system.
7. Describe the role of a controller in a modern business.
8. Distinguish between line and staff functions and the duties of line and staff managers.
9. Understand the differentiation of detail in reports prepared for top-level, middle-level, and low-level managers.
10. Describe the role of the Cost Accounting Standards Board and its effects on management accounting procedures.

Introductory accounting textbooks may briefly discuss *management accounting,* which provides information for use by decision makers within an organization. But they emphasize *financial accounting,* which provides information to stockholders, creditors, and others outside the organization.

In the real world of operating businesses, these priorities tend to be reversed. A company's audited financial statements *must* be prepared—they are required by state law, by such regulatory agencies as the Securities and Exchange Commission, and by the stock exchanges as a condition for trading the firm's securities. On the other hand, no business is legally required to produce accounting information for use by its executives. Management accounting data is expected to justify its cost by providing benefits that exceed the expense of producing the information. It does so by helping managers plan for the future, control operations, reduce costs and waste, and generally by improving performance and increasing profits. As one management accountant said, pointing to his company's published financial statements, "Those are the things we *have* to do, and these"—indicating a stack of managerial accounting reports—"are the things we *want* to do."

This chapter first outlines the managerial functions that require accounting information. It then defines the major purposes of management accounting and illustrates accounting reports prepared for managers at different operating levels. Finally, it traces the development of management accounting procedures and describes the sources of authority underlying those procedures.

MANAGEMENT TASKS

Management is the art of getting things done. More specifically, business management involves setting company goals and directing human and physical resources to achieve those goals. A study of management accounting logically begins with a survey of basic management functions:

1. *Policymaking*—deciding in general what should be done.
2. *Goal Setting*—specifying the firm's short- and long-run objectives.
3. *Planning* to reach those objectives.
4. *Staffing*—finding the right person to do each job.
5. *Organizing* economic and human resources in accordance with the plans made.
6. *Coordinating* the efforts of employees whose duties are interrelated.
7. *Directing* the conduct of day-to-day operations by giving subordinates sufficiently detailed instructions so that they always know what is expected of them.

8. *Controlling* operations by taking corrective action when needed to see that plans are carried out, goals are reached, and jobs are done in the best possible way
9. *Evaluating* the performance of responsible individuals and groups

The president of a company, as chief executive, has overall management authority But no individual can personally supervise all the activities of a large business Effective management requires that the company be divided into operating units, that authority be delegated to the managers of those units, and that managers at all levels be held responsible for their performance This delegation of management tasks may be based on functions to be performed, such as production, sales, or research Authority may also be delegated on the basis of product lines, sales territories, geographic areas, or any combination of these

Each such operating unit is a **decision center**—a department or other company segment headed by a manager who has the *authority* to make decisions and the *responsibility* for the results of those decisions This is an important management accounting concept because internal accounting information is gathered, processed, interpreted, and distributed according to the activities and needs of these decision centers

Managers need accounting information that is relevant to their particular interests and responsibilities Consequently, in designing the accounting reports required for different managers, it is first necessary to specify what those interests and responsibilities are

THE ORGANIZATION CHART

An **organization chart** identifies each manager's areas of authority, responsibility, and accountability Every box on the chart represents an individual or group with a job to do—in other words, a defined responsibility The lines connecting these boxes show the responsibilities of managers to each other and the delegations of authority that created those responsibilities

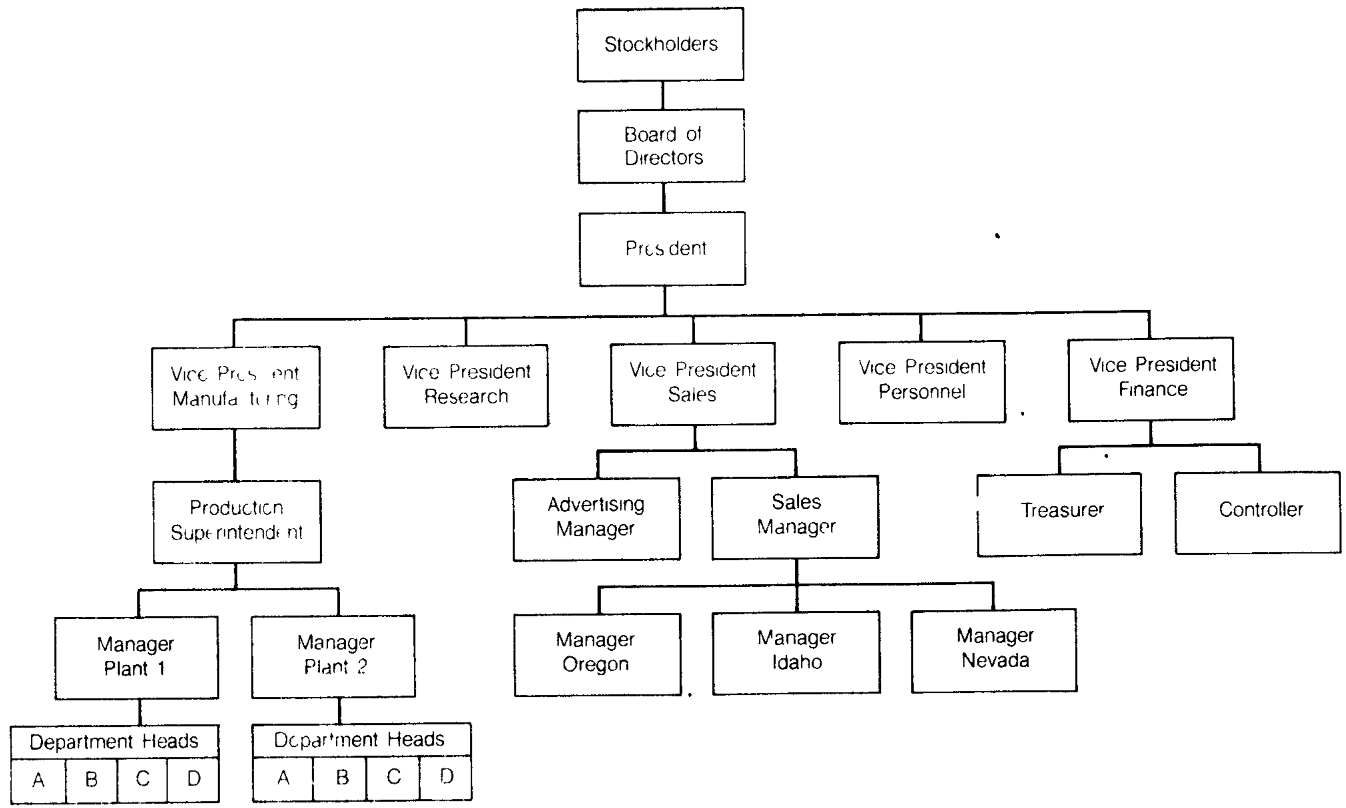
In Figure 1–1, for example, the line connecting the president and the manufacturing vice president indicates that the latter is responsible to the president and reports directly to him The chart also shows that the president has delegated authority over major company functions to five vice presidents The manufacturing vice president has delegated operating authority to a production superintendent, who in turn has given control of day-to-day operations to managers of the two factories, and so on The whole organization chart resembles a multilayered pyramid, with executives at each lower level given certain rights in exchange for performing certain duties

ACCOUNTING INFORMATION AND MANAGEMENT DECISIONS

All management tasks involve making decisions Managers need accounting information to estimate the costs and benefits of alternative courses of action, to implement decisions, and to evaluate the results of past decisions By requiring

FIGURE 1-1

Partial Organization Chart of a Manufacturing Corporation



that certain information be made available, the managerial decision process helps to structure the accounting system The output from that system influences managerial perceptions of reality and, in doing so, affects the decisions finally taken

The extent of the information needed depends on both the decision to be made and the size of the business In very small firms, where managers are in personal contact with operations, the information processing methods can be quite simple In larger companies, a formal accounting system becomes a practical necessity In all cases, the amount of information to be supplied should be determined through a comparison of its estimated cost with the benefits to be derived from it

Information for managers is provided by financial accountants as well as by management accountants These two types of accounting should be viewed as parts of a company-wide **accounting information system.** Both financial and managerial accounting employ the double entry system, use broadly similar terminology and account classifications, and record essentially the same transactions They also have common output, although a company's financial statements are intended primarily for stockholders, they always include inventory, profit, and other performance measures originally prepared for use by managers The two systems differ chiefly in the needs of their users, in the types of information they provide, and in the rules under which that information is produced

FINANCIAL ACCOUNTING

Financial accounting primarily reports the results of transactions with outsiders Its end products are financial statements that serve as communication devices between the managers who run a company and the stockholders who own it When a corporation's stock is publicly held, its balance sheet, income statement, and statement of changes in financial position are made available to anyone who wants them These statements summarize the entire company's financial position and operating results Their broad scope is intended to satisfy the information needs of stockholders, creditors, financial analysts, regulatory agencies, customers, suppliers, and others who must make decisions about the company *as a whole* Investors must buy shares in the entire corporation, creditors can only lend to the company as a whole, the government normally taxes and regulates each firm as a single entity

MANAGEMENT ACCOUNTING

Management accounting tends to focus on *segments* of a business Typical managerial decisions concern the operations of a particular department—a choice between two products, or the replacement or retention of an individual machine General purpose financial statements sometimes provide starting points for such analyses For example, an income statement might raise questions about the profitability of certain divisions within a company However, most managerial decisions require more detailed information about company segments Such information can only be found in specialized management accounting reports