Part I

Cost Accounting Foundations

Part I provides the reader with a solid foundation in the essentials of cost accounting. The chapters in this section introduce costing and cost definitions. Various approaches to product costing and cost allocation are discussed. Breakeven analysis is also covered in this section, as are techniques for making nonroutine decisions.

Chapter 1 introduces the distinctions among financial, managerial, and cost accounting. The chapter discusses the use of cost accounting for planning, control, and nonroutine decision making. The role of cost accounting for inventory costing and income determination is also introduced. The chapter stresses the importance of several particular issues in cost accounting: the role of human beings; the need to develop cost information not only for reporting, but also for management control; and the benefit/cost philosophy regarding the generation of cost information.

Chapter 2 defines basic cost accounting concepts including full costs; average costs; cost objectives; direct and indirect costs; and fixed, variable, marginal, total, and joint costs. These concepts are then applied to marginal cost pricing and to the issue of departmental costing versus product-line costing.

Chapter 3 discusses product costing in greater detail. Job-order and process costing are explained and contrasted. The chapter also discusses standard costing systems and microcosting.

Chapter 4 addresses the complex issue of cost allocation. The reasons and guidelines for allocating costs are explained. Cost allocation techniques are discussed, including cost pools and cost bases. This chapter also reviews the institutional cost report, with a discussion of how cost allocation relates to standard costing and microcosting. The difficulties of allocating of joint costs are considered. The chapter ends with a discussion of the relative merits of ratio of cost to charges (RCC) costing versus relative value unit (RVU) costing.

Next, Chapter 5 discusses the issue of developing cost information for nonroutine decisions. It considers the identification of alternative approaches for accomplishing a specific objective and the issue of relevant costs, and provides a number of examples.

Chapter 6, the last chapter in this section, addresses cost-volume-profit analysis. The relationship between fixed costs and volume is stressed. The discussion of breakeven analysis provides a number of examples of cost-volume-profit analysis. The chapter ends with a discussion of the breakeven analysis technique and examines its underlying assumptions.

CHAPTER 1

Introduction to Cost Accounting

GOALS OF THIS CHAPTER

1. Describe the purpose of cost accounting.
2. Distinguish among financial, managerial, and cost accounting.
3. Explain the use of cost accounting for planning and control, nonroutine decisions, inventory valuation and income determination, managed care contract negotiation and oversight, and required external reports.
4. Discuss the conflict between generating cost data for reporting versus for management planning, decision making, and control.
5. List several key characteristics of a good cost accounting system, and describe some difficulties in designing such a system.
6. Explain the importance of human motivation in cost accounting.

KEY APPLICATION QUESTIONS

1. How does cost accounting differ from financial accounting?
2. Why is cost information important for my organization?
3. In what ways will my organization use the information from a cost accounting system?

KEY TERMS USED IN THIS CHAPTER

Accounting; capitation; congruent goals; control; cost accounting; cost accounting system; cost measurement; cost reimbursement; cost reporting; divergent goals; financial accounting; incentives; income determination; inventory valuation; managed care organization; managerial accounting; Medicare Cost Report; nonroutine decisions; period costs; planning; product costs; profitability analysis; strategic planning.

Note: Key terms appear in boldface italics when first used in the chapter. All key terms are defined in the Glossary.

THE PURPOSE OF COST ACCOUNTING

From a narrow perspective, ***cost accounting*** is an element of financial management that generates information about the costs of an organization and its components. As such, cost accounting is a subset of ***accounting*** in general; accounting generates financial information for decision making. From a broader perspective, cost accounting encompasses the development and provision of a wide range of financial information that is useful to managers in their organizational roles. This book takes that broader perspective.

The prime reason for undertaking any information-generating activity is so that an effective decision can be made. In fact, there is little reason to generate information other than to use it in a decision-making process. Even if the user of financial information does nothing after receiving it, the user may well have used the information to help decide that no action was required at that time. Often, the tools of cost accounting can be better understood if one first considers the types of decisions that might be made using the information.

Financial Accounting vs. Managerial and Cost Accounting

Accounting is often subdivided into two major categories: (1) ***financial accounting*** and (2) ***managerial accounting***. This subdivision aligns itself with the two major classes of users of accounting information: (1) external users and (2) internal users.

Financial accounting provides information primarily for individuals or entities who are outside of, or external to, the organization. These include banks, suppliers, in some cases owners, the government, and a range of others interested in the finances of a particular organization.

Information is conveyed to these users primarily by a set of financial statements, in particular the operating statement (or income or activity statement or statement of revenues and expenses), the balance sheet (or statement of financial position), the cashflow statement, and the statement of changes in net assets (or statement of changes in owner's equity). These financial statements often must follow prescribed and somewhat uniform presentation formats as required by the American Institute of Certified Public Accountants (AICPA), various levels of government, and other bodies such as the American Hospital Association.

Internal users of financial information are the employees who manage the organization. Internal managers need a broad range of financial information to run the organization effectively. Managerial accounting generates any financial information that can help managers make decisions. Statements generated for internal use can take any form that management feels will communicate necessary or useful information. They have no mandated format and can vary greatly from organization to organization.

Figure 1–1 illustrates the position of cost accounting within the larger realm of accounting. Cost accounting is often considered to be synonymous with managerial account-

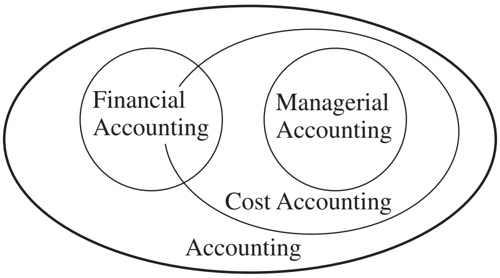

Figure 1–1 Position of Cost Accounting within the Larger Realm of Accounting

ing, but that is not a completely accurate portrayal. Cost accounting includes all of managerial accounting, but it also focuses on certain elements of financial accounting that are closely related to ***cost measurement*** and ***cost reporting***. For example, generating a hospital cost report for Medicare is technically part of financial accounting, since the report is generated for an external user, the Centers for Medicare and Medicaid Services (CMS), which administers the Medicare program. However, because a ***Medicare Cost Report*** focuses largely on the calculation of costs, it is properly a part of cost accounting as well.

This book explains the tools of cost accounting so that they can be used for both internal management applications and external purposes. The reader should bear in mind that often the distinction between the two is hazy at best. Reports generated for external users may become valuable documents for use by managers. However, caution is required. Reports generated for external users often have to comply with mandates from the external users. For example, the government may regulate specific treatment of certain types of costs. Although that treatment may be appropriate for external users, it might be misleading for internal managers. The Medicare Cost Report is a good example. Many health care organizations must comply with reporting regulations in preparing this report, but that does not mean that the report must be used internally. There may be alternative approaches to determining costs that would give the managers more useful information for the decisions they must make.

Cost accounting information is useful for managers in a number of areas. These include the management of department-level costs, pricing decisions in negotiations with ***managed care organizations*** (MCOs), ***strategic planning***, and ***profitability analysis***. The remainder of this section focuses more generally on the use of cost accounting for ***planning*** and ***control***, ***nonroutine decisions***, ***inventory valuation*** and ***income determination***, managed care contract negotiation and oversight, and preparation of required external reports.

Planning and Control

One of the primary purposes for collecting cost accounting information is to allow managers to better plan and control the operations of the organization. The planning process ensures that the organization has the opportunity to determine its maximum potential. The control process then ensures that the organization has the opportunity to achieve that potential.

Planning means that the managers of the organization think through the implications of their actions before they act. For example, should the organization undertake a new service? Planning allows the managers to anticipate whether the new service is likely to make or lose money. By planning ahead, advantageous opportunities can be undertaken and problematic ones avoided.

Decisions will not always be based solely on the accounting information generated. An organization might decide to proceed with a new service even if cost accounting information indicates that the service will likely lose $100,000 per year. There may be overriding, societal issues that make the service still worthwhile. The health benefits to the community may be so great that the organization decides to proceed even at a loss of $100,000.

However, that does not mean that the cost information was not used in the decision. Most likely, the information was used in two ways. First, the information was used to determine the size of the loss so a decision could be made whether to offer the service. If the projection had been a $1 million or $10 million loss per year, the organization might have decided against the project, despite its health benefits.

Second, the calculation allowed management to know how much of a loss would need to be subsidized by other sources. The managers can now make plans to have an excess of $100,000 per year generated from other activities.

If such an excess is not generated, then the organization risks insolvency. However, the organization has not proceeded to implement the service without any information at all, just because it is an important health service for the community. The calculation of cost information has provided the starting point for the broader planning the organization must do to subsidize the new service and remain financially stable.

Will the plans actually work? That depends largely on how well the employees of the organization work to control operations and keep to the plan. Sometimes things will happen that the organization cannot control; for example, prices of supplies may rise. However, that does not mean that the organization should abdicate responsibility for control. Managers must work to keep the activities of the organization under control. If uncontrollable events occur, management can take actions to respond to those events. It may be necessary to alter the original plan. The tools that allow managers to control ongoing activities and to respond effectively when either controllable or uncontrollable events occur make up the control elements of cost accounting.

Nonroutine Decisions

Most organizations generate a substantial amount of routine information for running the organization on a day-to-day basis. Cost accounting, however, also provides the tools for making the nonroutine decisions that managers face from time to time.

The question of whether to add or delete a health care service, or whether to expand a health care facility, can have significant financial implications for the organization. The routine information generated as part of the everyday accounting process may not be adequate for the manager to make such decisions. The cost accounting tools provided in this book are designed to offer the reader the conceptual basis to generate the information needed to make correct decisions in these cases.

Inventory Valuation and Income Determination

In many industries, inventory is a significant part of the production process. As manufacturing firms produce their goods, some costs are treated as expenses in the year the product is made (***period costs***), whereas other costs are not considered expenses until the product is sold (***product costs***). The timing of when costs are treated as expenses has a potentially dramatic impact on the value of the inventory asset on the balance sheet as well as on the net income (excess of revenues over expenses) reported on the income statement.

This is an example of cost accounting's crossover between financial and managerial accounting. The examination of the costs of production is clearly related to managerial accounting. The determination of inventory and expense values for creation of financial statements is part of financial accounting. Both elements are part of cost accounting.

Inventory valuation and income determination receive substantial attention in most cost accounting texts, but inventory is a relatively minor asset for most health care organizations. The primary issues related to inventory valuation and income determination concern inventory that is transformed in the manufacturing process from a raw material into a finished good. Such manufacturing transformation is extremely uncommon in the area of health care services, and therefore is not a major focus in this book.

Managed Care Contract Negotiation and Oversight

The provision of health care in the 1990s was dominated by a focus on cost control and the rapid growth of managed care. While health care organizations need to be able to relate payment with cost of care for all types of payers, this need is significantly more important in the case of managed care.

Unlike other payers, MCOs typically negotiate payment rates and/or payment mechanisms with health care providers. In the simplest negotiation, the MCO tries to negotiate a discounted price for a particular service. In this case, cost accounting provides the tools necessary for providers to know how low they can go. Increasingly, MCOs are negotiating complex payment mechanisms in which the payment to the provider is set at a fixed amount regardless of the individual patient's subsequent use of services. In this situation (typically referred to as ***capitation***), the provider is faced with the need to know both the potential/likely use of services and the cost of those services. A good ***cost accounting system*** can identify the cost of the services and assist in identifying the likely mix of services to be used.

Once a provider has entered into a managed care contract, cost accounting becomes an integral component of monitoring that contract. One must remember that the contract was based on negotiation of the unknown. In order for the provider to know how to proceed in the future (both with the existing contract and with any subsequent managed care contracts), knowing the actual use of services and the cost of those services becomes vital.

Required External Reports

As noted earlier, many health care organizations have regulatory and contractual reporting requirements related to cost information. These requirements have significant impact on the types of cost information generated by the organizations. As one considers the various approaches to cost accounting, one must balance the information between its strict internal uses to enable the manager to run the organization more efficiently and its external uses to create the desired cost information for reporting purposes.

COSTS FOR REPORTING VS. COSTS FOR MANAGEMENT PLANNING AND CONTROL

The roles of cost accounting for external reporting and for planning and control do not always work comfortably side by side. Often, the mandated need for external reports predominates the accounting process, leaving managers with inadequate information.

Managers frequently complain of problems that are symptomatic of cost accounting systems that are designed for reporting purposes rather than for managerial use. For example, in many health care organizations, supplies and purchased labor services do not show up on departmental expense reports for the month used, but rather one or two months thereafter. The lag may not be consistent from month to month or from one type of item to another. Without a special study, there is no way to tell how much of a month's usage was included in the actual figure reported.

Reporting costs as an expense for a month other than the month the resource was actually consumed creates problems. Managers try to determine whether they used an appropriate amount of resources for the number and type of patients treated. However, if they cannot match a month's expense report with the resources consumed in that month, then they cannot accurately compare resource consumption to patient volume and mix. This can substantially impair the ability of managers to control costs.

Financial managers usually have a justification for why things are done in a way that may not be most responsive to the managerial needs of department heads. Health care cost accounting developed with a focus on gathering information for ***cost reimbursement*** (an external reporting function) rather than for management. Yet, the main job of the managers is to run the organization efficiently and effectively. External reporting is an ancillary function.

In this era when efficiency and cost-effectiveness are more of a concern than ever before, it is vital to examine closely the various elements of the organization's cost accounting systems. Even the most routine and mundane reports should be considered. Do they provide the information that a manager needs to make effective decisions and to control the operations of the health care organization, or are they designed for the convenience of external reporting? If they are for external reporting, then a thorough revision of such reports may be in order.

GOOD COST ACCOUNTING SYSTEMS

There has been a growing lack of satisfaction with the costing systems that health care organizations have used over the last several decades. As a result, the last several years have been a bonanza for health care consultants, especially in the hospital field. A wide variety of cost accounting systems have been installed, ranging from relatively modest in cost to multimillion dollar systems. Yet, it is not clear that these new systems have been totally satisfactory or even more satisfactory than the systems they replaced. Horror stories of millions of dollars spent on systems that do not work properly are becoming more and more common.

Perhaps one reason for these failures is that some cost accounting systems are expected to do more than they possibly can. It is difficult for any one system to serve the conflicting needs of allocating costs for external reporting, determining incremental costs for negotiating and decision making, and determining product costs for productivity measurement and cost control. While there has been a great focus on replacing cost accounting systems, perhaps part of the solution is to view and install new product costing systems that would perform as supplementary systems rather than replacements.

Another possible reason for problems with new systems is that cost accounting systems are being developed and installed without adequate specification. A "good cost accounting system" is difficult to define, because different health care organizations have different information needs. A good cost accounting system is one that is based on a knowledge of what information is needed, why it is needed, and what will be done with it once it is available.

Benefit/Cost Philosophy of Cost Information

We can set a minimum standard for a good cost accounting system. It should generate information that is more valuable than the cost of the system itself. This rule of thumb has always been a part of health care costing systems. Accuracy in cost measurement is desired, but must be balanced against the cost of acquiring the information.

Given the intense financial constraints faced by most health care providers, it is difficult to have enough resources—human and computer—to meet all the needs of a good cost accounting system. For any additional money spent on cost accounting one must be able to show a return on the investment.

Clearly, substantial amounts of money are at stake. If a health care organization uses new information to discover that a product line loses a lot of money, and it can eliminate that product line, then the new information is quite valuable. But the same information discovered about an integral service that cannot possibly be eliminated if the organization is to continue to exist is much less valuable.

It costs money to generate cost accounting information. The more complex the information, the more costly it is. Often, managers desire to use extremely accurate accounting information for making decisions. From an idealistic point of view, that makes perfect sense; from a pragmatic point of view, it is not always a sensible option.

When one decides to generate cost information, the benefit of the information to be generated should be weighed against the cost of the information. Sometimes an approximation, which is much less expensive to make than an exact calculation, will be perfectly sufficient for making a reasonable decision.

Wise use of the limited resources of an organization calls for choosing the least expensive adequate data for making a decision. When one decides whether to generate information, one should always consider what less costly information alternatives exist. Often, the less costly alternatives require substantially less time and effort; in general, one should tend toward using these. More costly alternatives should be used only when their extra benefits exceed their additional costs.

THE HUMAN ELEMENT IN COST ACCOUNTING

Students of cost accounting often expect the focus to be on numbers: "How much does something cost?" However, the primary focus of cost accounting is on people. The measurement of numbers is secondary. People are the essential ingredient in any organization; they are what makes things work. Unless we consider people, there is no way to collect cost information and, more important, no way to control costs.

Determining costs can be a totally absorbing task. One risk in cost accounting is that we tend to lose touch with the various human beings who are involved in the different parts of the process. If we do not closely consider the individual people involved in the cost accounting process, we may calculate costs accurately, but make things more expensive than they should be because employees are spending more than is necessary. If the focus is less on detail and accuracy, and more on why people act in a way that causes unnecessary spending, we may be able to improve efficiency and lower total costs.

People who work within the health care industry often do so because of their underlying altruism. They want to help society. They want to help individuals. However, that does not mean that the goals of individuals working for health care organizations are completely the same as those of their organizations. For example, most employees of a health care organization would prefer a substantially larger salary than they are currently receiving. The organization might prefer lower salaries than it is currently paying. These ***divergent goals*** must be recognized by the organization (Figure 1–2).

One recurring theme throughout this book is that managers must consider not only cost calculations, but also the incentives and motivations of the people working for the health care organization. In cost accounting, we record the results of actions people take. Understanding their motivations and likely responses to ***incentives*** is essential to the design

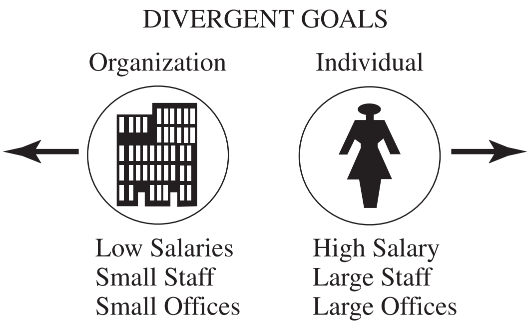

Figure 1–2 Divergent Goals. *Source:* Reprinted from *Budgeting Concepts for Nurse Managers,* Second Edition, by S.A. Finkler, p. 43, with permission of W.B. Saunders, © 1992.

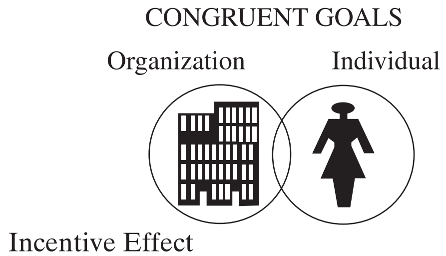

Figure 1–3 Congruent Goals. *Source:* Reprinted from *Budgeting Concepts for Nurse Managers,* Second Edition, by S.A. Finkler, p. 44, with permission of W.B. Saunders, © 1992.

of an effective cost accounting system. It is necessary for the interests of the individual to be brought together with, or to become ***congruent goals*** with, those of the organization (Figure 1–3). Individuals are more likely to act consistently in the organization's best interests if a system of incentives is in place. The cost accounting system can help establish a framework of incentives.

In recording the cost outcomes, individual performance must be carefully judged. If employees are not competent or do not work hard, a signal of failure may be warranted. However, if a manager is both competent and hard working, the cost accounting system should not indicate poor performance by the individual, even if actual costs exceed expectations. Such an indication is more likely to be discouraging than it is to provide the individual with an incentive to work even harder. When people work hard and fail, they often question why they worked so hard. Thus, we must be extremely judicious in the design of cost accounting tools for evaluation. Understanding their likely impact on the individuals who work for the organization is a critical element of management.

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EXERCISES

Questions for Discussion

1. Describe the conflict between the use of cost accounting to generate information for reporting and its use to generate information for management.
2. In order to design a good cost accounting system, what do you need to know?
3. How can cost accounting aid in the negotiation of managed care contracts?
4. What is the relationship between motivation and incentives and cost accounting?
5. Distinguish between financial and managerial accounting. Where does cost accounting come in?
6. What are some examples of nonroutine decisions?

7. Would you contend that one good cost accounting system is the best approach, or that there should perhaps be several systems, each addressing different needs?
8. What is the prime reason for collecting cost accounting information?
9. True or false: One should always develop the best cost accounting system possible, which generates the most accurate information. Why or why not?
10. Distinguish between planning and control.