

GLOBAL
EDITION



Introduction to Management Accounting

SIXTEENTH EDITION

Charles T. Horngren
Gary L. Sundem
David Burgstahler
Jeff Schatzberg

ALWAYS LEARNING

PEARSON

SIXTEENTH EDITION

Introduction to

MANAGEMENT ACCOUNTING

GLOBAL EDITION

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*To our spouses and children,
and to all our students, past and
present.*

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The California Certified Public Accountants Foundation gave Horngren its Faculty Excellence Award and its Distinguished Professor Award. He is the first person to have received both awards. The American Institute of Certified Public Accountants presented him with its first Outstanding Educator Award. He was also named Accountant of the Year, Education, by the national professional accounting fraternity, Beta Alpha Psi.

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Horngren authored several other accounting books published by Prentice Hall: *Cost Accounting: A Managerial Emphasis*, *Introduction to Financial Accounting*, *Accounting*, and *Financial Accounting*. He was also the Consulting Editor for the Charles T. Horngren Series in Accounting.



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Professor Burgstahler received the American Accounting Association’s American Institute of Certified Public Accountants Notable Contributions to Accounting Literature Award in 2002. He has numerous publications in journals including *The Accounting Review*, *Journal of Management Accounting Research*, *Journal of Accounting Research*, *Journal of Accounting and Economics*, *Contemporary Accounting Research*, *Auditing: A Journal of Practice and Theory*, *Behavioral Research in Accounting*, and *The CPA Journal*.



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Preface

Now more than ever, managers have to understand how their decisions affect costs.

Management accounting is an essential tool that enhances a manager's ability to make effective economic decisions. Because understanding concepts is more important than memorizing techniques, *Introduction to Management Accounting*, 16th edition, describes both theory and practice so students understand how to produce and apply information that's useful in day-to-day decision making. From the first chapter, we encourage students to think about the advantages and disadvantages of various techniques, not to simply memorize and apply the techniques.

Introduction to Management Accounting, 16th edition, deals with all business sectors—nonprofit, retail, wholesale, service, selling, and administrative situations—as well as manufacturing. The focus is on planning and control decisions, not on product costing for inventory valuation and income determination.

Our Philosophy

Introduce concepts and principles early, then revisit them at more complex levels as students gain understanding, and provide appropriate real-company examples at every stage.

In management accounting courses students learn how managers use accounting information to help make better business decisions. They begin their understanding of managerial decisions by asking, “How will my decisions affect the costs and revenues of the organization?” Students then progress to more complex questions: “What is the most appropriate cost-management system for the company?” “What products or services should we emphasize?” “What do our budget variances mean?” *Introduction to Management Accounting* presents the most basic cost concepts in chapters 1–6 and adds more complex analyses that build on these concepts in the remaining chapters.

Our goals are to choose relevant subject matter and to present it clearly and accessibly, using many examples drawn from actual companies. Examples from companies, such as Starbucks, Boeing, AT&T, McDonald's, Microsoft, and more, help students understand management accounting concepts in a real-company context.

Introduction to Financial Accounting, 11th edition, and *Introduction to Management Accounting*, 16th edition, together provide a seamless presentation for any first-year accounting course. Please contact your Pearson representative about cost-saving discounts when adopting both books.

New Edition Enhancements and Updates

The authors have made changes to both update the topic coverage and to add clarity to the discussion of various topics. Some noteworthy changes include the following:

- **New and revised “Business First” boxes** provide insights into operations at well-known organizations, including Microsoft, General Electric, Southwest Airlines, Alghanim Industries, Nortel Networks, and Harvard University.
- **New and revised chapter-opening vignettes** help students understand accounting's role in current business practice. In some cases we revisit the chapter-opening company throughout the chapter so that students can see how accounting influences managers in real companies. Students will recognize many of the companies, such as Starbucks, Boeing, US Airways, McDonald's, Nike, Paltel Group, Air Arabia, and Dell.
- **A problem** in each chapter based on Nike's SEC Form 10-K. These problems illustrate how publicly available information can lead to insights about a company, its costs, and its management decisions.

- **Increased coverage of ethics**, including an ethics problem in each chapter's assignment material.
- **End-of-chapter material** includes new and significantly revised exercises and problems to provide fresh, new examples.

Chapter-Specific Updates

Chapter 1 emphasizes the importance of accounting information for decision makers and the role of accounting systems in control. The chapter continues to emphasize the importance of ethics in business, with a section devoted to "Ethical Conduct for Professional Accountants." We shortened the discussion of entry-level careers in accounting and expanded the discussion of trends in management accounting.

Chapter 2 is a major update in the 16th edition. The discussion of mixed-cost and step-cost behavior has been moved up to this chapter, immediately following the discussion of fixed- and variable-cost behavior. Also, degree of operating leverage is defined and illustrated with an example.

Chapter 3 has been reorganized and provides a more focused discussion of cost behavior and cost estimation, as well as an enhanced examination of regression analysis.

Chapter 4 uses Dell as the primary example throughout the chapter, and in this edition we discuss Dell's strategic decision to shift their product mix away from consumer sales and toward enterprise solutions and services. We describe how cost management systems at Dell support strategic decisions as well as operational control. The discussion of cost categories and cost terminology has been rewritten and refined.

In **Chapter 5** we enhanced the pricing focus of the chapter, and further refined our discussion of the accounting formats that aid in such decision making, namely the absorption versus contribution margin approaches. We compare and contrast these two approaches throughout the chapter.

Chapter 6 has been edited to enhance operating decisions and the incremental analysis framework. The decision-making focus was further emphasized and related examples and problems were revised and updated.

Chapter 7 emphasizes the importance of budgets for both planning and control. The second half of the chapter illustrates the details of preparing a budget using the Cooking Hut example used in previous editions.

Chapter 8 has been reorganized to develop variance concepts in smaller steps. Basic variance concepts and terminology are introduced at the beginning of the chapter. The example introduced at the beginning of the chapter is first used to illustrate the static-budget variances for income. Then the static-budget variance is analyzed as the sum of activity-level and flexible-budget variances. Then, income variances are analyzed as more detailed revenue and cost variances. Finally, flexible-budget variances are divided into price and quantity variances (for materials and labor) or spending and efficiency variances (for variable overhead).

Chapter 9 includes multiple examples of performance evaluation and incentive issues for service organizations such as health-care organizations and hotels. We use the balance scorecard as an integrated framework to consider both financial and nonfinancial performance measures. The penultimate section of the chapter outlines issues of designing and implementing management control systems for service and nonprofit organizations.

In **Chapter 10**, learning objectives 4 and 5 have been revised, where objective 5 now focuses on the incentives created by alternative performance measures. We also revised the discussion of alternative measures of performance and profitability.

Chapter 11 includes a detailed, step-by-step example of calculation of net present value (NPV). The discussion of the internal rate of return formulation and its relation to the NPV formulation has also been expanded, though the chapter continues to primarily focus on the NPV model. The discussion of tax effects has also been further clarified.

Chapter 12 includes extensive revisions for clarity throughout the chapter. The general guidelines for allocating service department costs have been revised and condensed and the section showing how to apply the guidelines has been reorganized. The steps in ABC cost allocation were reduced from 4 to 3 and their description extensively revised. Finally, the discussion of which department to allocate first in step-down allocations moved from a footnote to the text.

Chapter 13 includes an enhanced discussion of overhead cost allocation and disposition of overhead variances. The complex discussion of variances was clarified as were the related problems and examples.

Chapter 14 has been revised to clarify the discussion throughout the chapter, especially regarding job-order costing and process costing. These two systems are explained in more detail and are compared and contrasted in a more meaningful way.

Chapter 15 includes updates to the General Mills examples throughout the chapters as well as to the Business First box on corporate citizenship awards. Revisions for clarity include an expanded discussion of accrued revenues and accrued expenses, a major revision of the presentation of the first 7 transactions of King Hardware, an added balance sheet after transaction 2 to show how a balance sheet changes with each transaction, and a revision of the section on non-profit organizations.

In **Chapter 16**, in addition to updating the Nike examples throughout, there is a revised discussion of goodwill, an expanded coverage of diluted EPS, and coverage of the FASB/IASB proposal that would mandate the direct method for the cash flow statement.

Chapter 17 includes a new learning objective on using financial statement analysis, a new section showing how income statements and balance sheets show noncontrolling interests, and a new line in all consolidation tables to clarify the totals before eliminating entries. Finally, we have updated all financial statement references throughout.

Supplements for Instructors and Students

INSTRUCTOR'S RESOURCE MANUAL Substantially revised, this resource manual provides insightful and useful tips on how to best manage course content when using *Introduction to Management Accounting*, 16th edition, in class. Chapter-by-chapter explanations and pedagogical philosophies are clearly delineated and oriented to greatly aid the teaching process.

SOLUTIONS MANUAL Comprehensive solutions, prepared by the authors, are provided for all end-of-chapter material. The Solutions Manual includes a listing of problems covering each learning objective, sample assignment schedules, a linking of 15th edition problems to those in this edition, comments on choices of problems in each chapter, and key amounts from suggested solutions to selected problems.

TEST ITEM FILE This is a ready-to-use bank of testing material that contains, for each chapter, a variety of types of questions, including true/false, multiple-choice, and critical thinking problems. For ease of use, each question is linked to chapter objectives and also provides a suggested difficulty level and references to text pages where answers can be found.

TESTGEN This testing software is designed to aid in creating custom tests in minutes. Features include question randomization, a point-and-drag interface, and extensive customizable settings.

POWERPOINT PRESENTATION Complete PowerPoint presentations are provided for each chapter. Instructors may download and use each presentation as is or customize the slides. Each presentation allows instructors to offer an interactive presentation using colorful graphics, outlines of chapter material, and graphical explanations of difficult topics. This is available online at <http://www.pearsonglobaleditions.com/horngren>.

COURSE WEB SITE AT [HTTP://WWW.PEARSONGLOBALEDITIONS.COM/HORNGREN](http://www.pearsonglobaleditions.com/horngren) This complete online resource offers a variety of Internet-based teaching and learning support. It provides a wealth of resources for students and faculty, including Excel spreadsheet templates.

MyAccountingLab MyAccountingLab provides students with a personalized interactive learning environment where they can learn at their own pace and measure their progress.

HALLMARK FEATURES

- **Personalized help** is available on MyAccountingLab whenever students need it with the interactive “Help Me Solve This” tool. This tool automatically generates algorithmic versions of a particular problem and provides step-by-step assistance until the solution is obtained.
- **Dynamic learning resources** found in MyAccountingLab cater to students’ individual learning styles. All Learning Aids can be turned off by the instructor.
- **A personalized Study Plan**, for self-paced learning, links students directly to MyAccountingLab’s interactive tutorial exercises on the topics they have yet to master.

NEW FEATURES FOR 2012

- **Excel Integration.** MyAccountingLab now allows students to work through end-of-chapter or quiz problems in an Excel simulated environment. Their work is then automatically scored and reported to the MyAccountingLab Gradebook.
- **Open-response Questions.**

Acknowledgments

We have received ideas, assistance, miscellaneous critiques, and assorted assignment material in conversations with and by mail from many students, professors, and business leaders. Each has our gratitude, but the list is too long to enumerate here. We wish to thank the following reviewers whose feedback was helpful in this and previous editions:

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Introduction to

MANAGEMENT ACCOUNTING

GLOBAL EDITION

Managerial Accounting, the Business Organization, and Professional Ethics

LEARNING OBJECTIVES

When you have finished studying this chapter, you should be able to:

1. Explain why accounting is essential for decision makers and managers.
2. Describe the major users and uses of accounting information.
3. Explain the role of budgets and performance reports in planning and control.
4. Describe the cost-benefit and behavioral issues involved in designing an accounting system.
5. Discuss the role accountants play in the company's value-chain functions.
6. Identify current trends in management accounting.
7. Explain why ethics and standards of ethical conduct are important to accountants.

► STARBUCKS

If you had asked most people a decade or two ago whether consumers around the world would pay a premium price for a “better” cup of coffee, few would have answered yes. Nevertheless, the expansion of **Starbucks** since its founding in 1971 in Seattle's Pike Place Market has been nothing short of phenomenal. In 2011, Starbucks' total revenues—the amount the company received for all items sold—were \$11.7 billion, compared with only \$700 million in 1996. Net income—the profit that Starbucks made—was \$1.7 billion, up from only \$42 million in 1996. Total assets—the recorded value of the items owned by Starbucks—grew from less than \$900 million in 1996 to more than \$7.3 billion in 2011. These numbers are accounting measures of the cumulative success of numerous managers of Starbucks stores in many countries. Managers use these figures, along with more detailed accounting numbers, to make day-to-day decisions and to measure performance.

Starbucks has established a worldwide reputation to match its financial success. Interbrand ranked Starbucks among the 100 best global brands for 2011. Starbucks ranked seventy-third on *Fortune* magazine's “100 Best Companies to Work For.” *Corporate Responsibility* magazine placed it thirty-ninth in its list of “100 Best Corporate Citizens.” Finally, in 2011 *Fortune* named Starbucks the sixteenth most admired company in the world and named founder and CEO Howard Schultz the businessperson of the year.

How did Starbucks accomplish all this? As we embark on our journey into the world of management accounting, we will explore what it takes for a company such as Starbucks to ensure that when Mei-Hwa Zhang walks into a Starbucks in Beijing, she has much the same quality experience as Mohammad Kumar does in a Starbucks in Kuwait or Franz Mueller does in Zurich. All Starbucks' managers, from baristas to store managers to the chief executive officer, use accounting reports to assess how well their units meet corporate goals and objectives. Accounting provides a common language to help managers around the world communicate and coordinate their actions. By the time you finish reading this book, you will be comfortable with the language of accounting. You will know why it is necessary to understand accounting information in order to use it wisely in your decisions. You will also understand the role of performance evaluation systems in communicating strategy and coordinating actions throughout an organization.

Managerial accounting information is used in all sorts of decisions. For example, consider decisions you might face as a manager in the following situations:

- Suppose you are a **Boeing** engineer preparing manufacturing specifications for a component of its new 787 Dreamliner airplane. There are three possible ways to organize the assembly of the component. Which is the most cost-effective approach?
- Suppose you are a product manager at **General Mills** and you are designing a new marketing plan for Cheerios. Market research predicts that distributing free samples in the mail will increase annual sales by 4%. Will profits from the added sales be more than the cost of producing and distributing the free samples?
- **Bank of America** offers free checking to customers with no minimum balance requirement in their MyAccess™ checking account. How much does it cost the bank to provide this free service?
- Kitsap County Special Olympics holds a series of athletic events for disabled youth. As executive director, you must set a goal for the group's annual fund drive based on the estimated cost to support its planned activities.
- Madison Park Cafe currently is open only for dinner, but the owner is considering opening for lunch. The average lunch is priced at about \$15, and the café expects to serve about 40 lunches per day. Can the chef produce a luncheon menu that meets the café's quality standards at an average cost that yields a reasonable profit?
- **Amazon.com** offers free 2-day shipping on all orders for subscribers that pay a single \$79 annual fee. Does the fee plus the profits from increased sales to subscribers exceed the cost of providing free shipping?

For all these decisions, managers rely on managerial accounting information.

In this chapter, we provide an overview of management accounting in all types of organizations. Larry White, former chair of the **Institute of Management Accountants (IMA)**, the largest U.S. professional organization focused on internal accounting, sums up the role of management accounting as follows: "Management accountants are committed to helping their organization achieve its strategic goals by providing decision support, planning, and control for business operations with a high level of ethics and professional competence." ■

Management Accounting and Your Career

In this book we focus on **management accounting**, which is the process of identifying, measuring, accumulating, analyzing, preparing, interpreting, and communicating information that helps managers fulfill organizational objectives. In contrast, **financial accounting** produces information for external parties, such as stockholders, suppliers, banks, and government regulatory agencies. Exhibit 1-1 summarizes the major differences between management accounting and financial accounting.

This book is written primarily for managers who are not accounting specialists. All managers use information from accounting systems. By learning about accounting systems, you will better understand the relationships among different components of an organization. You also learn why it is essential to understand the system that generates accounting information in order to use that information in any of a wide variety of functional decisions (including purchasing, manufacturing, inventory management, hiring, marketing, and pricing, among others). You will learn to evaluate whether your accounting system is providing the information you need for your decisions. You will learn to evaluate performance measures generated by your accounting system and assess whether the performance measures create appropriate incentives. In sum, a thorough understanding of accounting is essential for managers in any organization.

When accounting is mentioned, most people think first of financial accounting. Independent auditors—**certified public accountants (CPAs)** in the United States and **chartered accountants (CAs)** in many other nations—provide assurance to external users about the reliability of companies'



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Starbucks' coffee shops have strategic locations throughout the world, including this one in Beijing.

Institute of Management Accountants (IMA)

The largest U.S. professional organization of accountants focused on internal accounting.

management accounting

The branch of accounting that produces information for managers within an organization. It is the process of identifying, measuring, accumulating, analyzing, preparing, interpreting, and communicating information that helps managers fulfill organizational objectives.

Objective I

Explain why accounting is essential for decision makers and managers.

financial accounting

The branch of accounting that develops information for external decision makers, such as stockholders, suppliers, banks, and government regulatory agencies.

certified public accountant (CPA)

In the United States, independent accountants who assure the reliability of companies' published financial statements.

| | Management Accounting | Financial Accounting |
|--|--|---|
| Primary users | Organization managers at various levels | Outside parties such as investors and government agencies but also organization managers |
| Freedom of choice of accounting measures | No constraints other than requiring the benefits of improved management decisions to exceed information costs | Constrained by generally accepted accounting principles (GAAP) |
| Behavioral implications in selecting accounting measures | Choice should consider how measurements and reports will influence managers' daily behavior | Choice based on how to measure and communicate economic phenomena; behavioral considerations are secondary, although executive compensation based on reported results may have behavioral impacts |
| Time focus of reports | Future orientation: formal use of budgets as well as historical records. Example: 20X2 budget versus 20X2 actual performance | Past orientation: historical evaluation; example: 20X2 actual performance versus 20X1 actual performance |
| Time span of reports | Flexible, varying from hourly to 10–15 years | Less flexible; usually one year or one quarter |
| Types of reports | Detailed reports include details about products, departments, territories, etc. | Summary reports: primarily report on the entity as a whole |
| Influence of other functional areas | Field is less sharply defined; heavier use of economics, decision sciences, and behavioral sciences | Field is more sharply defined; lighter use of related disciplines |

Exhibit 1-1**Distinctions Between Management Accounting and Financial Accounting****chartered accountant (CA)**

In many countries, the equivalent to the CPA in the United States—independent accountants who assure the reliability of companies' financial statements.

certified management accountant (CMA)

The management accountant's counterpart to the CPA.

published financial statements. Another, even larger, group of people work in private industry and government as management accounting specialists. Though management accountants often help to produce financial statements for external users, they primarily produce accounting information for internal users. The **certified management accountant (CMA)** designation is the management accountant's counterpart to the CPA. The Institute of Management Accountants (IMA) oversees the CMA program. CMAs must pass an examination covering (1) financial planning, performance, and control, and (2) financial decision making.¹ Like the CPA designation, the CMA confers status and often opens the door to higher-level positions. A survey by *Financial Executive* magazine showed that 33% of CEOs in companies with revenues greater than \$500 million had risen through the finance/accounting ranks, compared with 26% from operations and 21% from sales and marketing.

Roles of Accounting Information

One basic purpose of accounting information is to help you make decisions. Every day, you and your organization face a new and continually changing set of decisions, and many of these decisions rely on accounting information. When you understand how your decisions affect costs and revenues, you will be a better decision maker.

A second basic purpose of accounting is to help you plan and control your organization's operations. Plans describe how the organization will achieve its objectives. Control is the process of implementing plans and evaluating whether your organization is achieving its objectives. When you understand how people respond to the incentives created by performance evaluation and control systems, you will be better able to assess which system creates the most appropriate incentives.

Objective 2

Describe the major users and uses of accounting information.

¹For information about the IMA and the CMA exam, see www.imanet.org.

Organizations address these two purposes by designing and implementing **accounting systems**, which are formal mechanisms for gathering, organizing, and communicating information about an organization's activities. The organization of this book reflects how accounting systems address these two basic purposes. Part 1, Chapters 2 through 6, focuses on the decision-making purpose of accounting information. These chapters help you determine what costs are relevant for different decisions and how accounting systems generate relevant costs for managers, demonstrating a key concept in management accounting: "Different costs for different purposes." Part 2, Chapters 7 through 10, deals with planning and control systems. These chapters show how measuring performance affects managers' incentives, leading to a second key concept: "You get what you measure." Parts 3 and 4 explore these concepts in still more depth, as Part 3, Chapter 11, focuses on relevant costs for long-term capital investment decisions and Part 4, Chapters 12 through 14, describes systems to generate detailed product costing information.

As you progress in your study of management accounting and in your career, you move from understanding how to use information from existing accounting systems to creating systems that produce information useful to your particular decisions. Early in your studies, you initially react to the systems that are described to you, making sure that you understand how each system works and how to use the information it produces in your decisions. Early in your career, you may have little opportunity to influence the management accounting system, and your initial goal is simply to understand and use the information from the accounting system. As you advance in your studies, you learn about increasingly complex systems designed to provide information for a variety of purposes. As you learn about specific alternatives, you also develop the ability to design new alternatives that provide better information for your decision-making and performance evaluation purposes. Finally, you develop the proficiency and understanding required to evaluate the relative advantages of alternative accounting systems. You will likely see a parallel progression in the use of management accounting in your career. As you advance, you are able to suggest changes to improve the existing systems, and eventually you may be in a position to influence the systems implemented by your organization. The more you can influence management accounting systems, the more important it is to understand their role.

Information for Decision Making and Planning and Control

What types of accounting information do managers need for decision making and performance evaluation and control? For **decision making**—choosing among alternative courses of action to achieve some objective—accounting information helps answer problem-solving questions. For performance evaluation and control, accounting helps answer scorecard and attention-directing questions:

1. Scorecard questions: Is the company doing well or poorly? **Scorekeeping** is the accumulation, classification, and reporting of data that help users understand and evaluate organizational performance. Scorekeeping information must be accurate and reliable to be useful. For example, Starbucks produces numerous reports to evaluate results for stores and divisions.
2. Attention-directing questions: Which areas require additional investigation? **Attention directing** involves reporting and interpreting information that helps managers to focus on operating problems, imperfections, inefficiencies, and opportunities. For example, a manager who sees that a Starbucks store has reported profits of \$120,000 when budgeted profit was \$150,000 will look for explanations as to why the store did not achieve its budget.
3. Problem-solving questions: Of the alternatives being considered, which is the best? The **problem-solving** aspect of accounting involves analysis of alternative courses of action and identification of the best course to follow. For example, Starbucks experiments with adding various items to its menu. After an analysis of how a new product will affect revenues and costs, management decides which items to add and which to delete.

The scorecard and attention-directing uses of information are closely related. The same information that helps a manager understand and evaluate performance may also serve an attention-directing function for the manager's superior. For example, by pinpointing where actual results differ from plans, performance reports show managers how they are doing and where to

accounting system

A formal mechanism for gathering, organizing, and communicating information about an organization's activities.

decision making

Choosing among alternative courses of action designed to achieve some objective.

scorekeeping

The accumulation, classification, and reporting of data that help users understand and evaluate performance.

attention directing

Reporting and interpreting information that helps managers to focus on operating problems, imperfections, inefficiencies, and opportunities.

problem solving

Analysis of possible courses of action and identification of the best course to follow.

take action. Companies produce most scorecard and attention-directing information on a routine basis every day, month, quarter, or year.

In contrast, specific decisions often require problem-solving information beyond the information routinely generated for scorekeeping and attention directing. When organizations make decisions (such as how to price products and special orders, whether to make or to buy components, whether to add or drop a product, how to adjust product mix, or whether to keep or replace equipment), specially-prepared information is often required. For example, Starbucks uses problem-solving information when deciding whether to run ads during the Super Bowl™ broadcast.

Decision making is the core of the management process. Decisions range from the routine (setting daily production schedules) to the non-routine (launching a new product line), and accountants are information specialists who aid the decision makers. Managers use accounting information for all types of decisions. Accountants must make sure that they produce information that is useful for these decisions and managers must work with accountants to get the information that is needed.

Making Managerial Decisions

What type of information—scorekeeping, attention-directing, or problem-solving—would managers use for each of the following decisions? Why?

1. Deciding whether to replace a traditional assembly line with a fully automated robotic process
2. Evaluating the performance of a division for the preceding year
3. Identifying which products exceeded their budgeted profitability and which ones fell short of their budgets

Answers

1. Problem-solving. This is a one-time decision for which managers need information about the potential impacts of each of the alternatives under consideration.
2. Scorekeeping. This is a routine evaluation of an organizational unit for which managers want systematic data on a regular basis.
3. Attention-directing. To identify products that need attention, managers want information that highlights deviations of actual results from pre-specified expectations in the budget.

planning

Setting objectives for an organization and determining how to attain them.

control

Implementing plans and using feedback to evaluate the attainment of objectives.

Another essential element of the management process is planning and controlling the organization's operations. **Planning** provides the answers to two questions: What objectives does the organization want to achieve? When and how will the organization achieve these objectives? **Control** refers to implementing plans and using feedback to evaluate the attainment of objectives. Thus, feedback is crucial to the cycle of planning and control. Planning determines action, action generates feedback, and the control phase uses this feedback to influence further planning and actions. Timely, systematic reports provided by the accounting system are a primary source of useful feedback.

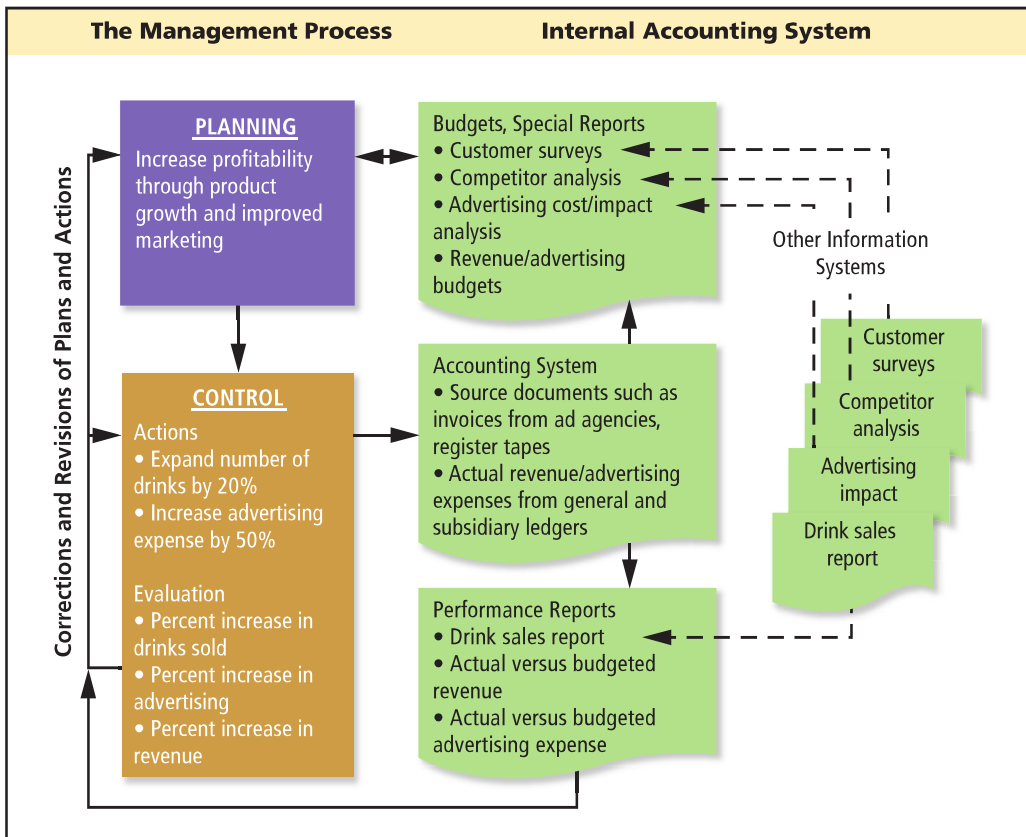
The left side of Exhibit 1-2 demonstrates the planning and control cycle of current operations that could be used by a particular Starbucks store. The planning section in Exhibit 1-2 shows an objective for the store (increase profitability) and how it will be attained (product growth and improved marketing). The control section shows the actions that are intended to increase profitability and how Starbucks will evaluate the actions. The Starbucks store will implement its plan to expand the number of drinks on its menu and increase advertising. Management will evaluate these actions based on three performance measures, the increase in drinks sold, increase in advertising expenditures, and the increase in revenue. Managers will then use the performance evaluation results for further planning and implementation.

Management by Exception

The right side of Exhibit 1-2 shows that the accounting system formalizes plans by expressing them as budgets. A **budget** is a quantitative expression of a plan of action and an aid to coordinating and implementing plans. Budgets are the chief devices for disciplining management planning. Without budgets, planning may not get the front-and-center focus that it deserves. The Starbucks store expresses its plan for product growth and improved marketing through revenue and advertising budgets.

Objective 3

Explain the role of budgets and performance reports in planning and control.

**Exhibit 1-2**

Starbucks Store—Accounting Framework for Planning and Control

The accounting system records, measures, and classifies actions to produce performance reports (the last box in Exhibit 1-2). **Performance reports** provide feedback by comparing results with plans and by highlighting **variances**, which are deviations from plans. Organizations use performance reports to judge managers' decisions and the productivity of organizational units. Performance reports compare actual results to budgets, thereby motivating managers to achieve the objectives. For example, managers of the Starbucks store evaluate the effectiveness of its advertising plan by comparing the increase in revenue and profits to the increase in advertising costs. Based on their evaluation, managers at Starbucks make corrections and revisions to their plans.

Exhibit 1-3 shows a simple performance report for a hypothetical Starbucks store, the Mayfair Starbucks. The first column of Exhibit 1-3 is the budget for March 20X1. It is based on a predicted level of sales and the estimated costs needed to support that level of sales. After managers and their superiors agree on a budget, it becomes the managers' target for the month. As the store sells its products and incurs costs, Starbucks' accounting system collects the revenue and cost information. At the end of each month (or more often if managers need more frequent feedback), the accounting department prepares a store-level performance report, such as the one in Exhibit 1-3. Managers use the performance report to help evaluate the store's operations.

The Mayfair store report shows that the store met its targeted sales, but the \$2,500 unfavorable variance for ingredients shows that these costs were \$2,500 over budget. Other variances show that store labor costs were \$400 under budget and other labor was \$50 over budget. At the Mayfair store, management would undoubtedly focus attention on ingredients, which had by far the largest unfavorable variance. However, it may also be worthwhile to investigate the \$400 favorable labor variance. By investigating favorable variances, managers may find better ways of doing things.

Performance reports spur investigation of exceptions—items for which actual amounts differ significantly from budgeted amounts. Managers then revise operations to conform with the plans or revise the plans. This process is **management by exception**, which means concentrating more on areas that deviate from the plan and less on areas that conform with plans. Thus, the management-by-exception approach frees managers from needless concern with those phases of operations that adhere to plans and are running smoothly. However, well-conceived plans incorporate enough discretion or flexibility so that the manager feels free to pursue any unforeseen opportunities.

budget

A quantitative expression of a plan of action and an aid to coordinating and implementing the plan.

performance reports

Feedback provided by comparing results with plans and by highlighting variances.

variances

Deviations from plans.

management by exception

Concentrating more on areas that deviate from the plan and less on areas that conform with plans and are presumed to be running smoothly.

| | Budget | Actual | Variance |
|-------------------------------------|-----------------|-----------------|------------------|
| Sales | \$50,000 | \$50,000 | \$ 0 |
| Less: | | | |
| Ingredients | \$22,000 | \$24,500 | \$2,500 U |
| Store labor (baristas, etc.) | 12,000 | 11,600 | 400 F |
| Other labor (managers, supervisors) | 6,000 | 6,050 | 50 U |
| Utilities, maintenance, etc. | 4,500 | 4,500 | 0 |
| Total expenses | <u>\$44,500</u> | <u>\$46,650</u> | <u>\$2,150 U</u> |
| Total operating income | <u>\$ 5,500</u> | <u>\$ 3,350</u> | <u>\$2,150 U</u> |

U = unfavorable—actual cost greater than budgeted; actual revenue or profit less than budgeted
F = favorable—actual cost less than budgeted; actual revenue or profit greater than budgeted

Exhibit 1-3

Mayfair Starbucks Store—Performance Report for the Month Ended March 31, 20X1

Notice that although budgets aid planning and performance reports aid control, it is not accountants but operating managers and their subordinates who use accounting reports to plan and control operations. Accounting assists the managerial planning and control functions by providing prompt measurements of actions and by systematically pinpointing trouble spots.

Influences on Accounting Systems

Accounting systems vary across organizations—systems must meet the needs of each particular organization. In order to reduce costs and complexity, many organizations use a general-purpose accounting system that attempts to meet the needs of both external and internal users. However, as outlined in Exhibit 1-1, there are important differences between management accounting information and financial accounting information. Systems developed primarily for external reporting may not produce the most useful information for managers.

There are three categories of requirements imposed on accounting systems designed to meet the requirements of external users. First, public companies' financial reports for external users must adhere to a set of standards known as **generally accepted accounting principles (GAAP)** as determined by the Financial Accounting Standards Board (FASB) in the United States and the International Accounting Standards Board (IASB) in most of the rest of the world. Second, every company is also subject to various taxes, and therefore subject to various reporting requirements specified by tax rules and regulations. Third, many companies are subject to other government regulations.

There are many other governmental regulations that influence accounting systems. For example, in 2002 the **Sarbanes-Oxley Act** added several levels of regulation in the United States. Driven by corporate bankruptcies blamed in part on accounting lapses (as well as deficiencies in corporate governance, lax securities regulation, and executive greed), the act requires more top-management oversight of a company's accounting policies and procedures. By requiring chief executive officers to sign a statement certifying the accuracy of the company's financial statements, the act makes accounting numbers the concern of all managers, not just the accountants. Sarbanes-Oxley requires external auditors to examine and prepare a separate report on a company's system of **internal controls**—policies to protect and make the most efficient use of an organization's assets.

Another example of broad regulation is the **Foreign Corrupt Practices Act**, a U.S. law forbidding bribery and other corrupt practices but also requiring companies to maintain reasonably detailed accounting records and to have an appropriate system of internal controls. The word *Foreign* in the title is somewhat misleading because the act's provisions apply to all publicly held companies, even if they do not conduct business outside the United States. This law requires that companies maintain their accounting records in reasonable detail and accuracy. Most companies have **internal auditors** who review and evaluate accounting systems, including companies' internal controls, and conduct **management audits**—reviews to determine whether managers are implementing the policies and procedures specified by top management. A final specific area of regulation is government contracting. Universities, defense contractors, and others contracting with the U.S. government must comply with numerous reporting requirements.

The requirements of external reporting should not take precedence over the scorekeeping, attention-directing, and problem-solving information that is generated to meet the needs of

generally accepted accounting principles (GAAP)

A set of standards to which public companies' published financial statements must adhere.

Sarbanes-Oxley Act

A 2002 law that requires top-management oversight of a company's accounting policies and procedures.

internal controls

Policies to protect and make the most efficient use of an organization's assets.

Foreign Corrupt Practices Act

A U.S. law forbidding bribery and other corrupt practices. The law also requires all publicly held companies to maintain their accounting records in reasonable detail and accuracy and have an appropriate system of internal controls.

internal auditors

Accountants who review and evaluate accounting systems, including their internal controls.

management audit

A review to determine whether managers are implementing the policies and procedures specified by top management.

internal users. In later chapters, we will see many examples where a general-purpose accounting system designed to meet external reporting requirements does not generate the information needed for management decisions. As a decision-maker, you must recognize when information from the existing accounting system is not sufficient for your decision and be prepared to ask for additional information to be generated. Your requests for more information should be balanced against the cost of obtaining the information. As explained in the following section, you should only incur the cost to acquire additional information when the expected benefit of an improved decision exceeds the cost of the information.

Cost-Benefit and Behavioral Considerations

Managers should keep two important ideas in mind when designing accounting systems: (1) the cost-benefit balance and (2) behavioral implications.

The **cost-benefit balance**—weighing estimated costs against probable benefits—is the primary consideration in choosing among accounting systems and methods. We will refer again and again to cost-benefit considerations throughout this book. Accounting systems are economic goods—like office supplies or labor—available at various costs. Which system does a manager want to buy: a simple file drawer for amassing receipts and canceled checks, an elaborate budgeting system based on computerized models of the organization and its subunits, or something in between?

The answer depends on a straightforward concept that often becomes complex when applied to real decisions. The concept is that the manager should purchase the system that provides the largest excess of benefits over cost. Real-world applications of this concept are often complex because the expected benefits are difficult to assess. For example, consider a manager at University Clinic who is considering installing a HorizonMIS®-computerized system from **American Medical Systems of Ohio** for managing a medical practice. With this system, users enter a piece of information only once and the system automatically integrates it with billing, insurance claims, and patient history records. Such a system is efficient and is subject to few errors, but should it be purchased? The expected benefits from the new system come from improved decisions or better controls, and it can be very difficult to develop a comprehensive assessment of these benefits, a point that will be illustrated repeatedly in later chapters.

Management accounting reports influence the decisions of managers. The system must provide accurate, timely reports in a form useful to managers. If a report is too complex, too difficult to use, or arrives too late, the manager may not use the report in making decisions. A report that goes unused creates no benefits.

Managers should also consider **behavioral implications**, that is, the system's effect on employees' decisions and behavior. For example, consider a performance report that a manager's superiors use to evaluate the operations for which the manager is responsible. If the report unfairly attributes excessive costs to the manager's operations, the manager may lose confidence in the system and not let it influence future decisions.

In a nutshell, think of management accounting as a balance between costs and benefits of accounting information coupled with an awareness of the importance of behavioral effects. Therefore, management accountants must understand related disciplines, such as economics, the decision sciences, and the behavioral sciences, to make intelligent decisions about the best information to supply to managers.

Planning and Control for Product Life Cycles and the Value Chain

To effectively plan and control production of goods or services, accountants and other managers must consider the product's life cycle. **Product life cycle** refers to the various stages through which a product passes: conception and product development; introduction into the market; maturation of the market; and, finally, withdrawal from the market. At each stage, managers face differing costs and potential returns. Exhibit 1-4 shows a typical product life cycle.

In the planning process, managers predict revenues and costs over the entire life cycle—however long or short. Then accounting systems track actual costs and revenues throughout the life cycle. Periodic comparisons between planned costs and revenues and actual costs and revenues allow managers to assess the current profitability of a product, determine its current product life-cycle stage, and make any needed changes in strategy.

Objective 4

Describe the cost-benefit and behavioral issues involved in designing an accounting system.

cost-benefit balance

Weighing estimated costs against probable benefits, the primary consideration in choosing among accounting systems and methods.

behavioral implications

The accounting system's effect on the behavior, specifically the decisions, of managers.

product life cycle

The various stages through which a product passes, from conception and development to introduction into the market to maturation and, finally, withdrawal from the market.

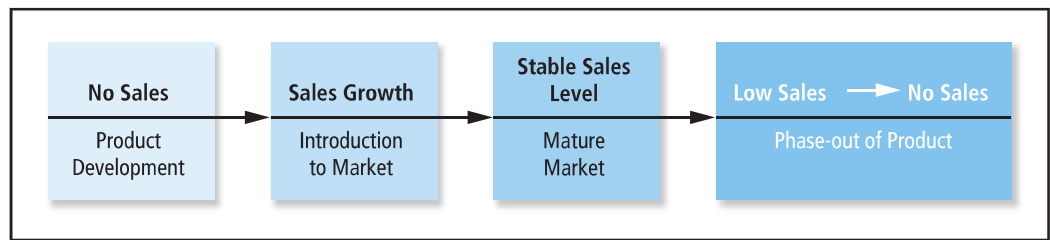


Exhibit 1-4
Typical Product Life Cycle

For example, suppose **Pfizer** is developing a new drug to reduce high blood pressure. There will be substantial development costs and no revenue during the product development stage. Most of the revenues from the product will be received during the introduction and mature market stages when there will also be production costs. During the phase-out of the product, there will be little revenue, but Pfizer will need to keep the drug on the market for those who have come to rely on it. Thus, the product pricing strategy must recognize the need for revenues during the introduction and mature market stages to cover both development and phase-out costs as well as the direct costs of producing the drug.

Product life cycles range from a few months (for fashion clothing or faddish toys) to many years (for automobiles or refrigerators). Some products, such as many computer software packages, have long development stages and relatively short market lives. Others, such as **Boeing** 737 airplanes, have a market life many times longer than their development stage. Many companies are working to shorten the product development phase, both to reduce the time during which a product generates no revenue and to bring products to market on a more timely basis.

The Value Chain

In addition to considering a product's life cycle, managers must recognize those activities necessary for a company to create the goods or services that it sells. These activities comprise the **value chain**, the set of business functions or activities that add value to the products or services of an organization. As shown in Exhibit 1-5 these functions include the following:

- Research and development: generation of ideas related to new products, services, or processes
- Design: detailed design and engineering of products, services, or processes
- Production: coordination and assembly of resources to produce a product or deliver a service
- Marketing: methods by which customers learn about the value and features of products or services (for example, advertising or selling activities)
- Distribution: mechanisms by which a company delivers products or services to the customer
- Customer service: support activities provided to the customer

Not all functions are of equal importance to the success of a company. Senior management must decide which functions enable the company to gain and maintain a competitive edge. For example, managers at **Dell Computers** consider the design function a critical success factor. The features designed into Dell's computers create greater value and higher quality. In addition, the design of efficient processes used to make and deliver computers lowers costs and speeds up delivery to its customers. Dell also performs the other value-chain functions, but it concentrates on being the best process designer in the computer market.

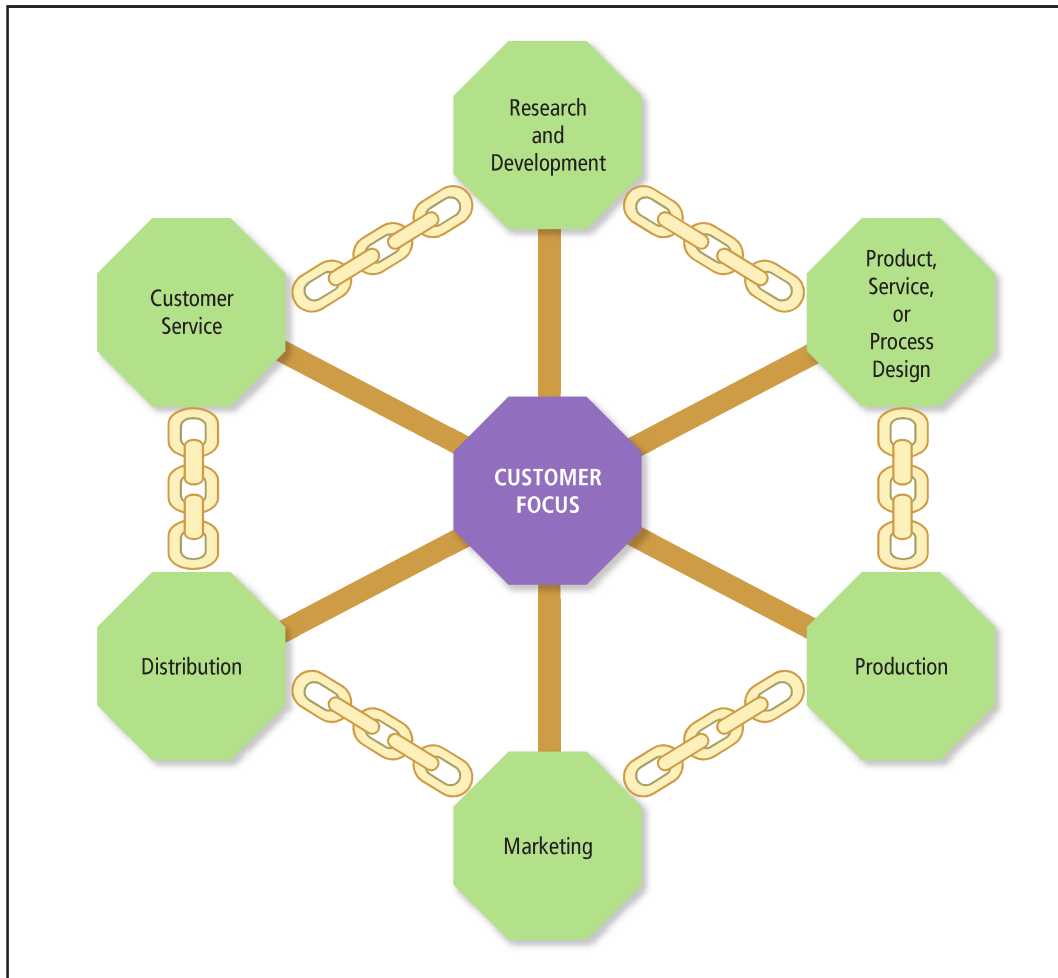
Accountants play a role in supporting all the value-chain functions. Most obvious is the production stage, where accountants facilitate cost planning and control through the use of budgets and performance reporting and help track the effects of continuous improvement programs. However, accounting can also have a great influence on the two pre-production value-chain functions. For example, accountants provide estimated revenue and cost data during the research and development stage and during the design stage of the value chain. Managers use these data to decide which ideas will move to the production stage and which will be dropped. These data also

Objective 5

Discuss the role accountants play in the company's value-chain functions.

value chain

The set of business functions or activities that add value to the products or services of an organization.

**Exhibit 1-5****The Value Chain of Business Functions**

enable managers and engineers to reduce the life-cycle costs of products or services by changing product and process designs. Accountants can give managers feedback on ideas for cost reductions long before the company must make a commitment to purchase expensive equipment.

Accountants also play a role in post-production value-chain functions. For example, accountants analyze the trade-off between the increased revenue expected from a marketing program and its cost. In addition, accounting information can influence decisions about distributing products or services to customers. Should a company sell its products directly to a chain of retail stores, or should it sell to a wholesaler? What transportation system should be used—trucks or trains? Accountants provide important information about the costs of each alternative. Finally, accountants provide cost data for customer service activities, such as warranty and repair costs and the costs of goods returned. Managers compare these costs to the benefits generated by better customer service. As you can see, cost management is important throughout the value chain.

Note that customer focus is at the center of Exhibit 1-5. Each value-chain function should focus on activities that create value for the customer. Successful businesses never lose sight of the importance of maintaining a focus on the needs of their customers. For example, one of the main principles in **Starbucks**' mission statement is to "develop enthusiastically satisfied customers all of the time." Customers are also the focus at **Wal-Mart**, as explained by Sam Walton, founder and former chairman:

There is only one boss—the customer. Customers can fire everybody in the company from the chairman on down, simply by spending their money somewhere else.

The value chain and the concepts of adding value and focusing on the customer are essential for success. Therefore, we will return to the value chain and use it as a focus for discussion throughout this book.

Making Managerial Decisions

Measuring costs at various stages of the value chain is important to **Starbucks**. Suppose that you are a Starbucks manager or accountant. For each of the following activities, indicate the value-chain function that is being performed and what accounting information might be helpful to managers in the function:

1. Process engineers investigate methods to reduce the time to roast coffee beans and to better preserve their flavor.
2. A direct-to-your-home mail-order system is established to sell custom-blended coffees.
3. Arabica coffee beans are purchased and transported to company processing plants.
4. Focus groups investigate the feasibility of a new line of Frappuccino drinks.
5. A telephone hotline is established for mail-order customers to call with questions and comments on the quality and speed of delivery.
6. Each company-owned retail store undertakes a campaign to provide information to customers about the processes used to make its coffee products.
2. Distribution. This provides an additional way to deliver products to customers. Managers need information on the costs of a mail-order system to compare to the added profit from mail-order sales.
3. Production. Starbucks purchases only premium beans, but the company is still concerned about the purchase price of beans and transportation. These are part of product costs incurred during production.
4. Research and development or marketing. These costs (mostly wages) are incurred prior to management's final decision to design and produce a new product. Predicted revenues and costs from the Frappuccino market can help managers design a drink that is both marketable and profitable.
5. Customer service. These costs include all expenditures made after Starbucks has delivered the product to the customer; in this case, Starbucks obtains feedback on the quality and speed of delivery. Managers will trade off the cost of the hotline and the value of the information generated from the calls.
6. Marketing. These costs are for activities that enhance the existing or potential customers' awareness and opinion of the product. Like many advertising expenses, it is easy to estimate the costs of such a program but hard to quantify the benefits.

Answers

1. Research and development or design. Both the generation of ideas for new processes and the design of new production processes are important parts of the value chain. Managers need the costs of various possible production processes to decide among the alternatives.

Accounting's Position in the Organization

How do management accountants fit into an organizational structure? Consider the following four work activities of management accountants:

- Collecting and compiling information
- Preparing standardized reports
- Interpreting and analyzing information
- Being involved in decision making

The role of management accountants in organizations is evolving. Management accountants are spending less time on the first two, data collection and reporting activities, and more time on the last two, analysis and decision-making activities. In essence, the management accountant is becoming an internal consultant on information-related issues—that is, an advisor for managers about what information is available, what additional information would be useful, and how to analyze the information and use it in decision making.

Line and Staff Authority

As an organization grows, it must divide responsibilities among a number of managers and executives, each with specific responsibilities. **Line managers** are directly involved with making and selling the organization's products or services. Their decisions lead directly to meeting (or not meeting) the organization's objectives. In contrast, **staff managers** are advisory—they have no authority over line managers, but they support the line managers by providing information and advice. The organization chart in Exhibit 1-6 shows how a traditional manufacturing company divides responsibilities between line and staff managers. The line managers in manufacturing are supported by corporate-level staff (in sales, engineering, human resources, and finance) and by factory-level staff (in receiving, inspection, tool room, purchasing, production control, and maintenance).

Many modern organizations have abandoned the type of hierarchical structure shown in Exhibit 1-6 in favor of a “flatter” organization. For example, **W. L. Gore & Associates**, maker of GORE-TEX® and other products using fluoropolymer technologies, has gone so far as to eliminate all job titles so everyone shares the same title, “associate.” Gore also limits the size of organizational units to 150 associates. In these flatter organizations, specialization by individuals is giving way to decision making by cross-functional teams. In such an organization, management accountants are still the information specialists. However, they are not isolated in one branch of the organization chart and do not sit in their offices and issue reports. Instead, the management accountants are physically located with the line managers, and they work together to determine the optimal information support for the managers. We highlight some other recent changes in the role of accountants in the Business First box on p. 32.

line managers

Managers who are directly involved with making and selling the organization's products or services.

staff managers

Managers who are advisory to the line managers. They have no authority over line managers, but they support the line managers by providing information and advice.

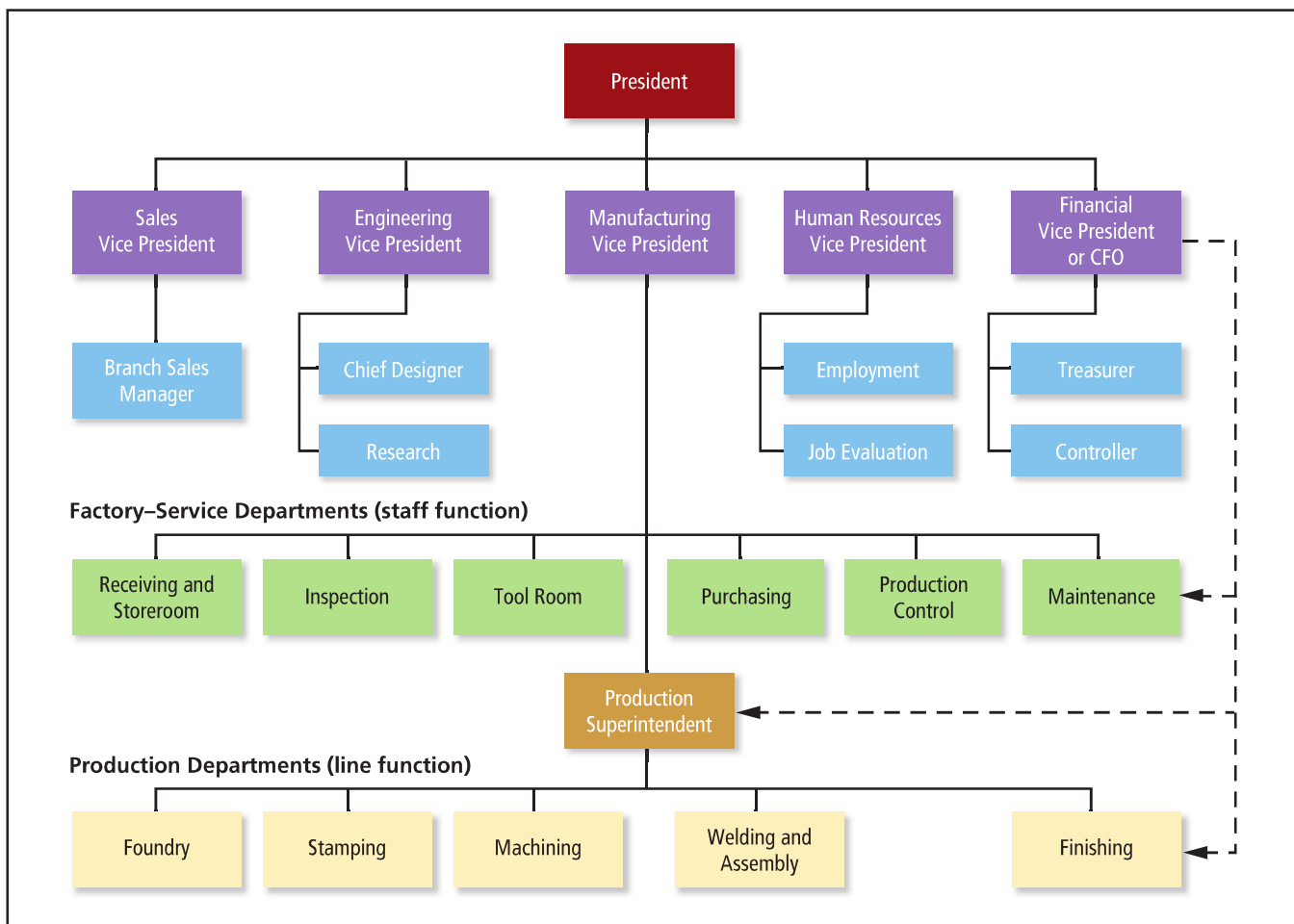


Exhibit 1-6

Partial Organization Chart of a Manufacturing Company

Business First

The Accountant's Role at Alghanim Industries

Ranked along with **Deloitte & Touche**, **Microsoft**, **Proctor & Gamble**, and **Marriott**, **Alghanim Industries** of Kuwait is one of the Best Employers in the Middle East. A multibillion dollar conglomerate with strongholds in the Middle East and Turkey, the company manages more than 300 global brands and agencies in Eastern Europe, Africa, and East and Southeast Asia. Operations need to be segregated not only geographically but also by products, which include automotive sales, consumer electronics, home furnishings, and the manufacturing of construction materials together with associated supply chain services from shipping to distribution and delivery. Managers use a complex and intricate accounting information system to provide information which is essential to decision making.

The role of the management accounting teams is to tailor the provision of relevant and reliable information to the needs of the decentralized management teams and still provide the board with timely analysis of ongoing commercial activity. Alghanim recruits many professional accountants and MBA graduates who gain line experience so that they are part of a process that translates transaction records into the strategic

planning process. This enables managers at different levels to measure performance against corporate targets, identify strengths and weaknesses immediately, and take actions that are appropriate to achieving corporate profitability and growth targets. The process relates activity and costs on a timely basis so that managers become aware of the cost impact of their decisions.

The sophisticated accounting information system also incorporates more than one cost method for many operations so that management receives more than just the pure financial data. Costs can be combined for the full supply chain and combined with nonfinancial activity based data.

This provides managers at many levels with the ability to consider and understand the full functional analysis of activity and provides a continuous improvement program for products and services.

Source: <http://www.alghanim.com/home.asp>; <http://www.hewittassociates.com/Intl/AP/en-ME/AboutHewitt/Newsroom/PressReleaseDetail.aspx?cid=6704>

chief financial officer (CFO)

The top executive who deals with all finance and accounting issues in an organization. The CFO generally oversees the accounting function.

treasurer

The executive who is concerned mainly with the company's financial matters, such as raising and managing cash.

controller (comptroller)

The accounting officer of an organization who deals mainly with operating matters, such as aiding management decision making.

Controller and Treasurer Functions

The employees carrying out management accounting functions have a variety of titles. The **chief financial officer (CFO)**, the top executive who deals with all finance and accounting issues in an organization, oversees the accounting function in most organizations. Both the treasurer and controller generally report to the CFO, as shown in Exhibit 1-6. The **treasurer** is concerned mainly with the company's financial matters such as raising and managing cash, while the **controller** (also called **comptroller** in many government organizations) is concerned mainly with operating matters such as aiding management decision making. In a small company, one person may perform both treasury and controllership functions. Nevertheless, it is useful to differentiate the two roles. The **Financial Executives Institute**, an association of corporate treasurers and controllers, distinguishes the two as follows:

Controllership

1. Planning for control
2. Reporting and interpreting
3. Evaluating and consulting
4. Tax administration
5. Government reporting
6. Protection of assets
7. Economic appraisal

Treasurership

1. Provision of capital
2. Investor relations
3. Short-term financing
4. Banking and custody
5. Credit management and cash collections
6. Investments
7. Risk management (insurance)

Management accounting is the primary means of implementing the first three functions of controllership, including advice and help in budgeting, analyzing variances, pricing, and making special decisions.

Adaptation to Change

Businesses in the twenty-first century differ from those in the twentieth century. Markets have become more competitive, and access to information has become more important. Many companies today derive their competitive advantage from their information, not their physical facilities. Companies such as **Amazon.com** and **Netflix** pride themselves on managing the information obtained from their customers and suppliers. Such companies work to continually improve their accounting information. The information that supported traditional companies in the 1980s and 1990s does not adequately support the modern business environment.

We next discuss four major business trends that are influencing management accounting today:

1. Shift from a manufacturing-based to a service-based economy in the United States
2. Increased global competition
3. Advances in technology
4. Changes in business process management

Service Sector

Accountants in manufacturing organizations developed many of the basic ideas of management accounting. These ideas, however, have evolved so that they apply to all types of organizations, including service and nonprofit organizations. **Service organizations**, for our purposes, are organizations that do not make or sell tangible goods but instead provide other forms of value. Public accounting firms, law firms, management consultants, real estate firms, transportation companies, banks, insurance companies, and hotels are examples of profit-seeking service organizations. Most nonprofit organizations, such as hospitals, schools, libraries, museums, and government agencies, are also service organizations.

Common characteristics of service organizations include the following:

1. **Labor is a major component of costs:** The highest proportions of expenses in service organizations, such as schools and law firms, are typically wages, salaries, and payroll-related costs, not the costs relating to the use of equipment and physical facilities.
2. **Output is usually difficult to measure:** Because service outputs are intangible, they are often hard to measure. For example, the output of a university might be defined as the number of degrees granted, but many contend that the real output is the knowledge and beliefs the students develop during their time at the university.
3. **Service organizations cannot store their major inputs and outputs:** Services cannot usually be stockpiled. For example, an airline cannot save an empty airline seat for a later flight, and a hotel's available labor force and rooms are either used or unused as each day passes.

The service sector now accounts for more than 80% of the employment in the United States. Service industries are extremely competitive, and their managers increasingly rely on accounting information. Many examples in this book are from service companies.

Managers and accountants in service companies, whether profit-seeking or nonprofit organizations, have much in common. They raise and spend money. They prepare budgets and design and implement control systems. They have an obligation to use resources wisely. Used intelligently, accounting information contributes to efficient operations and helps organizations achieve their objectives.

Simplicity is the watchword for accounting systems in service industries and nonprofit organizations. Why? Because many of the decision makers using these systems, such as physicians, professors, or government officials, are too busy to try to grapple with a complex system. For them to use the information, it must be in a form that is easy to understand. In fact, simplicity is an important consideration in the design of any accounting system. Complexity generates costs of gathering and interpreting data, and the costs of complexity often exceed the prospective benefits.

Global Competition

Global competition has increased in recent years as many countries have lowered international barriers to trade, such as tariffs and duties. In addition, there has been a worldwide trend toward deregulation. The result has been a shift in the balance of economic power in the world.

Objective 6

Identify current trends in management accounting.

service organizations

Organizations that do not make or sell tangible goods but instead provide other forms of value.

**electronic commerce
(e-commerce)**

Conducting business online.

**business-to-consumer
(B2C)**

Electronic commerce from business to consumer.

**business-to-business
(B2B)**

Electronic commerce from one business to another business.

**enterprise resource
planning (ERP) systems**

Integrated information systems that support all functional areas of a company.

**eXtensible Business
Reporting Language
(XBRL)**

An XML-based accounting language that helps communicate financial information electronically.

**business process
reengineering**

The fundamental rethinking and radical redesign of business processes to improve performance in areas such as cost, quality, service, and speed.

**computer-aided design
(CAD)**

The use of computer technology for the design of real or virtual objects.

**computer-aided
manufacturing (CAM)**

The use of computer-based software tools in manufacturing or prototyping.

**computer-integrated
manufacturing (CIM)
systems**

Systems that use computer-aided design, computer-aided manufacturing, robots, and computer-controlled machines.

**just-in-time (JIT)
philosophy**

A philosophy to eliminate waste by reducing the time products spend in the production process and eliminating the time products spend on activities that do not add value.

Nowhere has this been more evident than in the United States. To regain their competitive edge, many U.S. companies redesigned their accounting systems to provide more accurate and timely information about the cost of activities, products, or services. Improved cost information helps managers better understand and predict the effects of their decisions.

Advances in Technology

The dominant influence on management accounting over the past two decades has been technological change, affecting both the production and the use of accounting information. The increasing capabilities and decreasing cost of computer processing and storage has changed how accountants gather, store, manipulate, and report data. In many cases, databases allow managers to access data directly and to generate their own reports and analyses. Today managers and accountants work together to assure the availability of the data needed for decisions and to be sure managers know how to assemble and use the data.

Electronic commerce, or **e-commerce**—conducting business online—including both **business-to-consumer (B2C)** and **business-to-business (B2B)** transactions—continues to grow at nearly 50% a year. The growth in B2B activities is especially significant as many companies have discovered that B2B creates real savings. For example, some companies have reduced procurement processing costs by as much as 70% by automating the process.

A major effect of technology on accounting systems has been the growing use of **enterprise resource planning (ERP)** systems—integrated information systems that support all functional areas of a company. Accounting is just one part of such a system. For example, **Oracle** describes its JD Edwards EnterpriseOne ERP system as one that “helps you integrate all aspects of your business—including customer relationship management, enterprise asset management, enterprise resource planning, supply chain management, and supplier relationship management.” Other well-known ERP system providers are **SAP**, **Microsoft Dynamics**, and **The Sage Group**. Accountants must work with managers throughout the organization to ensure that the ERP system provides the financial information that managers need.

Finally, the development and widespread adoption of **eXtensible Business Reporting Language (XBRL)**, an XML-based accounting language, helps communicate financial information electronically. This language is greatly influencing both internal and external reporting by making comparisons across companies much simpler.

Changes in Business Process Management

Because management accounting supports business decisions, accounting systems must adapt to changes in management practices. Some companies implement sweeping changes in operations through **business process reengineering**, the fundamental rethinking and radical redesign of business processes to improve performance in areas such as cost, quality, service, and speed. Companies reduce process time by redesigning, simplifying, and automating the production process. They use **computer-aided design (CAD)** to design products that can be manufactured efficiently and **computer-aided manufacturing (CAM)** to direct and control production equipment. **Computer-integrated manufacturing (CIM) systems** use CAD, CAM, robots, and computer-controlled machines. The costs of such a system are quite different from those of a less-automated system. Companies that install a full CIM system use very little labor. Instead, they acquire the robots and computer-controlled machines needed to perform the routine jobs that were previously accomplished by assembly-line workers.

One management change leading to increased efficiency in business processes has been the adoption of a **just-in-time (JIT) philosophy**. Originally, JIT referred to an inventory system that minimized inventories by arranging for materials and subcomponents to arrive just as they were needed for production and for goods to be made just in time to ship them to customers—no sooner and no later. But JIT has become the cornerstone of a broad management philosophy. It originated in Japanese companies such as **Toyota** and **Kawasaki**. Now many large U.S. companies use JIT, including **Hewlett-Packard**, **Goodyear**, **General Motors**, **Intel**, and **Xerox**, as well as many smaller firms. The essence of the JIT philosophy is to eliminate waste by (1) reducing the time that products spend in the production process and (2) eliminating the time that products spend in activities that do not add value (such as inspection and waiting time).

Another management approach focused on efficiency is **lean manufacturing**, which applies continuous process improvements to eliminate waste from the entire enterprise.

For example, **Matsushita Electric**'s Saga plant on Japan's Kyushu island decreased the time it takes to produce a finished product from $2\frac{1}{2}$ days to 40 minutes by replacing conveyor belts with clusters of robots. As with JIT, lean ideas are now being extended beyond manufacturing to other business processes.

A focus on quality is also important in today's competitive environment. Many companies have implemented **total quality management (TQM)** initiatives. TQM minimizes costs by maximizing quality. It focuses on prevention of defects and customer satisfaction. Recently the focus on quality has shifted to **Six Sigma**, a disciplined, *data-driven approach* to eliminating defects in any process. Used by about 35% of major U.S. companies, Six Sigma is essentially a continuous process-improvement effort designed to reduce costs by improving quality. Pioneered in the 1980s by **Motorola**, Six Sigma has also been implemented by companies such as **General Electric** in the United States and **Samsung** in Korea to transform their business. Six Sigma seeks to ensure that internal processes are running as efficiently as possible. Staff functions, such as legal departments, also use Six Sigma today. For example, law departments in both **DuPont** and **Tyco** use Six Sigma to "improve compliance, reduce risk, contain costs, and align the law department more closely with the objectives of the business." Management accountants play a major role in Six Sigma applications as both the experts on the measurements being used and as full members of the cross-functional teams that lead the efforts.

Why do these business process changes affect management accounting? They all directly affect costs, and accountants often measure the actual cost savings, predict anticipated cost savings, and develop costs for products or services for different production environments. For example, one midwestern factory saved production time by redesigning its plant layout to reduce the distance products traveled from one operation to the next during production from 1,384 feet to just 350 feet. Accountants measured the cost the company saved by the reduced production time. As another example, a British company reduced the time to manufacture a vacuum pump from 3 weeks to 6 minutes by switching from long assembly lines to manufacturing cells that accomplish all production steps in quick succession. Again, accountants measured the benefits created by the reduced production time. In general, when companies change their production processes to accomplish economic objectives, accountants predict and measure the economic impact.

lean manufacturing

Applying continuous process improvements to eliminate waste from the entire enterprise.

total quality management (TQM)

An approach to quality that focuses on prevention of defects and on customer satisfaction.

Six Sigma

A data-driven continuous process improvement effort designed to eliminate defects and improve quality.

Making Managerial Decisions

Suppose you are a manager of a DuPont chemical plant. The plant has just undertaken a business process reengineering project and, as a result, has substantially changed its production process. It is much more automated, with newly acquired equipment replacing labor-intensive operations. The plant is also making more use of electronic commerce and moving toward a JIT inventory policy. You have a meeting with your accountant to discuss possible changes in your accounting system. What types of accounting-system changes might be warranted?

Answer

Major changes in production processes generally lead to different information needs. The old accounting system may have focused on accounting for labor, while the new system should focus on the use of the automated equipment. This will direct attention to the most important costs in the process and make sure that they are monitored and controlled. Problem-solving needs will also be different. Initially, the plant's managers will probably want comparative data on the cost of the new process versus the cost of the old. In the future, they will need information about how best to use capacity that the plant owns (the equipment) rather than how much labor to use for the planned level of production.

Implications for the Study of Management Accounting

As you read the remainder of this book, remember that accounting systems change as the world changes. Companies currently apply the techniques described in this book. However, to adapt to changes, you must understand why companies are using the techniques, not just how they are

using them. Resist the temptation to simply memorize rules and techniques, and instead develop your understanding of the underlying concepts and principles. This understanding will continue to be useful no matter what new conditions you encounter.

Objective 7

Explain why ethics and standards of ethical conduct are important to accountants.

ethics

The field that deals with human conduct in relation to what is morally good and bad, right and wrong. It is the application of values to decision making. These values include honesty, fairness, responsibility, respect, and compassion.

Ethical Conduct for Professional Accountants

Business processes and accounting systems change. However, the need for accountants to maintain high ethical standards of professional conduct will never change. The Institute of Management Accountants says that **ethics** “deals with human conduct in relation to what is morally good and bad, right and wrong. It is the application of values to decision making. These values include honesty, fairness, responsibility, respect, and compassion.”

We like to think of ethics as simply doing what is right. One way to decide whether an action is unethical is to ask yourself whether you would be embarrassed to read about your action in the newspaper the next day. Another warning sign that an action may be unethical is when the justification for the action is “Everybody else is doing it,” the phrase Warren Buffett has described as “the five most dangerous words in business.” He goes on to say that this excuse should always raise a red flag: “Why would somebody offer such a rationale for an act if there were a good reason available? Clearly the advocate harbors at least a small doubt about the act if he utilizes this verbal crutch.”

Why is it so important for accountants to have integrity? Think of it this way: If you buy a car, you can see many of the quality details. Further, if something goes wrong with the car, you will certainly know it. But accounting information is different. Users can’t see its quality. Users might not know for years that something was wrong with the information—probably not until it’s too late to do anything about it. Thus, users rely on the integrity of accountants to assure the integrity of information. If you cannot trust the information, then it is nearly worthless.

In the remainder of this section, we discuss ethical standards and formal codes of conduct that often help resolve ethical issues. We also provide examples of clearly unethical behavior. Finally, we turn to the difficult issue of ethical dilemmas, situations where conflicting values make it unclear which is the ethical action.

Standards of Ethical Conduct

Ethical standards require CPAs and CMAs to adhere to codes of conduct regarding competence, confidentiality, integrity, and credibility. Exhibit 1-7 contains the **IMA Statement of Ethical Professional Practice**, a code of conduct developed by the Institute of Management Accountants. Professional accounting organizations have procedures for reviewing alleged behavior that is not consistent with the standards.

The ethical organization also has policies in place to motivate ethical actions. Integrity and outspoken support for ethical standards by senior managers, in both word and deed, are the greatest motivators of ethical behavior throughout an organization. A **code of conduct**—a document specifying the ethical standards of an organization—is the centerpiece of most ethics programs. (See the Business First box, “Ethics and Corporate Codes of Conduct,” on p. 39.) But having a code is not sufficient. Actual policies and practices influence behavior. This means that managers’ evaluations must include an assessment of ethical conduct. Organizations cannot tolerate unethical behavior, even if it appears to lead to great financial performance. For example, **Enron**, **WorldCom**, **Tyco**, **Global Crossing**, **Adelphia**, **Xerox**, and others were accused of creating accounting entries to make their financial reports look better than their actual performances. In some cases, accountants participated in these fraudulent activities. In other cases, they simply did not step up and challenge what they surely knew (or at least should have known) was misleading information.

Fortunately, there are also many examples of accountants who stood up and reported wrongdoing to their supervisors despite the personal costs. In the spring of 2001, Sherron Watkins began working directly for Enron CFO Andrew Fastow. When she discovered the off-the-books liabilities that have now become famous, she wrote a memo to CEO Kenneth Lay and met with him personally, explaining to him “an elaborate accounting hoax.” Later she discovered that, rather than the hoax being investigated, her report had generated a memo from

IMA Statement of Ethical Professional Practice

A code of conduct developed by the Institute of Management Accountants; this code includes competence, confidentiality, integrity, and credibility.

code of conduct

A document specifying the ethical standards of an organization.

Members of IMA shall behave ethically. A commitment to ethical professional practice includes: overarching principles that express our values and standards that guide our conduct.

Principles

IMA's overarching ethical principles include: Honesty, Fairness, Objectivity, and Responsibility. Members shall act in accordance with these principles and shall encourage others within their organizations to adhere to them.

Standards

A member's failure to comply with the following standards may result in disciplinary action.

I Competence

Each member has a responsibility to:

1. Maintain an appropriate level of professional expertise by continually developing knowledge and skills.
2. Perform professional duties in accordance with relevant laws, regulations, and technical standards.
3. Provide decision support information and recommendations that are accurate, clear, concise, and timely.
4. Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.

II Confidentiality

Each member has a responsibility to:

1. Keep information confidential except when disclosure is authorized or legally required.
2. Inform all relevant parties regarding appropriate use of confidential information. Monitor subordinates' activities to ensure compliance.
3. Refrain from using confidential information for unethical or illegal advantage.

III Integrity

Each member has a responsibility to:

1. Mitigate actual conflicts of interest. Regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts.
2. Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
3. Abstain from engaging in or supporting any activity that might discredit the profession.

IV Credibility

Each member has a responsibility to:

1. Communicate information fairly and objectively.
2. Disclose all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
3. Disclose delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organizational policy and/or applicable law.

Resolution of Ethical Conflict

In applying the Standards of Ethical Professional Practice, you may encounter problems identifying unethical behavior or resolving an ethical conflict. When faced with ethical issues, you should follow your organization's established policies on the resolution of such conflict. If these policies do not resolve the ethical conflict, you should consider the following courses of action:

1. Discuss the issue with your immediate supervisor except when it appears that the supervisor is involved. In that case, present the issue to the next level. If you cannot achieve a satisfactory resolution, submit the issue to the next management level. If your immediate superior is the chief executive officer or equivalent, the acceptable reviewing authority may be a group such as the audit committee, executive committee, board of directors, board of trustees, or owners. Contact with levels above the immediate superior should be initiated only with your superior's knowledge, assuming he or she is not involved. Communication of such problems to authorities or individuals not employed or engaged by the organization is not considered appropriate, unless you believe there is a clear violation of the law.
2. Clarify relevant ethical issues by initiating a confidential discussion with an IMA Ethics Counselor or other impartial advisor to obtain a better understanding of possible courses of action.
3. Consult your own attorney as to legal obligations and rights concerning the ethical conflict.

Source: IMA (Institute of Management Accountants, www.imanet.org). Adapted with permission.

Exhibit 1-7

IMA Statement of Ethical Professional Practice

Enron's legal counsel titled "Confidential Employee Matter" that included the following: "... how to manage the case with the employee who made the sensitive report.... Texas law does not currently protect corporate whistle-blowers...." In addition, her boss confiscated her hard drive, and she was demoted. In the end, Watkins proved to be right. Watkins made the ethical decision to reveal the wrongdoings and did not look back. In June 2002, Cynthia Cooper, vice president of internal audit for WorldCom, told the company's board of directors that fraudulent accounting entries had turned a \$662 million loss into a \$2.4 billion profit in 2001. This disclosure led to additional discoveries totaling \$9 billion in erroneous accounting entries—the largest accounting fraud in history. Cooper was proud of WorldCom and highly committed to its success. Nevertheless, when she and her internal audit team discovered the unethical actions of superiors she admired, she did not hesitate to do the right thing.

Most companies make ethics a top priority. For example, **Starbucks** includes ethical principles in the first line of its mission statement: "To establish Starbucks as the premier purveyor of the finest coffee in the world while maintaining our uncompromising principles as we grow." **Ben & Jerry's**, the ice cream company, has a reputation for high ethical standards that focus on its external social obligations, as recognized in its mission statement: "To operate the Company in a way that actively recognizes the central role that business plays in the structure of society by initiating innovative ways to improve the quality of life of a broad community—local, national, and international." There are many more companies with high ethical standards than there are with ethical violations, though the latter receive most of the publicity.

Ethical Dilemmas

The ethical standards of the profession leave much room for individual interpretation and judgment. A first step is to ask two questions: Is this action unethical? Would it be unethical not to take this action? If the answers to these questions are clear, then the ethical action is clear. For example, if WorldCom's accountants had asked whether their recording of expenses as assets was unethical, they would have answered "yes." However, a manager's ethical choice becomes more complex when there are no legal guidelines or clear-cut ethical standards. Ethical dilemmas exist when managers must choose an alternative and there are (1) significant value conflicts among differing interests, (2) several alternatives are justifiable, and (3) there are significant consequences for stakeholders in the situation.

Suppose you are an accountant and your boss has asked you to supply the company's banker with a profit forecast for the coming year. A badly needed bank loan rides on the prediction. Your boss is absolutely convinced that profits will be at least \$500,000—anything less than that and the loan is not likely to be approved.

Your analysis reveals three possible outcomes: First, if the planned introduction of a new product goes extraordinarily well, profits will exceed \$500,000. Second, if there is a modestly successful introduction, there will be a \$100,000 profit. You believe this is the most likely outcome. Third, if the product fails, the company stands to lose \$600,000. Without the loan, the new product cannot be taken to the market, and there is no way the company can avoid a loss for the year. Bankruptcy is a real possibility.

What forecast would you make? The ethical dilemma arises here because of uncertainty and disagreement about the prospects for the new product. If your boss is correct that profits will exceed \$500,000, it would be unethical to make a forecast of less than \$500,000. Such a forecast seems to guarantee that the loan will not be obtained, leading to financial problems, perhaps even bankruptcy. This would hurt stockholders, management, employees, suppliers, and customers. On the other hand, if you are correct that the most likely outcome is a profit of \$100,000, a forecast of \$500,000 may not be fair and objective. It may mislead the bank.

There is no easy answer to this dilemma. It is one of those gray areas where either action includes risks. But remember that a series of gray areas can create a black area. That is, a series of actions that push the boundary of ethical behavior can add up to a clearly unethical situation. Accountants must draw the line someplace, and it is usually better to err on the side of full disclosure than to withhold important information. Enron repeatedly pushed boundaries by reporting only optimistic information. If its managers had done this once or twice, it might not have created a problem. But the pattern of exclusively optimistic projections eventually deteriorated into completely unrealistic, and unethical, projections.

Business First

Ethics and Corporate Codes of Conduct

The Sarbanes-Oxley Act of 2002 requires companies “to disclose whether or not, and if not, the reason therefore, such issuer has adopted a code of ethics for senior financial officers, applicable to its principal financial officer and comptroller or principal accounting officer, or persons performing similar functions.” This has created increased interest in corporate codes of conduct. However, a code of conduct means different things to different companies. Some of the items included in companies’ codes of conduct include maintaining a dress code, avoiding illegal drugs, following instructions of superiors, being reliable and prompt, maintaining confidentiality, not accepting personal gifts from stakeholders as a result of company role, avoiding racial or sexual discrimination, avoiding conflict of interest, complying with laws and regulations, not using an organization’s property for personal use, and reporting illegal or questionable activity. Even before **Enron** and other corporate scandals, more than 80% of U.S. companies had a code of conduct, according to a survey by the **Financial Executives Institute (FEI)**. But the codes differed in type and in level of enforcement.

One company had only one rule: “Don’t do anything you would be embarrassed to read about in tomorrow’s newspaper.” Others have detailed lists of dos and don’ts. Some companies use consulting firms to advise them on their codes. Although the codes and their development differ, the goal is generally the same—to motivate employees to act with integrity.

To encourage development of codes of conduct, the FEI includes examples of codes on its Web site. Two extremes among those presented are those of **Wiremold** and **CSX Corporation**. Wiremold has a simple, seven-point code: (1) respect others, (2) tell the truth, (3) be fair, (4) try new ideas, (5) ask why, (6) keep your promises, and (7) do your share. In contrast, CSX has 26 paragraphs detailing expectations

of employees under the following headings: Employee Relationships and Conflicts of Interest, Political Contributions and Public Service Involvement, Misrepresentations and False Statements, Employee Discrimination and Harassment, Competition, and Safety and the Environment.

FEI also lists inquiries about corporate codes of conduct among the questions to expect at shareholder annual meetings. As stated on FEI’s Web site, “If there’s any single issue that overlays the recent corporate and accounting scandals, it is a deficiency in ethical behavior among some company executives. Corporate governance consultants and academics agree that a company needs to have a code of conduct and ethics in place, by which the entire staff and management should conduct themselves in relation to their business activities.... In all probability, shareholders will ask questions relating to board committees or subcommittees focused on ethical matters.”

While having a code of conduct is important, it is not sufficient. After all, Enron’s code of conduct specified that “business is to be conducted in compliance... with the highest professional and ethical standards.” Top management must set the tone and get out the message. Management must recognize and reward honesty and integrity. As Clarence Otis, CFO of **Darden Restaurants**, says, “Our senior managers care about honesty and integrity and doing things right, and that influences how they do their job.” The corporate culture, more than codes of conduct, is the real influence on the ethical climate of an organization. Codes of conduct can be a part, but only a part, of developing a culture of integrity.

Sources: Sarbanes-Oxley Act of 2002, HR 3763; RedHawk Productions Web site (<http://redhawkproductions.com>); Financial Executives Institute Web site (www.fei.org); D. Blank, “A Matter of Ethics,” *Internal Auditor*, February 2003, pp. 27–31; Enron Corporation, *2000 Corporate Responsibility Report*, p. 3.

To maintain high ethical standards, accountants and others need to recognize situations that create pressures for unethical behavior. Four such temptations, summarized in *Financial Executive*, are as follows:

1. **Emphasis on short-term results.** This may have been the largest issue in the recent spate of ethical breakdowns. If “making the numbers” is goal number one, accountants may do whatever is necessary to produce the expected profit numbers.
2. **Ignoring the small stuff.** Most ethical compromises start out small. The first step may seem insignificant, but large misdeeds are often the result of many small steps. Toleration of even small lapses can lead to large problems.
3. **Economic cycles.** A down market can reveal what an up market conceals. When Enron was flying high at the turn of the century, no one seemed to question its financial reports. When the economy took a downward turn, managers made ethical compromises to keep pace with expectations of an up market. The result was a huge crisis when scrutiny revealed many questionable practices. Similarly, later in the decade companies such as **AIG**, **Fannie Mae**, and **Freddie Mac** were accused of accounting compromises after the

economy started to sour in 2008. Companies need to be especially vigilant to prevent ethical lapses in good times when such lapses are more easily concealed, and thereby avoid revelation of lapses in bad times when their effects are especially damaging.

4. **Accounting rules.** Accounting rules have become more complex and less intuitive, making abuse of the rules harder to identify. Ethical accountants do not just meet the “letter of the law,” they seek full and fair disclosure—conveying to users the real economic performance and financial position of the company.

Few organizations are intentionally unethical. Even **Arthur Andersen**, the accounting firm destroyed by failed audits at Enron, **Sunbeam**, **Global Crossing**, and others, had a formal ethical structure, including a partner in charge of ethics. Nevertheless, other pressures, especially the pressure for growing revenues, overrode some of the ethical controls and caused bad decisions.

Resolution of Ethical Conflicts

Ethical dilemmas also arise when you only observe, rather than commit, unethical behavior. If you discover unethical behavior in an organization, you are obligated to try to halt that behavior. However, you still have confidentiality issues to confront. The section on Resolution of Ethical Conflict in Exhibit 1-7 provides guidance. Most often you can bring the issue to the attention of your supervisor or a special ethics officer (often called an ombudsperson) in the organization. However, if there is not an ethics officer and you suspect your supervisor is involved in unethical activity, your decision becomes more complex. As was the case for Cynthia Cooper at WorldCom described on p. 38, you may need to go all the way to the board of directors. If the case involves legal issues and the board is not responsive, approaching the Securities and Exchange Commission (the body that regulates corporate reporting) or other legal authorities may be necessary.

Summary Problem for Your Review

PROBLEM

Yang Electronics Company (YEC) developed a high-speed, low-cost copying machine marketed primarily for home use. However, as YEC customers learned how easy and inexpensive it was to make copies with it, sales to small businesses soared. Unfortunately, the heavier use by these companies caused breakdowns in a component of the equipment that had been designed only for light use. The copiers were warranted for 2 years, regardless of the amount of usage. Consequently, YEC began to experience high costs for replacing the damaged component.

As the quarterly meeting of YEC’s board of directors approached, the CFO asked Mark Chua, assistant controller, to prepare a report on the situation. It was hard to predict the exact effects, but it seemed that many business customers were starting to switch away from the YEC copier to more expensive copiers sold by competitors. It was also clear that the increased warranty costs would significantly affect YEC’s profitability. Mark summarized the situation in writing as best he could for the board.

Alice Martinez, YEC’s CFO, was concerned about the impact of the report on the board. She did not disagree with the analysis, but she thought it would make management look bad and might even lead the board to discontinue the product. She was convinced from conversations with the head of engineering that the copier could be slightly redesigned to meet the needs of high-volume users, so discontinuing it may pass up a potentially profitable opportunity.

Martinez called Chua into her office and asked him to delete the part of his report dealing with the component failures. She said it was all right to mention this orally to the board, noting that engineering is nearing a solution to the problem. However, Chua felt strongly that such a revision in his report would mislead the board about a potentially significant negative impact on the company’s earnings.

Use the IMA Statement of Ethical Professional Practice in Exhibit 1-7 to explain why Martinez’s request to Chua is unethical. How should Chua resolve this situation?

SOLUTION

Martinez's request violates requirements for competence, integrity, and credibility. It violates competence because she is asking Chua to prepare a report that is not complete and clear, and omits potentially relevant information. Therefore, the board will not have all the information it should to make a decision about the component failure problem.

The request violates integrity because the revised report may subvert the attainment of the organization's objectives to achieve Martinez's objectives. Management accountants are specifically responsible for communicating unfavorable as well as favorable information.

Finally, the revised report would not be credible. It would not disclose all relevant information that could be expected to influence the board's understanding of operations and, therefore, its decisions.

Chua's responsibility is to discuss this issue with increasingly higher levels of authority within YEC. First, he should let Martinez know about his misgivings. Possibly the issue can be resolved by her withdrawing the request. If not, he should inform her that he intends to take up the matter with the company president, and even the board, if necessary, until the issue is resolved. So that Chua does not violate the standard of confidentiality, he should not discuss the matter with persons outside of YEC.

Highlights to Remember

- 1. Explain why accounting is essential for decision makers and managers.** Decision makers in all functional areas of an organization must understand the accounting information that they are using in their decisions and the incentives created by accounting systems.
- 2. Describe the major users and uses of accounting information.** Internal managers use accounting information for making short-term planning and control decisions, for making nonroutine decisions, and for formulating overall policies and long-range plans. External users, such as investors and regulators, use published financial statements to make investment decisions, regulatory rulings, and many other decisions. Managers use accounting information to answer scorekeeping, attention-directing, and problem-solving questions.
- 3. Explain the role of budgets and performance reports in planning and control.** Budgets and performance reports are essential tools for planning and control. Budgets result from the planning process. Managers use them to translate the organization's goals into action. A performance report compares actual results to the budget. Managers use these reports to monitor, evaluate, and reward performance and, thus, exercise control.
- 4. Describe the cost-benefit and behavioral issues involved in designing an accounting system.** Management accounting information systems should be judged by a cost-benefit criterion—the benefits of better decisions and better incentives should exceed the cost of the system. Behavioral factors—how the system affects managers and their decisions—greatly influence the benefits from a management accounting system.
- 5. Discuss the role accountants play in the company's value-chain functions.** Accountants play a key role in planning and control. Throughout the company's value chain, accountants gather and report cost and revenue information for decision makers.
- 6. Identify current trends in management accounting.** Many factors have caused changes in accounting systems in recent years. Most significant are a shift to a service-based economy, increased global competition, advances in technology, and changed business processes. Without continuous adaptation and improvement, accounting systems would soon become obsolete.
- 7. Explain why ethics and standards of ethical conduct are important to accountants.** Users of accounting information expect accountants to adhere to high standards of ethical conduct. Most users cannot directly assess the quality of that information, and if they cannot rely on accountants to produce unbiased information, the information will have little value to them. That is why professional accounting organizations, as well as most companies, have codes of ethical conduct. Many ethical dilemmas, however, require more than codes and rules. They call for value judgments, not the simple application of standards.

Accounting Vocabulary

Vocabulary is an essential and often troublesome phase of the learning process. A fuzzy understanding of terms hampers the learning of concepts and the ability to solve accounting problems. Before proceeding to the assignment material or to the next chapter, be sure you understand the words and terms in the Accounting Vocabulary section of each chapter. Their meaning is explained within the chapter and in the glossary at the end of this book.

| | | |
|--|--|---------------------------------------|
| accounting system, p. 23 | computer-integrated manufacturing (CIM) systems, p. 34 | internal controls, p. 26 |
| attention directing, p. 23 | control, p. 24 | just-in-time (JIT) philosophy, p. 34 |
| behavioral implications, p. 27 | controller (comptroller), p. 32 | lean manufacturing, p. 35 |
| budget, p. 25 | cost-benefit balance, p. 27 | line managers, p. 31 |
| business process reengineering, p. 34 | decision making, p. 23 | management accounting, p. 21 |
| business-to-business (B2B), p. 34 | electronic commerce (e-commerce), p. 34 | management audit, p. 26 |
| business-to-consumer (B2C), p. 34 | enterprise resource planning (ERP) system, p. 34 | management by exception, p. 25 |
| certified management accountant (CMA), p. 22 | ethics, p. 36 | performance reports, p. 25 |
| certified public accountant (CPA), p. 21 | eXtensible Business Reporting Language (XBRL), p. 34 | planning, p. 24 |
| chartered accountant (CA), p. 22 | financial accounting, p. 21 | problem solving, p. 23 |
| chief financial officer (CFO), p. 32 | Foreign Corrupt Practices Act, p. 26 | product life cycle, p. 27 |
| code of conduct, p. 36 | generally accepted accounting principles (GAAP), p. 26 | Sarbanes-Oxley Act, p. 26 |
| computer-aided design (CAD), p. 34 | IMA Statement of Ethical Professional Practice, p. 36 | scorekeeping, p. 23 |
| computer-aided manufacturing (CAM), p. 34 | Institute of Management Accountants (IMA), p. 21 | service organizations, p. 33 |
| | internal auditors, p. 26 | Six Sigma, p. 35 |
| | | staff managers, p. 31 |
| | | total quality management (TQM), p. 35 |
| | | treasurer, p. 32 |
| | | value chain, p. 28 |
| | | variances, p. 25 |

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Fundamental Assignment Material

The assignment material for each chapter is divided into two groups: fundamental and additional. The fundamental assignment material consists of two sets of parallel problems that convey the essential concepts and techniques of the chapter. The additional assignment material covers the chapter in more detail and includes questions, critical thinking exercises, exercises, problems, cases, a problem based on Nike's 10-K, an Excel application exercise, a collaborative learning exercise, and an Internet exercise.

I-AI Scorekeeping, Attention Directing, and Problem Solving

For each of the following activities, identify the primary function that the accountant is performing—scorekeeping, attention directing, or problem solving—and explain why it best fits that category.

1. Preparing a schedule of depreciation for forklift trucks in the receiving department of a **General Electric** factory in Scotland
2. Analyzing, for a **Sony** production superintendent, the impact on costs of purchasing some new assembly equipment
3. Preparing a scrap report for the finishing department of a **Toyota** parts factory
4. Interpreting why the **Colville Timber Resource Company** did not adhere to its production schedule
5. Explaining the stamping department's performance report
6. Preparing a monthly statement of European sales for the **Ford Motor Company**'s vice president of marketing
7. Preparing, for the manager of production control of a **Mittal Steel** plant, a cost comparison of two computerized manufacturing control systems

8. Interpreting variances on the performance report for the University of Michigan's purchasing department.
9. Analyzing, for an **Airbus** manufacturing manager, the desirability of having some parts for the A380 airplane made in Korea
10. Preparing the budget for the dermatology department of **Providence Hospital**

I-A2 Management by Exception

Beta Alpha Psi, the accounting honorary fraternity, held a homecoming party. The fraternity expected attendance of 80 persons and prepared the following budget:

| | |
|---------------|----------------|
| Room rental | \$ 170 |
| Food | 660 |
| Entertainment | 570 |
| Decorations | 210 |
| Total | <u>\$1,610</u> |

After Beta Alpha Psi paid all the bills for the party, the total cost came to \$1,885, or \$275 over budget. Details are \$170 for room rental; \$875 for food; \$570 for entertainment; and \$270 for decorations. Ninety-six persons attended the party.

1. Prepare a performance report for the party that shows how actual costs differed from the budget. That is, include in your report the budgeted amounts, actual amounts, and variances.
2. Suppose the fraternity uses a management-by-exception rule. Which costs deserve further examination? Why?

I-A3 Professional Ethics

Exhibit 1-7 on page 37 lists four main categories of ethical standards for management accountants: competence, confidentiality, integrity, and credibility. For each of the following situations, indicate which of these four should influence the manager and what the appropriate action should be:

1. At a dinner party, a guest asked a **General Mills** manager how a major new cereal was doing. The manager had just read a report that said sales lagged much below expectation. What should he say?
2. Felix just graduated from business school with an accounting major and joined the controller's department of Pioneer Enterprises. His boss asked him to evaluate a market analysis for a potential new product prepared by the marketing department. Felix knows very little about the industry, and he never had a class to teach him how to make a market analysis. Should he just do the best he can on the analysis without asking for help?
3. Mary Sue prepared a budget for a division of Southeastern Electronics. Her supervisor, the division manager, was not happy that she included results for an exciting new product that was to be introduced in a month. He asked her to leave the results for the product out of the budget. That way, the financial results for the product would boost actual profits well above the amount budgeted, resulting in favorable reviews for the division and its managers. What should Mary Sue do?

I-B1 Scorekeeping, Attention Directing, and Problem Solving

For each of the following activities, identify the function the accountant is performing—scorekeeping, attention directing, or problem solving. Explain each of your answers.

1. Estimating the operating costs and outputs that could be expected for each of two large metal-stamping machines offered for sale by different manufacturers; only one of these machines is to be acquired by your company
2. Recording daily material purchase vouchers
3. Analyzing the expected costs of acquiring and using each of two alternate types of welding equipment
4. Preparing a report of overtime labor costs by production department
5. Estimating the costs of moving corporate headquarters to another city
6. Interpreting increases in nursing costs per patient-day in a hospital
7. Analyzing deviations from the budget of the factory maintenance department
8. Assisting in a study by the manufacturing vice president to determine whether to buy certain parts needed in large quantities for manufacturing products or to acquire facilities for manufacturing these parts

9. Preparing estimated costs for a new marketing campaign
10. Recording overtime hours of the product finishing department
11. Compiling data for a report showing the ratio of advertising expenses to sales for each branch store
12. Investigating reasons for increased returns and allowances for drugs purchased by a hospital
13. Preparing a schedule of fuel costs by months and government departments
14. Computing and recording end-of-year adjustments for expired fire insurance on the factory warehouse

I-B2 Management by Exception

The Skokomish Indian tribe sells fireworks for the 5 weeks preceding July 4. The tribe's stand on Highway 101 near Hoodspout had budgeted sales of \$80,000. Expected expenses were as follows:

| | |
|-------------------|-----------------|
| Cost of fireworks | \$40,000 |
| Labor cost | 10,000 |
| Other costs | 7,000 |
| Total costs | <u>\$57,000</u> |

Actual sales were \$79,440, almost equal to the budget. The tribe spent \$39,400 for fireworks, \$13,100 for labor, and \$6,900 for other costs.

1. Compute budgeted profit and actual profit.
2. Prepare a performance report to help identify those costs that were significantly different from the budget.
3. Suppose the tribe uses a management-by-exception rule. What costs deserve further explanation? Why?

I-B3 Ethical Code of Conduct

According to the [Financial Executives Institute](#), “corporate governance consultants and academics agree that a company needs to have a code of conduct” for its employees. Most companies, even many of those who experienced ethical breakdowns, have such a code. Answer the following questions about corporate codes of conduct.

1. What is a corporate code of conduct?
2. What types of issues are covered in a corporate code of conduct? At what level of detail?
3. In some cases, codes of conduct were not effective. What, besides simply having a code, is necessary for a code of conduct to be effective?

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Additional Assignment Material

QUESTIONS

I-1 Who uses information from an accounting system?

I-2 “The emphases of financial accounting and management accounting differ.” Explain.

I-3 “The field is less sharply defined. There is heavier use of economics, decision sciences, and behavioral sciences.” Identify the branch of accounting described in the quotation.

I-4 Distinguish among scorekeeping, attention directing, and problem solving.

I-5 “Generally accepted accounting principles (GAAP) assist the development of management accounting systems.” Do you agree? Explain.

I-6 “The Foreign Corrupt Practices Act applies to bribes paid outside the United States.” Do you agree? Explain.

I-7 Why is the Sarbanes-Oxley Act controversial?

I-8 Why is integrity so important to accountants?

I-9 “Integrity is more important for business professionals than it is for business students.” Do you agree? Explain.

I-10 Give three examples of service organizations. What distinguishes service organizations from other types of organizations?

I-11 What two major considerations affect the design of all accounting systems? Explain each.

I-12 “The accounting system is intertwined with operating management. Business operations would be in a hopeless tangle without the recordkeeping that is so often regarded with disdain.” Do you agree? Explain, giving examples.

I-13 Distinguish among a budget, a performance report, and a variance.

I-14 “Management by exception means abdicating management responsibility for planning and control.” Do you agree? Explain.

I-15 Why are accountants concerned about product life cycles?

I-16 Name the six primary business functions (excluding support functions) that make up the value chain, and briefly describe each.

I-17 “Accountants in every company should measure and report on every function in the company’s value chain.” Do you agree? Explain.

I-18 Distinguish between the duties of line managers and staff managers.

I-19 The role of management accountants is changing, especially in companies with a “flatter” organizational structure. What are some of the changes?

I-20 Does every company have both a controller and a treasurer? Explain.

I-21 Describe the two parts of the qualifying examination for becoming a CMA.

I-22 “The problem with accounting is that accountants never get to become top managers such as CEOs.” Do you agree? Explain.

I-23 How are changes in technology affecting management accounting?

I-24 What is the essence of the JIT philosophy?

I-25 Briefly describe how a change in a plant’s layout can make its operation more efficient.

I-26 Standards of ethical conduct for management accountants have been divided into four major responsibilities. Describe each of the four in 20 words or fewer.

I-27 “Why are there ethical dilemmas? I thought accountants had standards that specified what ethical behavior is.” Discuss this quote.

CRITICAL THINKING EXERCISES

I-28 Finance and Management Accounting

Often there is confusion between the roles played by the controller and treasurer in an organization. In many small companies, a single person performs activities related to both functions.

Distinguish between the controller and the treasurer functions by listing typical activities that are associated with each.

I-29 Accounting’s Position in the Organization: Controller and Treasurer

For each of the following activities, indicate whether it is more likely to be performed by the controller or by the treasurer. Explain each answer.

1. Prepare divisional financial statements.
2. Help managers prepare budgets.
3. Advise which alternative action is least costly.
4. Meet with financial analysts from Wall Street.
5. Arrange short-term financing.
6. Prepare tax returns.
7. Arrange insurance coverage.
8. Prepare credit checks on customers.

I-30 Marketing and Management Accounting

A cross-functional team of managers, including the management accountant, performs each of the following activities. However, depending on the nature of the decision to be made, one functional area will take the leadership role. Which of these activities is primarily a marketing decision? What would the management accountant contribute to each of the marketing decisions?

1. **Porsche Motor Company** must decide whether to buy a part for one of its cars or to make the part at one of its plants.
2. **Airbus** must decide the price to charge for spare parts it sells over the Internet using its Spare Parts Web site.
3. **St. Luke’s Hospital** must decide how to finance the purchase of expensive new medical analysis equipment.
4. **Amazon.com** must forecast the impact on video sales of a new advertising program.
5. **Mission Foods**, a leading producer and distributor of tortillas to retail and food service industries, must decide whether to accept a special order for tortilla chips by a large, national retail chain.
6. **Target Stores** must decide whether to close one of its retail stores that is currently operating at a loss.

I-31 Production and Management Accounting

A cross-functional team of managers, including the management accountant, performed each of the following activities. However, depending on the nature of the decision to be made, one functional area will take the leadership role. Which of these activities is primarily a production decision? What would the management accountant contribute to each of the production decisions?

1. **Saab Automobile AB** must decide whether to buy a part for one of its cars or to make the part at one of its plants.
2. **Boeing Company** must decide the price for spare parts it sells over the Internet using its Spare Parts Web site.
3. **St. Mary's Hospital** must decide how to finance the purchase of expensive new medical analysis equipment.
4. **Amazon.com** must forecast how a new advertising program will affect DVD sales.
5. **Mission Foods**, a leading producer and distributor of tortillas to retail and food service industries, must decide whether to accept a special order for tortilla chips by a large, national retail chain.
6. **Kmart** must evaluate its overall vision and strategic goals in the light of competitive pressures from **Target**, **Sears**, and **Wal-Mart**.
7. **Dell Computers** must decide whether to spend money on training workers to perform setups and changeovers faster. This will free up capacity to be used to make more computers without purchasing more equipment.
8. **Ford Motor Company** must decide whether to keep or replace 4-year-old equipment used in one of its Escape plants.

EXERCISES**I-32 Management Accounting and Financial Accounting**

Consider the following short descriptions. Indicate whether each of the following descriptions more closely relates to a major feature of financial accounting or management accounting:

1. Field is less sharply defined
2. Provides internal consulting advice to managers
3. Has less flexibility
4. Is characterized by detailed reports
5. Has a future orientation
6. Is constrained by GAAP
7. Behavioral impact is secondary

I-33 Planning and Control, Management by Exception

Study the framework for planning and control of a **Starbucks** store in Exhibit 1-2 on page 25. Suppose that for next year a particular store budgeted revenue of \$356,400, an 8% increase over the current revenue of \$330,000. The actions listed in Exhibit 1-2 resulted in six new budgeted products and a total advertising budget of \$33,000. Actual results were as follows:

| | |
|--------------------|-----------|
| New products added | 7 |
| Advertising | \$ 35,640 |
| Revenues | \$351,400 |

1. Prepare a performance report for revenues and advertising costs using the format of Exhibit 1-3 on page 26.
2. Suppose the remaining cost elements of net income were not available until several months after the store implemented the plan. The net income results were disappointing to management—profits declined even though revenues increased because costs increased by more than revenues. List some factors that might have caused costs to increase so much and that management may not have considered when it formulated the store's plan.

I-34 Line Versus Staff and Value-Chain Responsibility

For each of the following, indicate whether the employee has line or staff responsibility. Also indicate whether the employee primarily provides support for other value-chain functions or performs a specific value-chain business function.

1. President
2. District sales manager
3. Market research analyst
4. Cost accountant
5. Head of the legal department
6. Production superintendent

I-35 Microsoft's Value Chain

Microsoft is the world's largest software company. For each of the following value-chain functions, discuss briefly what Microsoft managers would do to achieve that function and how important it is to the overall success of Microsoft.

| | |
|-------------------|--------------------------------------|
| R&D | Product (service) and process design |
| Production | Marketing |
| Distribution | Customer service |
| Support functions | |

I-36 Objectives of Management Accounting

The Institute of Management Accountants (IMA) is composed of nearly 70,000 members. The IMA "Objectives of Management Accounting" states, "The management accountant participates, as part of management, in assuring that the organization operates as a unified whole in its long-run, intermediate, and short-run best interests."

Based on your reading in this chapter, prepare a 100-word description of the principal ways that accountants participate in managing an entity.

I-37 Cost-Benefit of the Ethical Environment

A poor ethical environment results in costs to the company. On the other hand, a good ethical environment creates benefits. List several costs of a poor ethical environment and benefits of a good ethical environment.

I-38 Early Warning Signs of Ethical Conflict

The following statements are early warning signs of ethical conflict:

- "I don't care how you do it, just get it done!"
- "No one will ever know."

List several other statements that are early warning signs of ethical conflict.

PROBLEMS

I-39 Management and Financial Accounting

Lillian Choi, an able mechanical engineer, was informed that she would be promoted to assistant factory manager. Lillian was pleased but uncomfortable. In particular, she knew little about accounting. She had taken one course in financial accounting.

Lillian planned to enroll in a management accounting course as soon as possible. Meanwhile, she asked Walt Greenspan, a cost accountant, to state three or four of the principal distinctions between financial and management accounting.

Prepare Walt's written response to Lillian.

I-40 Use of Accounting Information in Hospitals

Most U.S. hospitals do not derive their revenues directly from patients. Instead, revenues come through third parties, such as insurance companies and government agencies. Until the 1980s, these payments generally reimbursed the hospital's costs of serving patients. Such payments, however, are now generally flat fees for specified services. For example, the hospital might receive \$7,000 for an appendectomy or \$28,000 for heart surgery—no more, no less.

How might the method of payment change the demand for accounting information in hospitals? Relate your answer to the decisions of top management.

I-41 Costs and Benefits

Marks & Spencer, a huge retailer in the United Kingdom with sales of more than £9 billion, was troubled by its paper bureaucracy. Looked at in isolation, each document seemed reasonable, but overall a researcher reported that there was substantial effort in each department to verify the

information. Basically, the effort seemed out of proportion to any value received, and, eventually, the company simplified or eliminated many of the documents.

Describe the rationale that should govern systems design. How should a company such as Marks & Spencer decide what documents it needs and which can be eliminated?

I-42 Importance of Accounting

Some companies are run by engineers and other technical specialists. For example, a manager in a division that is now part of **ArvinMeritor**, an automotive parts supplier, once said that “there’d be sixty or seventy guys talking technical problems, with never a word on profits.” Other companies, especially consumer products companies such as **General Mills**, fill top management positions primarily with marketing executives. And still others, like **Berkshire Hathaway** with Warren Buffett as CEO, have top managers with strong finance skills.

How might the role of management accountants differ in these types of companies?

I-43 Changes in Accounting Systems

In the last decade, **Boeing** has made several significant changes to its accounting system. None of these changes were for reporting to external parties. Management believed, however, that the new system gave more accurate costs of the airplanes and other products produced.

1. Boeing had been a very successful company using its old accounting system. What might have motivated it to change the system?
2. When Boeing changed its system, what criteria might its managers have used to decide whether to invest in the new system?
3. Is changing to a system that provides more accurate product costs always a good strategy? Why or why not?

I-44 Value Chain

Nike is an Oregon-based company that focuses on the design, development, and worldwide marketing of high-quality sports footwear, apparel, equipment, and accessory products. Nike is the largest seller of athletic footwear and athletic apparel in the world. The company sells its products to more than 20,000 retail accounts in the United States and through a mix of independent distributors, licensees, and subsidiaries in approximately 170 countries around the world. Nike contracts with hundreds of factories around the world to manufacture virtually all the company’s products. Nike produces most footwear and branded apparel products outside the United States.

1. Identify one decision that Nike managers make in each of the six value-chain functions.
2. For each decision in requirement 1, identify one piece of accounting information that would aid the manager’s decision.

I-45 Role of Controller

Juanita Veracruz, newly hired controller of Braxton Industries, had been lured away from a competitor to revitalize the controller’s department. Her first day on the job proved to be an eye-opener. One of her first interviews was with Adrian Belton, production supervisor in the Cleveland factory. Belton commented, “I really don’t want to talk to anyone from the controller’s office. The only time we see those accountants is when our costs go over their budget. They wave what they call a ‘performance report,’ but it’s actually just a bunch of numbers they make up. It has nothing to do with what happens on the shop floor. Besides, my men can’t afford the time to fill out all the paperwork those accountants want, so I just plug in some numbers and send it back. Now, if you’ll let me get back to important matters....” Veracruz left quickly, but she was already planning for her next visit with Belton.

1. Identify some of the problems in the relationship between the controller’s department and the production departments (assuming that the Cleveland factory is representative of the production departments).
2. What should Juanita Veracruz do next?

I-46 The Accountant’s Role in an Organization

The Business First box on page 32 described the role of accountants at Alghanim Industries, a conglomerate that produces products such as consumer electronics and home furnishings, and manufactures construction materials. Others have described accountants as “internal consultants.” Using the information in the Business First box, discuss how accountants at Alghanim Industries can act as internal consultants. What kind of background and knowledge would an accountant require to be an effective internal consultant?

I-47 Ethics and Accounting Personnel

McMillan Shipping Company has an equal opportunity employment policy. This policy has the full support of the company's president, Rosemary Creighton, and is included in all advertisements for employee positions.

Hiring in the accounting department is done by the controller, D. W. "Butch" Brigham. The assistant controller, Jack Merton, also interviews candidates, but Brigham makes all decisions. In the last year, the department hired 5 new people from a pool of 175 applicants. Thirteen had been interviewed, including four minority candidates. The five hired included three sons of Brigham's close friends and no minorities. Merton had felt that at least two of the minority candidates were very well qualified and that the three sons of Brigham's friends were definitely not among the most qualified.

When Merton questioned Brigham concerning his reservations about the hiring practices, he was told that these decisions were Brigham's and not his, so he should not question them.

1. Explain why Brigham's hiring practices were probably unethical.
2. What should Merton do about this situation?

I-48 Ethical Issues

Suppose you are controller of a medium-sized oil exploration company in western Texas. You adhere to the standards of ethical conduct for management accountants. How would those standards affect your behavior in each of the following situations?

1. Late one Friday afternoon you receive a geologist's report on a newly purchased property. It indicates a much higher probability of oil than had previously been expected. You are the only one to read the report that day. At a party on Saturday night, a friend asks about the prospects for the property.
2. An oil industry stock analyst invites you and your spouse to spend a week in Tahiti free of charge. All she wants in return is to be the first to know about any financial information your company is about to announce to the public.
3. It is time to make a forecast of the company's annual earnings. You know that some additional losses will be recognized before the company prepares final statements. The company's president has asked you to ignore these losses in making your prediction because a lower-than-expected earnings forecast could adversely affect the chances of obtaining a loan that is being negotiated and that will be completed before actual earnings are announced.
4. You do not know whether a particular expense is deductible for income tax purposes. You are debating whether to research the tax laws or simply to assume that the item is deductible. After all, if you are not audited, no one will ever know the difference. If you are audited, you can plead ignorance of the law.

I-49 Hundred Best Corporate Citizens

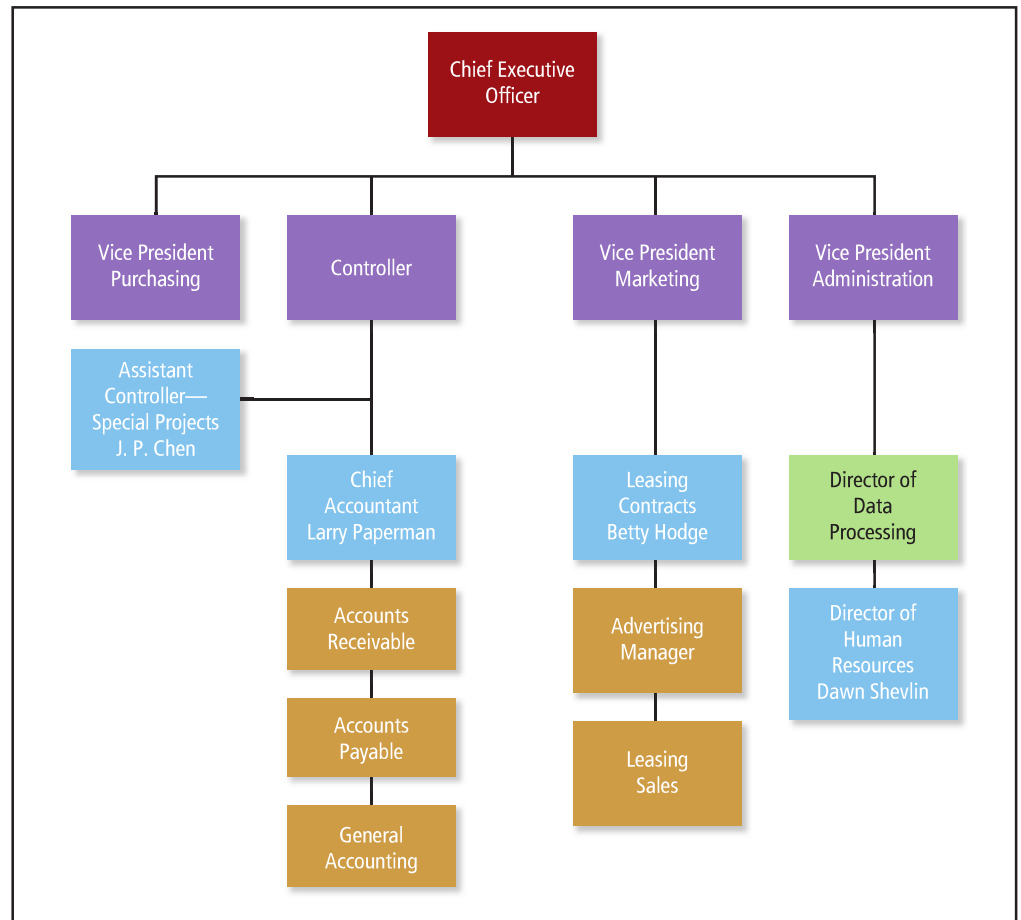
Each year *Corporate Responsibility* magazine publishes its list of the 100 best corporate citizens. The magazine rates companies on performance in seven stakeholder categories: (1) environment, (2) climate change, (3) human rights, (4) employee relations, (5) corporate governance, (6) philanthropy, and (7) financial. In 2011, the top 10 corporate citizens were **Johnson Controls**, **Campbell Soup**, **International Business Machines**, **Bristol-Myers Squibb**, **Mattel**, **3M**, **Accenture**, **Kimberly-Clark**, **Hewlett-Packard**, and **Nike**.

For each of the seven dimensions on which the magazine reported ratings, give a one-sentence description of what you think would make for good corporate citizenship. Based on your knowledge of these 10 companies, however limited that is, predict the top 2 companies in each of the seven rated categories.

CASES**I-50 Line and Staff Authority**

Fidelity Leasing Company (FLC) leases office equipment to a variety of customers. The company's organization chart is shown on the following page. The responsibilities of the four positions in blue in the chart are:

- J. P. Chen, assistant controller—special projects. Chen works on projects assigned to him by the controller. The most recent project was to design a new accounts payable system.
- Betty Hodge, leasing contracts manager. Hodge coordinates and implements leasing transactions. Her department handles all transactions after the sales department gets a signed contract. This includes requisitioning equipment from the purchasing department, maintaining appropriate insurance, delivering equipment, issuing billing statements, and seeking renewal of leases.



Fidelity Leasing Organization Chart

- Larry Paperman, chief accountant. Paperman supervises all the accounting functions. He produces reports for the four supervisors in the functional areas.
- Dawn Shevlin, director of human resources. Shevlin works with all departments of FLC in hiring personnel. Her department advertises all positions and screens candidates, but the individual departments conduct interviews and make hiring decisions. Shevlin also coordinates employee evaluations and administers the company's salary schedule and fringe benefit program.

1. Distinguish between line and staff positions in an organization and discuss why conflicts might arise between line and staff managers.
2. For each of the four managers described, identify whether their position is a line or staff position and explain why you classified it that way. Also, indicate any potential conflicts that might arise with other managers in the organization.

I-51 Professional Ethics and Toxic Waste

Alberta Mining Company extracts and processes a variety of ores and minerals. One of its operations is a coal-cleaning plant that produces toxic wastes. For many years, the wastes have been properly disposed of through Canadian Disposal, an experienced company. However, disposal of the toxic wastes is becoming an economic hardship because increasing government regulations caused the cost of such disposal to quadruple in the last 6 years.

Rachel O'Casey, director of financial reporting for Alberta Mining, was preparing the company's financial statements for the current year. In researching the material needed for preparing a footnote on environmental contingencies, Rachel found the following note scribbled in pencil at the bottom of a memo to the general manager of the coal-cleaning plant. The body of the memo gave details on the increases in the cost of toxic waste disposals:

Ralph—We've got to keep these costs down or we won't meet budget. Can we mix more of these wastes with the shipments of refuse to the Oak Hill landfill? Nobody seems to notice the coal-cleaning fluids when we mix it in well.

Rachel was bothered by the note. She considered ignoring it, pretending that she had not seen it. But after a couple of hours, her conscience would not let her do it. Therefore, she pondered the following three alternative courses of action:

- Seek the advice of her boss, the vice president of finance for Alberta.
 - Anonymously release the information to the local newspaper.
 - Give the information to an outside member of Alberta's board of directors, whom she knew because he lived in her neighborhood.
1. Discuss why Rachel has an ethical responsibility to take some action about her suspicion of the illegal dumping of toxic wastes.
 2. For each of the three alternative courses of action, explain whether the action is appropriate.
 3. Assume that Rachel sought the advice of the vice president of finance and discovered that he both knew about and approved of the dumping of toxic wastes. What steps should she take to resolve the conflict in this situation?

NIKE 10K PROBLEM

I-52 Information in Nike's 10K Report

U.S. companies file 10K reports annually with the SEC. These reports contain the company's annual financial reports and much additional information about the company. Examine **Nike's** 10K report that is presented in Appendix C. Answer the following questions about Nike:

1. What is Nike's principal business activity?
2. What proportion of Nike revenue comes from sales in the United States? What proportion from other countries? How many retail outlets does Nike have in the United States?
3. Who is Nike's CFO? What is his accounting background?
4. Where does Nike manufacture most of its footwear? What ethical issues might result from this manufacturing philosophy?

EXCEL APPLICATION EXERCISE

I-53 Budgets and Performance Evaluation

Goal: Create an Excel spreadsheet to prepare a performance report, and use the results to answer questions about your findings.

Scenario: Beta Alpha Psi, the accounting honorary fraternity, has asked you to prepare a performance report about a homecoming party that it recently held. The background data for Beta Alpha Psi's performance report appears in the Fundamental Assignment Material 1-A2.

When you have completed your spreadsheet, answer the following questions:

1. Based on the formatting option used in the exercise, do the negative (red) variances represent amounts that are over or under budget?
2. Which cost/costs changed because the number of attendees increased?
3. Did the fraternity stay within the budgeted amount for food on a per person basis?

Step-by-Step:

1. Open a new Excel spreadsheet.
2. In column A, create a bold-faced heading that contains the following:
 - Row 1: Chapter 1 Decision Guideline
 - Row 2: Beta Alpha Psi Homecoming Party
 - Row 3: Performance Report
 - Row 4: Today's Date
3. Merge and center the date across columns A–D.
4. In row 7, create the following bold-faced, right-justified column headings:
 - Column B: Budget
 - Column C: Actual
 - Column D: Variance

5. In column A, create the following row headings:
 Row 8: Room rental
 Row 9: Food
 Row 10: Entertainment
 Row 11: Decorations
 Row 12: Total costs
 Skip a row.
 Row 14: Attendees
 Skip a row.
 Row 16: Food per person
6. Use the data from Fundamental Assignment Material 1-A2 and enter the budget and actual amounts for room, food, entertainment, decorations, and attendees.
7. Use budget minus actual formulas to generate variances for each of the cost categories.
8. Use the SUM function to generate total costs for the budget, actual, and variance columns.
9. Use a formula to generate the “per person” food amount for the budget and actual columns.
10. Format all amounts as follows:

| | | |
|--------------------|-------------------|----------------------|
| Number tab: | Category: | Currency |
| | Decimal places: | 0 |
| | Symbol: | None |
| | Negative numbers: | Red with parentheses |

11. Change the format of the food per person amounts to display two decimal places and a dollar symbol.
12. Change the format of the room rental and total cost amounts to display a dollar symbol.
13. Change the format of the total costs data (row 12) to display as bold faced.
14. Change the format of the total costs heading to display as indented:

| | | |
|-----------------------|-------------|---------------|
| Alignment tab: | Horizontal: | Left (Indent) |
| | Indent: | 1 |

15. Save your work, and print a copy for your files.

COLLABORATIVE LEARNING EXERCISE

I-54 The Future Management Accountant

Students should gather in groups of three to six. One-third of each group should read each of the following articles. (Alternatively, you can do this exercise as a whole class, with one-third of the class reading each article.)

- Roth, R. T., “The CFO’s Great Balancing Act,” *Financial Executive*, July/August 2004, pp. 60–61.
- Johnsson, M., “The Changing Role of the CFO,” *Strategic Finance*, June 2002, pp. 54–57, 67.
- Russell, K., G. Siegel, and C. Kulesza, “Counting More, Counting Less: Transformations in the Management Accounting Profession,” *Strategic Finance*, September 1999, pp. 39–44.

1. Individually, write down the three most important lessons you learned from the article you read.
2. As a group, list all the lessons identified in requirement 1. Combine those that are essentially the same.
3. Prioritize the list you developed in requirement 2 in terms of their importance to someone considering a career in management accounting.
4. Discuss whether this exercise has changed your impression of management accounting and, if so, how your impression has changed.

INTERNET EXERCISE

I-55 Institute of Management Accountants

The Institute of Management Accountants (IMA) is a major professional organization geared toward managerial accounting and finance. The IMA has chapters throughout the United States as well as international chapters. The IMA is very concerned about ethics. Log on to www.imanet.org, the Web site for the IMA.

1. Click on About IMA and follow the link that shows the mission statement for the IMA. What is the mission of the IMA?
2. Click on IMA Membership, then Resources and Benefits, and then on the Professional Development link. How many courses does IMA offer to enhance effectiveness on the job, satisfy CPE requirements, and advance careers of members?
3. Click on the Ethics Center & Helpline link under Resources and Publications. Follow the Learn More link under the Ethical Practices heading to the Statement of Ethical Professional Practice. Read the code and comment on its importance to management accountants.

Introduction to Cost Behavior and Cost-Volume-Profit Relationships

LEARNING OBJECTIVES

When you have finished studying this chapter, you should be able to:

1. Explain how cost drivers affect cost behavior.
2. Show how changes in cost-driver levels affect variable and fixed costs.
3. Explain step- and mixed-cost behavior.
4. Create a cost-volume-profit (CVP) graph and understand the assumptions behind it.
5. Calculate break-even sales volume in total dollars and total units.
6. Calculate sales volume in total dollars and total units to reach a target profit.
7. Differentiate between contribution margin and gross margin.
8. Explain the effects of sales mix on profits (Appendix 2A).
9. Compute cost-volume-profit (CVP) relationships on an after-tax basis (Appendix 2B).

► BOEING COMPANY

In 1915, William Boeing, a Seattle timberman, assembled his first airplane in a boathouse. In 1954 Boeing introduced its first four-engine 707. The Boeing family of jets has grown to include the 727, 737, 747, 757, 767, 777, and the company delivered its first 787-Dreamliner in 2011. Today, the **Boeing Company** is the world's largest aerospace company, the second largest producer of commercial jets, and the second largest military contractor. Boeing builds 40 to 50 commercial jetliners each month and had annual revenue of \$68.7 billion in 2011. The company produces aircraft that carry from about 100 to well over 500 passengers and has about half of the world's market share in airplane sales.

How will Boeing maintain its competitive edge and profitability? With intense competition from **Airbus**, Boeing knows that it can improve profits more by controlling (reducing) costs than by increasing prices to customers—especially when many of its customers are only beginning to recover from the steep decline in airline profits in 2008 and 2009. So, should Boeing develop new and bigger airplanes or produce more of its current line of planes with improvements in features and efficiencies that will lower customers' operating costs? Which alternative has lower costs for Boeing and its customers? To answer these questions, Boeing has to understand its own costs as well as the costs of its customers.

Consider a recent Boeing decision regarding development and production of a new airplane. Back in 1999, the company started an R&D program for the Sonic Cruiser. The Sonic Cruiser emphasized speed—it was designed to reduce travel time by about 20%. An important part of the development decision was the assessment of customers' costs—both of operating their existing fleet of planes and of the costs of the new Sonic Cruisers. In early 2001, discussions with airlines in North America, Asia, and Europe confirmed the design offered exactly what airlines and passengers were looking for: the ability to fly quickly and directly to their destinations while avoiding time-consuming and costly stops at major hubs. In late 2002, after more than 3 years of research, the company had completed the design of the