

GLOBAL
EDITION



INTRODUCTION TO
**MANAGEMENT
ACCOUNTING**

SEVENTEENTH EDITION

CHARLES T. HORNGREN
GARY L. SUNDEM
DAVID BURGSTHALER
JEFF SCHATZBERG



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Introduction to

MANAGEMENT ACCOUNTING

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Authorized adaptation from the United States edition, entitled *Introduction to Management Accounting*, 16th Edition, ISBN 978-0-13-305878-9 by Charles T. Horngren, Gary L. Sundem, David Burgstahler, and Jeff Schatzberg, published by Pearson Education © 2014.

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ISBN 10: 1-292-41256-9 (print)

ISBN 13: 978-1-292-41256-6 (print)

eBook ISBN 13: 978-1-292-41270-2 (uPDF)

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

1 23

Typeset in Times NR MT Pro by B2R Technologies Pvt. Ltd

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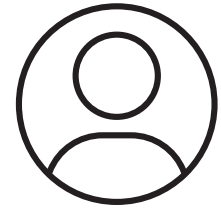
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Preface

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*, 17th 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, 17th 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. Provide appropriate real-world 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?”, and “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 like Saudi Arabia’s SABIC, Singapore’s CerealTech Pte Ltd, Sweden’s HL Display, the Indian Railways, and more, help students understand management accounting concepts in a real-world context.

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:

- **Increased focus on merchandising and service sectors** keeps with the shifts in the world economy. This edition makes more use of merchandising and service sector examples and deemphasizes traditional manufacturing settings. For example, Chapter 3 illustrates cost behaviors in the context of managing finances associated with hotel services. Chapter 15 describes financial statements using Intel’s technology services, big-data analytics, and its efforts in corporate social responsibility.
- **New and revised “Business First” boxes** provide insights into operations across a range of global organizations and startups, including Rent the Runway, Qatar Steel, Hopin, and Harvard University. Some boxes also cover how businesses have been affected by the COVID-19 pandemic.
- **New and revised chapter-opening vignettes** help students understand accounting’s role in current business practice. 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 Airbus, Intel, Accor S.A., and Dell.

- **New examples** used throughout the text are of interesting young, high-growth firms from across the world that will resonate with young adults. For example, Amsterdam-based eyewear company Ace & Tate, the United Kingdom's leading African food online store Wosiwosi, and Brussels South Charleroi Airport that introduced the Environmental and Movement Monitoring for Airports (EMMA) operations management platform.
- **Updated problem** in each chapter based on Nike's SEC Form 10-K from 2021. 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 over 300 revised exercises and problems to provide fresh, new examples.

Solving Learning and Teaching Challenges

Studying management accounting is one of the best business investments a student can make. Success in any organization—from a local food stall to the largest multinational corporation—requires the use of managerial accounting concepts and practices. This book focuses on how accounting helps managers make better decisions, as managerial accountants are integral members of their company's decision-making teams; it also prepares students for the rewards and challenges they will face in the professional cost accounting world of today and tomorrow. To emphasize this prominence in decision making, the authors place managers in the forefront throughout this book. By focusing on basic concepts, analyses, uses, and procedures instead of procedures alone, the book recognizes cost accounting as a managerial tool for business strategy and implementation.

Opening Vignettes

Chapter opening vignettes help students understand accounting's role in current business practice. We revisit the chapter opening company later in chapter discussions so students can see how accounting decisions effect real company practices. The vignettes engage the reader in a business situation or dilemma, illustrating why and how the concepts in the chapter are relevant in business. For example, Chapter 2 looks at how European aerospace company Airbus reported a loss in 2019, despite earning over €70 billion of revenues; and how it can improve its future profitability by both controlling (reducing) its own costs as well as understanding how the operational costs of its aircraft will impact customers' profitability. Chapter 12 explains the purpose of cost allocation by using Sweden's H.L. Display and the merchandising installations it offers to other global brands.

► AIRBUS

Delivering a record-breaking 863 aircrafts in 2019, European aerospace consortium **Airbus** surpassed American rival **Boeing** to become the world's largest producer of aircrafts. Founded in 1970, the company has grown and evolved over the last 50 years, establishing itself as a pioneer in designing and manufacturing aerospace products and services spanning commercial **aircraft**, helicopters, defense aviation, and space.

Despite earning over €70 billion of revenues in 2019, the company reported a loss for the year. With commercial airlines largely grounded in 2020 and much of 2021 due to the global COVID-19 pandemic and most governments funneling resources into the healthcare sector to combat the spread of the virus, how will Airbus return to profitability?

Consider Airbus' decision to develop the pioneering, full-length double-deck A380 jumbo jet. Large enough to accommodate over 850 passengers, along with onboard amenities including lounge areas as well as private suites with beds and showers, the plane's size and configuration were unprecedented, surpassing Boeing's 747, when it was introduced on the market in 2007. It was estimated that the company spent between €25 and €30 billion to develop the aircraft. With post-pandemic travelers more aware of the health benefits of social distancing and the need to ensure good hygiene in shared spaces, it would seem that the A380 would be the aircraft most able to meet these expectations for space and cleanliness. However, in 2019, the company announced its decision to discontinue the model, with delivery of the last planes produced scheduled for 2022. Bob Lange, Head of market and product strategy, once described the plane as "the most passenger preferred aircraft in the world." Confident that passenger demand would translate into orders from airlines, sales of 1,200 planes were initially forecasted. Ultimately, only 251 A380s were eventually sold, of which 123 were sold to **Emirates**, by far the biggest buyer, followed

by **Singapore Airlines** with 24 in its fleet. No U.S. airline purchased the A380. "In the end, you have to face facts, and we could see that we were building A380s faster than people were ordering them," said Lange.

What lessons can be learned from the A380 and how can Airbus avoid making similar mistakes in the future? To answer these questions, Airbus must understand not only its own production costs but also the costs that will be incurred by customers and other key stakeholders, such as airports. In the case of the A380, research and development costs far exceeded Airbus' initial estimates, while high operational costs dampened enthusiasm from airlines and airports. In retrospect, the characteristics of the plane's biggest buyer, Emirates, illustrates the limited appeal of the aircraft to the broader market. According to an interview with Emirates' CEO Tim Clark, the company could profitably make use of the A380 because it bought a large fleet, reaping economies of scale in maintenance and crew costs, and because of its strategy as a hub-based, medium and long-haul operator providing high-occupancy flights to busy airports with limited landing slots.

With intense competition from Boeing, Airbus can improve its future profitability by both controlling (reducing) its own costs as well as understanding how the operational costs of its aircraft will impact customers' profitability and, consequently, their decision whether to buy from Airbus or Boeing.

This chapter begins your study of costs. One of the main goals of management accounting is to help managers understand **cost behavior**—how the activities of an organization affect its costs—as they make crucial decisions about their production and service activities. For example, how much would it cost Boeing to produce each 787? How much cost does **Ryanair** incur when it adds one more passenger at the last moment to an existing flight, or when it adds one more flight to the schedule? What does it cost **Tesla** to develop a new category of electric automobiles, such as lorries? How much does it cost to produce one more Model S? How will an increase in Dublin's population affect the costs to run the government's department of transport? What does it cost **Nestlé Purina** to meet **Carrefour**'s specifications for shipments of pet-care products? What activities contribute most to Nestlé Purina's cost to serve Carrefour stores? These are all specific forms of the general question: What will be the incremental effects if an organization changes its activities? ■



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The design and production of an airplane is a complex process. This is an example of the Airbus A380 jumbo jet, which was assembled at the company's facility in Toulouse, France.

cost behavior

How the activities of an organization affect its costs.

Business First

Each Business First box provides insights into the operations across a range of global organizations and startups, and some boxes also cover current topics like how businesses have been affected by the COVID-19 pandemic and changing face of annual reports. New examples include:

- Starbucks: Looks at the use of Big Data and analytics at Starbucks (Chapter 1)
- Ethics: Looks at corporate codes of conduct across global organizations like Google and Pepsico
- COVID-19 and industries: Looks at how hotels and auto makers cut costs and lower their break-even point during the global pandemic (Chapter 2)
- Rent the Runway: Discusses how start-ups look to determining the best cost structure to ensure their growth (Chapter 2)
- Annual reports: Discusses how annual reports have changed over the years with examples of Alibaba Group, Korea Hydro & Nuclear Power, Adidas, and others (Chapter 16)

Business First

For Start-ups, Survival Depends on Determining the Best Cost Structure

When it was launched in 2009 by two Harvard Business School graduates, New York-based **Rent the Runway** disrupted the fashion industry, taking the decades-old, brick-and-mortar clothing rental business online, and making high-end designer fashion accessible to a broader public for the first time. The company started off by offering high-end designer dresses for short-term rental via its e-commerce site. Since then, it has extended its inventory to include leisure wear, work attire, and a range of accessories, and has introduced a monthly subscription option. As the company has evolved, so too has its cost structure.

Initially, the company outsourced the cleaning and repair of its clothing inventory to a third party (customers are not responsible for cleaning the garments they rent; this is done by Rent the Runway). However, the founders quickly realized that control of the cleaning and repair process was key to quality assurance and to guaranteeing that items ordered were delivered on time and in pristine condition, thereby ensuring high levels of customer satisfaction. An average dress on Rent the Runway goes home to 30 different customers. Seems impossible? It is possible when you own the dry cleaning process," according to co-founder and CEO, Jennifer Hyman. According to an article in *The Economist*, the company's dry-cleaning facility is the largest in the world. In addition to cleaning, the facility is staffed

with seventy-five seamstresses, who immediately repair items that are returned damaged, as well as 'spotters', who remove difficult stains from the clothing. With a large and growing base of eager customers and fashion trends constantly changing, how does the company keep up? According to Chief Analytics Officer Vijay Subramanian, the key to success is being data-driven. From generating personalized style recommendations for customers to the efficient cleaning and distribution of the clothing, data is an integral part of the company's DNA.

Developing a highly sophisticated, customer-friendly e-commerce site is a challenge for any firm, as is developing a highly sophisticated and efficient order fulfillment and inventory management system. Part fashion industry disruptor, part data and logistics powerhouse, Rent the Runway has succeeded in combining both in its innovative business model.

Sources: "I'm Like a Drug Dealer: Drug Dealer of Fashion," CBS News, September 16, 2014, <https://www.cbsnews.com/news/high-fashion-at-a-low-price-with-rent-the-runway/>; "Rent the Runway Is Taking Clothes-sharing Mainstream," *The Economist*, June 9, 2018; Vijay Subramanian, *Deciding by Data* Web site, <http://decidingbydata.indiaactive.com/rent-the-runway-chief-analytics-officer-vijay-subramanian/>; S. Bertoni, "How Mixing Data And Fashion Can Make Rent The Runway Tech's Next Billion Dollar Star," *Forbes*, August 20, 2014; and R. Kestenbaum, "Rent The Runway's Outsize \$1 Billion Valuation Is Reportedly Coming Down to Earth," *Forbes*, May 27, 2020.

Making Managerial Decisions

Placed in different locations in all chapters, these boxes allow students to take what they've learned, apply this material to a real business situation, and then plot a course of action.

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

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.

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.

Summary Problem for Your Review

Every Summary Problem that presents students with the financial background of a company over a particular period in the context of certain challenges the company might face or decisions that its managers might have to make. This is followed by questions that encourage students to apply concepts that they have learned in the chapter.

Summary Problem for Your Review

PROBLEM

The manager at the **Airbus** assembly plant in Toulouse is looking at a monthly report of plant costs. He notices that the receiving activity costs vary substantially from month to month and is interested in knowing more about why the total cost and unit cost of the receiving activity change. The number of parts received has ranged from 10,000 to 30,000 parts per month over the last several months.

1. Prepare a table that shows the cost of equipment, the cost of fuel, the total of equipment and fuel costs, and the cost per-part-received for 10,000 to 30,000 parts per month, using increments of 5,000 parts per month.
2. Prepare brief explanations of why the total and unit cost patterns change.

SOLUTION

1. The table can be developed using the relationships shown in Exhibit 2-5.

(1) Parts Received	(2) Equipment Cost	(3) €0.66 × (1) Fuel Cost	(4) (2) + (3) Total Cost	(5) (4) ÷ (1) Cost per Part Received
10,000	€45,000	€6,600	€51,600	€5.16
15,000	45,000	9,900	54,900	3.66
20,000	45,000	13,200	58,200	2.91
25,000	45,000	16,500	61,500	2.46
30,000	45,000	19,800	64,800	2.16

2. Column (4) shows the total cost of the receiving activity, which shows a pattern of increasing total cost. The increase in total cost is less than proportional to the activity cost driver because total cost includes both the fixed cost component from Column (2) as well as the variable cost component from Column (3). For example, a 50% increase in the number of parts received from 10,000 parts to 15,000 parts results in a 50% increase in the variable cost component in column (3) but the total cost in column (4) increases by far less than 50% because the fixed cost in column (2) does not change.

Column (5) shows the cost per part received, which shows a pattern of decreasing cost per part. The decreasing cost per part is entirely due to the fixed equipment cost being spread over increasing numbers of parts received, the cost driver. For example, consider the change in cost per part as the number of parts received increases from 10,000 to 15,000 parts. The fixed cost per part moves from €4.50 at 10,000 parts received ($€45,000 \div 10,000$) to €3.00 at 15,000 parts received ($€45,000 \div 15,000$). The variable cost per part remains constant at €0.66. Thus, the sum of the fixed and variable costs per part in column (5) decreases from €5.16 ($€4.50 + €0.66$) to €3.66 ($€3.00 + €0.66$) due entirely to the decline in the fixed cost per part.

Nike's Form 10-K

Appendix C, which offers insight on publicly available information, has been updated to reflect Nike 10-K data from 2021. In addition, each chapter has an updated problem on Nike's Form 10-K. These problems illustrate how publicly available information can lead to insights about a company, its costs, and its management decisions.

NIKE 10-K PROBLEM

2-72 Operating Leverage

Examine **Nike's** 10K report in Appendix C.

1. In Item 7 of the 10K, review the section titled Operating Segments. Prepare a table that compares the percent change in "Total revenue" to the change in "Pre-tax income" from 2020 to 2021 for the four major regions (ignore the Global Brand Divisions segment). Note that generally earnings before interest and taxes changes by a larger percentage than revenue. For example, in North America, revenue increased by 19% and earnings increased by 76%. How can operating leverage help explain the greater percent change in earnings than the percent change in total revenues?
2. Would you expect Nike's operating leverage to be high or low? Explain. Which assets do you think contribute to Nike's ability to leverage operating overhead?

Supplements for Instructors

All resources are available online at <http://www.pearsonglobaleditions.com>.

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*, 17th 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, 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 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.

Supplements for Students

COURSE WEBSITE 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. Access these resources by visiting <http://www.pearsonglobaleditions.com>.

MyLab Accounting

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

FEATURES

- **Personalized help** is available on MyLab Accounting 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 MyLab Accounting 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 MyLab Accounting’s interactive tutorial exercises on the topics they have yet to master.
- **Excel Integration.** MyLab Accounting 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 MyLab Accounting Gradebook.
- **My Accounting Community.** This tool allows instructors to connect with other educators and exchange ideas and advice on courses, content, MyLab Accounting, and much more.

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 previous editions:

Jim Carroll, Georgian Court University
James Chiafery, University of Massachusetts Boston
Constance J. Crawford, MBA, CPA, Ramapo College of New Jersey
William Creel, Herzing College
Stan Davis, Indiana University – Purdue University Fort Wayne
Chris Gilbert, Glendale Community College
Valerie Goodwin, Olean Business Institute
Lawrence Grasso, Central Connecticut State University
Henry Huang, Butler University
Agatha Jeffers, Montclair State University
Cody King, Georgia Southwestern State University
Roman J. Klusas, University of Indianapolis
Chuo-Hsuan (Jason) Lee, Plattsburgh State University of New York
Lisa Martin, Hampton College
Maureen Mascha, Marquette University
Jerold R. Miller, Chaparral College
David Mona, Champlain College
Julian Mooney, Georgia Southern University
Behnaz Quigley, Marymount University
Bill Rankin, Colorado State University
Patrick Rogan, Cosumnes River College
Walter Smith, Siena College
Ken Snow, Kaplan University & Florida Community College at Jacksonville
John Stancil, Florida Southern College
Vic Stanton, Stanford Graduate School of Business
Holly Sudano, Florida State University
Diane Tanner, University of North Florida
Geoffrey Tickell, Indiana University of Pennsylvania
Michael Tyler, Barry University
Karen Wisniewski, County College of Morris

Students in our classes have provided invaluable feedback on previous editions, for which we are grateful.

Many people at Pearson also earn our deepest thanks for their thoughtful contributions, including Stephanie Wall, Ellen Geary, Nicole Sam, Jane Avery, Lauren Zanedis, Roberta Sherman, Anthony Gemmellaro, James Bateman, and Carol Melville.

Finally, the authors greatly appreciate the contributions that Bill Stratton made to the development of the book over many years.

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

Global Edition Acknowledgments

Pearson would like to thank all the people who have worked with us through multiple calls and over numerous emails and have shared ideas, reviewed and updated content, and provided critical feedback to help improve this book for instructors and students.

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Pearson would also wish to thank the following reviewers whose suggestions and feedback helped improve the content for this edition:

Ahmed Rafiuddin, James Cook University
Saad Alkazemi, University of Kuwait
Ian Andrews, University of Exeter
Yu-Lin Hsu, University of Strathclyde
Andrew Likierman, London Business School
Lawrence Velasco, University of Phillipines Diliman
Julia Smith, University of Strathclyde

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 2021, Starbucks' total revenues—the amount the company received for all items sold—were \$29.1 billion, compared with only \$700 million in 1996. Net income—the profit that Starbucks made—was \$4.8 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 \$31.4 billion in 2021. 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. It ranked fifty-first in Interbrand's 100 best global brands for 2021 and one hundred and twenty-fifth on *Fortune* magazine's Fortune 500. Starbucks was the winner of the 2020 Diversity in Advertising award run by the United Kingdom's TV Channel 4. In 2021, Starbucks was recognized as one of the *135 World's Most Ethical Companies* by The Ethisphere Institute and was also ranked the fifth most admired company in the world by *Fortune*.

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 companies like Starbucks to ensure that whether its products are purchased by consumers in the Ibn Battuta Mall in Dubai, a coffee house train on the Geneva–St. Gallen line in Switzerland, or near the Tower of London in the United Kingdom, they will experience the same level of service and quality. 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 the Boeing 777 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 Häagen-Dazs. 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?
- On the International Day of Charity in September 2021, **Sterling Bank Plc** launched Africa's first free banking services for non governmental organizations (NGOs). The scheme is to empower non profit organizations across Nigeria.
- The Invictus Games, founded by the Duke of Sussex, is an international sporting event for wounded, injured, and sick servicemen and women. The inaugural event was launched in 2014 and inspired by the U.S. Warrior Games.
- **Wosiwosi** is an African food shop located in Essex, United Kingdom. It specializes in the wholesale distribution and sales of African and Caribbean products. Its clientele ranges from consumers to other food outlets and restaurants. Customers rely on Wosiwosi to have otherwise hard-to-find produce in stock. The business has its established and preferred suppliers, but out of season, can it find alternative suppliers that can sell it produce such that, after mark-up, the consumers will be able to afford the products?
- Many sellers on **AliExpress** offer standard free shipping anywhere in the world. Sellers will usually incorporate the shipping into the product price or offer enhanced shipping for multiple purchases. What impact does shipping using the AliExpress Standard shipping or ePacket have on profits?

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)**, a global association of accountants and financial professionals in business, 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'



i am Em/Shutterstock

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

Institute of Management Accountants (IMA)

A global association of accountants and financial professionals in business.

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 1

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) , a set of standards to which public companies' published financial statements must adhere. The International Financial Reporting Standards (IFRS) accounting standards set out how a company prepares its financial statements.
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

generally accepted accounting principles (GAAP)

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

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.

Exhibit 1-1

Distinctions Between Management Accounting and Financial Accounting

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. There are three key professional qualifications providing routes into accounting: ACA (Institute of Chartered Accountants), ACCA (Association of Chartered Certified Accountants), and CIMA (Chartered Institute of Management Accountants). Each of these qualifications is globally recognized. Each course can take between three to five years. Like the CPA designation, the CMA confers status and often opens the door to higher-level positions. Research by U.K.-based recruitment company Robert Half found that 52% of all FTSE 100 CEOs either had worked in finance or studied finance, with 27% being qualified chartered accountants. The study showed that 21% were from a retail or hospitality background, 17% were engineers or involved in natural resources, 14% were from marketing, and 11% had a technology background.

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

Objective 2

Describe the major users and uses of accounting information.

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.

Organizations address these two purposes by designing and implementing **accounting systems**, which are formal mechanisms for gathering, organizing, and communication 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. Part 5, Chapters 15 through 17, deals with the basic accounting treatments before finalizing the accounts and the technique of preparing Income Statements and Balance Sheets. It further addresses the issues relating to preparation of mandatory financial statements of individual companies and that of a group comprising the parent, subsidiaries and associates, under a regulated accounting environment.

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

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.

actual results differ from plans, performance reports show managers how they are doing and where to 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, Tata Starbucks in India used problem-solving information to decide whether to run its 2021 ad campaign “A feeling called Starbucks” on various social media platforms rather than using TV commercials.

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.

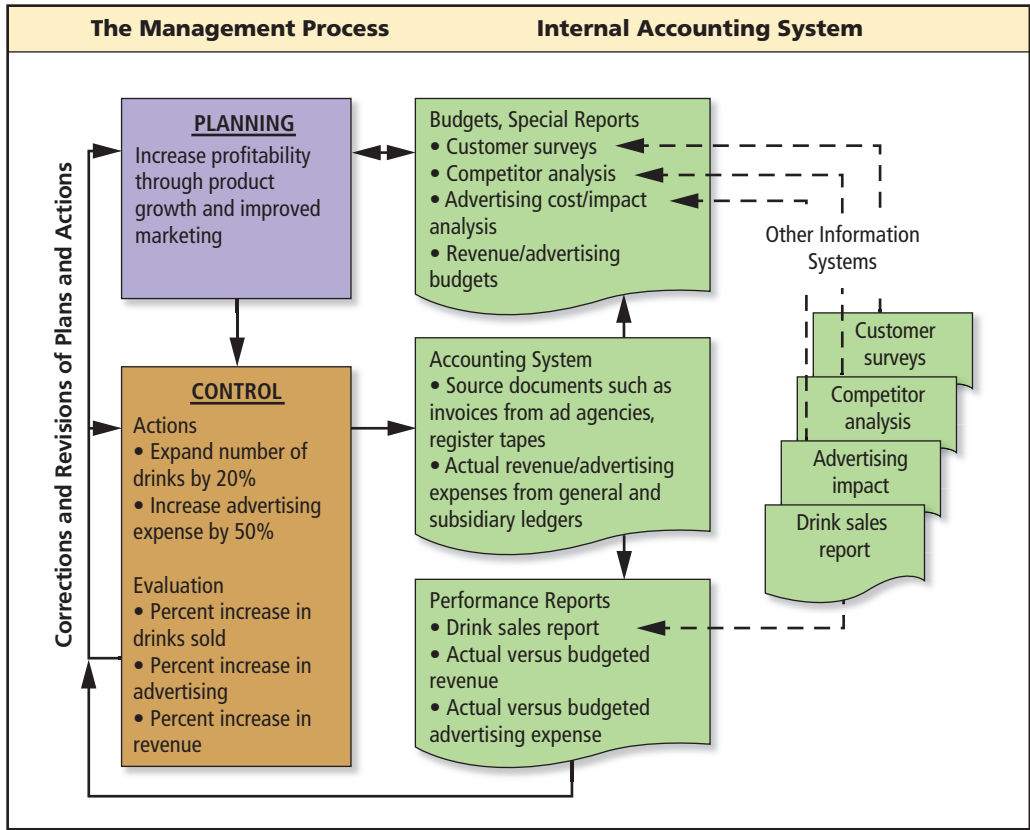


Exhibit 1-2
Starbucks Store—Accounting Framework for Planning and Control

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. For example, under the Companies Act 2016 in Malaysia, it is a requirement of all public listed companies, private limited companies, and branch offices in Malaysia to appoint an approved auditor to audit the accounts of the company. Under Section 266, if the auditor has reason to believe that an offence involving fraud and dishonesty has been committed against the company (by officers or employees), the auditor must report their findings in writing to the Registrar. The auditor must make a judgment as to whether the financial statements of the company comply with the approved accounting standard and that they are a true and fair view of the situation. The auditor's role is to express an opinion on the financial statements; it is the responsibility of the company directors to prepare and present the financial statements and to set in place any **internal controls**, policies to protect and make the most efficient use of an organization's assets.

Post-Brexit U.K. accounting legislation has begun to revert to U.K.-only requirements. Companies in the United Kingdom are still required to appoint a U.K.-registered audit firm. It is the registered auditor that is required to sign the audit report on behalf of the company. As of January 2021, all U.K. companies are required to use U.K.-adopted international accounting standards (IAS) as opposed to those adopted by the European Union (EU).

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 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

internal controls

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

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.

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 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. In 1999, Japanese supplier **Fujitsu** installed 40,000 Horizon Electronic Point of Sale terminals in all post offices across the United Kingdom, costing \$1.35 billion to install. Over the next decade, hundreds of sub-postmasters were accused of fraud and false accounting. Many were jailed, others left bankrupt with their reputations in ruin. Only in 2019 did the High Court prove that it was the post office to blame for pursuing these cases when they knew the system was fatally flawed. The system, according to the High Court, was not “reliable” for the first 10 years of its use and routinely created errors on the post office branch accounts. In December 2019, the post office agreed to settle with 555 claimants paying them nearly \$80 million in compensation. Horizon seemed to offer efficiency but was subject to catastrophic errors, but should it ever have been 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.

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.

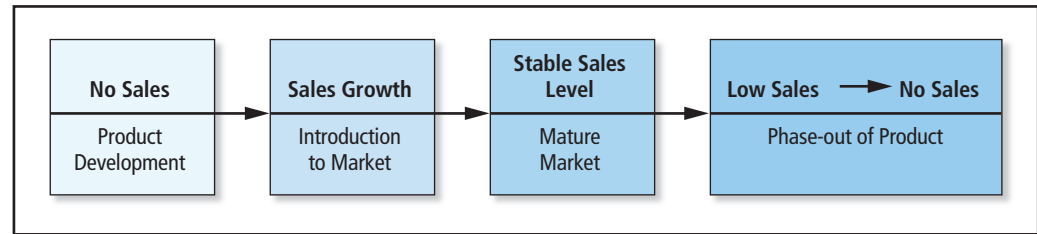


Exhibit 1-4
Typical Product Life Cycle

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.

For example, suppose Swiss-based **Roche**, the largest pharmaceutical company in the world by sales, 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 Roche 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 777X** 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 timelier basis.

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.

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.

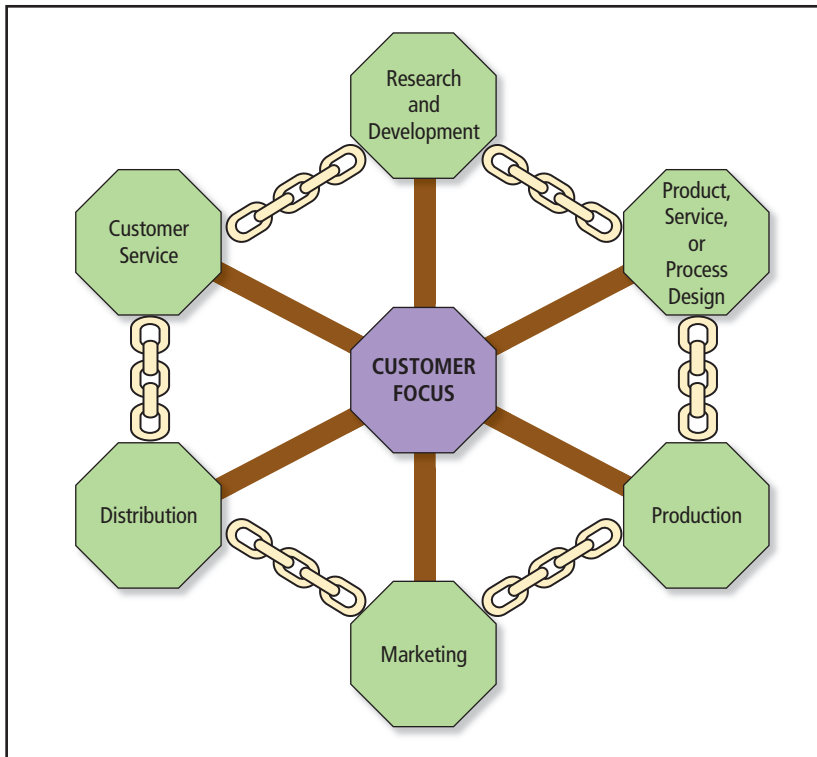


Exhibit 1-5

The Value Chain of Business Functions

Accountants play a role in supporting all the value-chain functions. Most obvious is the production stage, where accountants facilitate cost planning and control using 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 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 “inspire and nurture the human spirit—one person, one cup, and one neighborhood at a 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.

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.

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.

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.