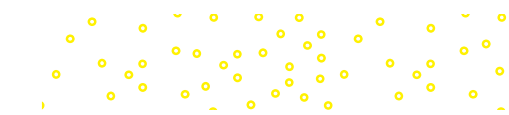


Managerial Accounting

FOURTH EDITION





Fourth Edition

Managerial **ACCOUNTING**

STACEY WHITECOTTON

Arizona State University

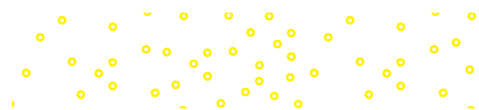
ROBERT LIBBY

Cornell University

FRED PHILLIPS

University of Saskatchewan

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MANAGERIAL ACCOUNTING, FOURTH EDITION

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Dedication

To Mark, Riley, and Carley! Thanks for your love, patience, and inspiration.

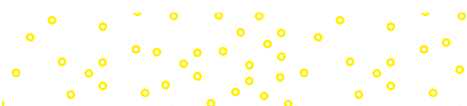
STACEY WHITECOTTON

Laura Libby and Brian Plummer, Oscar and Selma Libby.

ROBERT LIBBY

I dedicate this book to the best teachers I've ever had: my Mom and Dad, Barb, Harrison, and Daniel.

FRED PHILLIPS



Meet the Authors



Stacey Whitecotton

Stacey Whitecotton is an associate professor of accounting in the W. P. Carey School of Business at Arizona State University. She received her PhD and Masters of Accounting from The University of Oklahoma and her Bachelors in Business Administration from Texas Tech University. Stacey teaches managerial accounting and has received numerous awards for outstanding teaching at the undergraduate and graduate level.

Stacey's research interests center around the use of decision aids to improve the decision-making behavior of financial analysts, managers, and auditors. Her research has been published in *The Accounting Review*, *Organizational Behavior and Human Decision Processes*, *Behavioral Research in Accounting*, *Auditing: A Journal of Practice and Theory*, and *The Journal of Behavioral Decision Making*.

Stacey and her husband Mark enjoy traveling and the many outdoor activities Arizona has to offer with their two children, Riley and Carley.



Robert Libby

Robert Libby is the David A. Thomas Professor of Accounting and Accounting Area Coordinator at Cornell University, where he teaches the introductory financial accounting course. He previously taught at the University of Illinois, Pennsylvania State University, the University of Texas at Austin, the University of Chicago, and the University of Michigan. He received his BS from Pennsylvania State University, where he was selected as the 2018 Outstanding Accounting Alumnus, and his MAS and PhD from the University of Illinois; he also completed the CPA exam (Illinois).

Bob was selected as the AAA Outstanding Educator in 2000 and received the AAA Outstanding Service Award in 2006 and the AAA Notable Contributions to the Literature Award in 1985 and 1996. He has received the Core Faculty Teaching Award multiple times at Cornell. Bob is a widely published author

and researcher specializing in behavioral accounting. He has published numerous articles in *The Accounting Review*; *Journal of Accounting Research*; *Accounting, Organizations, and Society*; and other accounting journals. He has held a variety of offices, including vice president, in the American Accounting Association, and he is a member of the American Institute of CPAs.

Fred Phillips

Fred Phillips is a professor at the University of Saskatchewan, where he has taught introductory financial accounting for more than 20 years. He also has taught introductory accounting at the University of Texas at Austin and the University of Manitoba. He previously worked as an audit manager at KPMG. Fred holds an undergraduate business degree in accounting, and earned a PhD in accounting from the University of Texas at Austin. He is a non-practicing CPA, CA (in Canada).

Fred's main career interest is accounting education. He has been recognized with more than 30 awards, as chosen by his students and peers. His peer-reviewed publications include education-focused research and instructional cases in *Issues in Accounting Education*, as well as professional judgment studies in the *Journal of Accounting Research* and *Organizational Behavior and Human Decision Processes*, among others. He is a current member of the Teaching, Curriculum, & Learning and Two-Year College sections of the American Accounting Association. In his spare time, Fred is a Tennis Canada official, calling lines at ATP, WTA, and ITF matches.



Preparing Students for Success in Business



From the award-winning, market-leading Libby/Phillips author team comes a modern, relevant, and engaging textbook for today's managerial accounting student. Whitecotton/Libby/Phillips *Managerial Accounting* brings lively and engaging coverage of managerial accounting topics and decision-making focus to the managerial accounting course. Pair *Managerial Accounting* with Phillips/Libby/Libby *Fundamentals of Financial Accounting*, 6e, to provide a truly comprehensive solution to your students.



McGraw-Hill Education/Jill Braaten, photographer

Chapters 5 & 6 Focus Company: Starbucks Coffee



©Jeff Pachoud/AFP/Getty Images

Chapters 7 Focus Company: IKEA



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Chapters 10 & 11 Focus Company: Apple

Managerial Accounting

by Whitecotton/Libby/Phillips

This text prepares students for success in business by incorporating four key components that will motivate and guide them through managerial accounting and beyond:

1 Managerial accounting builds student interest

Managerial accounting instructors face significant challenges; how to engage students in the managerial accounting course, how to keep them motivated throughout the course, and how to teach them accounting in a way that connects conceptual understanding to the real world. **Managerial Accounting engages and motivates students by presenting accounting in the context of recognizable companies such as Starbucks, Toyota, Levi Strauss & Company, and Apple**, and then integrates those companies throughout the chapter discussions.

2 Managerial accounting fosters decision making and analytical skills

Most students taking managerial accounting will not become accounting majors and accountants; instead, they will use accounting information in their professional lives to make business decisions. **Managerial Accounting shows students how managers use accounting information to make business decisions in companies they know from their everyday lives.** This approach helps students develop the analytical and critical thinking skills they will need to succeed in their future careers.

3 Managerial accounting helps students become better problem solvers

Students' problem solving skills are put to the test through robust end of chapter content. Additionally, Demonstration Cases and Skills Development Cases provide students with an opportunity to practice their comprehension and understanding of the material.

4 Managerial accounting uses technology to enhance student learning

Today's students have diverse learning styles and numerous commitments. They want technology supplements that will help them study more efficiently and effectively. **McGraw-Hill Connect, which includes adaptive and interactive study features such as SmartBook, Concept Overview Videos, Auto-Graded Excel Simulations, and Guided Examples, as well as a repository of additional resources tied directly to Managerial Accounting,** will improve students' engagement in and out of class, help them maximize their study time, and make their learning experience more enjoyable.

*I would describe Whitecotton as the **best introductory managerial textbook that I have used**, because of its writing style, its inclusion of only relevant material, its choice of focus companies that students easily relate to, and the common sense manner in which the material is explained*

—Laura Ilcisin, University of Nebraska at Omaha

*This is one of the **best textbooks for the introductory managerial accounting course.** The book covers all of the relevant topics for this course and is extremely well organized. Each chapter begins with solid learning objectives linked to the text and uses a focus company, which relates to the students, to illustrate the concepts of the chapter.*

—Ronald O. Reed, University of Northern Colorado

Engaging Features and Relevant Pedagogy

“
 One of the **greatest strengths** of *Whitcotton* is the **focus companies**. The utilization of these companies allows students to connect managerial accounting concepts to real-world enterprises.

—Tal Kroll, Ozarks Technical Community College

”
 This is a freshly written managerial accounting textbook. It addresses a complete range of managerial accounting topics critical to today’s business environment. The language is as easy to understand as the discussion is in depth. **I would definitely recommend [this book] to my colleagues** as a good choice for the course.

—Ronald Zhao, Monmouth University

Managerial Accounting has a variety of features that complement the way you teach and the way today’s students learn. From study tips and advice to guide students through difficult topics to clear and relevant examples, each chapter offers students the tools they need to succeed.



© Mark Dierker/McGraw-Hill Education

Chapter 4 Focus Company: Toyota



©SumanBhaumik/Shutterstock

Chapters 8 & 9 Focus Company: Levi Strauss & Co.

Chapter Openers—Focus Companies

Each chapter of *Managerial Accounting* opens with an engaging scenario or story using a familiar company. The same focus company is used throughout the entire chapter so that students can see how the concepts and calculations apply to a real-world company they are already familiar with.

10 Decentralized Performance Evaluation

CHAPTER TEN

YOUR LEARNING OBJECTIVES

- LO 10-1 List and explain the advantages and disadvantages of decentralization.
- LO 10-2 Describe the different types of responsibility centers and explain how managers of each type are evaluated.
- LO 10-3 Describe the four dimensions of the balanced scorecard and explain how they are used to evaluate managerial performance.
- LO 10-4 Compute and interpret return on investment, investment turnover, and profit margin.
- LO 10-5 Compute and interpret residual income.
- LO 10-6 Explain how transfer prices are set in decentralized organizations.

FOCUS COMPANY: APPLE INC.

Apple Computers Inc. began in 1976 when two guys named Steve started building circuit boards in a garage to sell to fellow computer geeks at the Homebrew Computer Club. Steve Wozniak was the technical wizard who built the computers, while Steve Jobs was an ambitious entrepreneur looking to start his own company. When they got their first big order for 50 computers, their biggest problem was figuring out how to pay for the components when they had little cash and no assets to use as collateral for a loan. But Steve Jobs somehow convinced a local supplier to let them buy the parts on 30-day credit terms. As Steve Wozniak tells it, “Steve is very persuasive. We’d get the parts and then stuff them into the circuit boards, have them soldered, get them back in the garage and test them. And we could turn the whole cycle around in ten days and get paid. It worked really great because we had only one level of management!”

When companies are small, the owners can make all of the decisions about how to build, market, distribute, and price their products and services. But as a company grows, takes on outside investors, expands into new regions, introduces new products, and hires employees to manage various parts of the business, it is no longer possible for the owners to be directly involved in every aspect of the company’s operations. Instead, owners must delegate responsibility to employees and managers to make decisions on their behalf. The delegation of responsibility and decision-making authority throughout an organization is called decentralization.

Today, Apple Inc. is a multibillion dollar company that designs and markets some of the world’s most popular consumer electronics, including the iPhone, iPad, and Apple watch, as well as the Mac.

—Stephen Wozniak, “Homebrew and How the Apple Came to Be,” *enr.com*, http://www.enr.com/story/2014/06/24/wozniak_and_jobs_06_24_2014.php

Bring Managerial Accounting Content to Life

How's It Going? Self-Study Practice

Research shows that students learn best when they actively engage in the learning process. Self-Study Practice quizzes ask students to pause at critical points throughout each chapter to ensure they understand the material presented before moving ahead.

Coach's Tips

Every student needs encouragement and Coach's Tips are just one of the ways *Managerial Accounting* fulfills that need. Coach's Tips appear throughout the text offering tips, advice, and suggestions about how to learn the key concepts.

Spotlight Features

Each chapter includes Spotlight features focusing on important concepts, such as decision making or ethics. These features are designed to further engage students and provide instructors with material for in-class discussion. **New** to this edition are **Big Data and Analytics** features that highlight how big data and analytics can affect how managers make decisions.

How's it going? Self-Study Practice

The best way to know whether you are reading the chapter carefully enough is to see how well you do on a short exercise. Therefore, at important points throughout each chapter, you will find an exercise that will reinforce the concepts you have just learned and provide feedback on how well you learned them. We urge you not to skip these practices. When you are finished, check your answers against the solution below in the margin.

Solutions to Self-Study Practice

- Which of the following statements best describes the difference between financial accounting and managerial accounting?
 - Managerial accounting targets external stakeholders while financial accounting targets individuals within the company.
 - Financial accounting relies more on subjective, future-oriented information than managerial accounting does.
 - A major focus of managerial accounting is the preparation of the income statement, while a major focus of financial accounting is the preparation of the budget.
 - Managerial accounting tends to focus on relevant, subjective, and future-oriented information while financial accounting relies primarily on objective, reliable, and historical information.
- Which of the following statement(s) regarding the key management functions is true?
 - Planning involves setting long-term objectives and the short-term tactics necessary to achieve those objectives.
 - Implementing involves comparing actual results to planned objectives and making adjustments as necessary.
 - Controlling includes all of the operational decisions made to implement the plan.
 - All of the statements are true.

After you have finished, check your answers against the solutions in the margin.

as a wholesaler and then expanded into the retail market. Other well-known retailers include Walmart, Macy's, Bed Bath & Beyond, and Safeway.

- Service companies** provide a service to customers or clients. A few well-known service providers are Hilton Hotels, Southwest Airlines, Expedia.com, and Federal Express. Many small businesses provide services to consumers and other businesses, including hair salons, law firms, architects, and home repair specialists.

SPOTLIGHT ON Sustainability

While sustainability is most often associated with environmental initiatives, the triple bottom line should measure performance in three areas: economic (profit), environment (planet), and society (people). The third pillar (people) is often overlooked, but a truly sustainable business strategy should make social issues a priority as well. Toyota's sustainability strategy also includes measures of social impact, including the well-being of its employees and the surrounding communities in which the company operates. Toyota's people-focused sustainability initiatives include the following goals:

- Ensuring employee safety and well-being, including workplace safety and physical and mental health programs.
- Development of human resources through education, on-the-job-training, and programs to develop and promote local personnel.
- Fostering an environment of diversity and inclusion by increasing opportunities for women in the workforce and programs to help employees achieve an appropriate work/life balance.
- Creating a positive work environment, including programs to increase employee loyalty and a culture of teamwork through communication and friendly competition.

Toyota keeps track of various metrics to gauge performance toward all of these goals, just as they track measures of economic performance and environmental impact. These measures are reported in Toyota's annual corporate social responsibility (CSR) report and on the company website. Refer to Skills Development Case 4-5 for more details on how Toyota measures performance in all areas of sustainability (economic, environmental, and social).

www.toyota-global.com/sustainability/society/employees/#approach03

- Spotlight on Decision Making**—Good decision making is essential in business, whether you are preparing, using, or analyzing accounting information. Spotlight on Decision Making features use real-world examples to illustrate the relevance of accounting to decision making.
- Spotlight on Ethics**—Making ethical business decisions is more crucial than ever. Spotlight on Ethics features convey the importance of acting responsibly in business.
- Spotlight on Service**—The majority of today's students will graduate prepared to take a job in the country's ever-growing service sector. Spotlight on Service features describe how key managerial accounting topics are applied in service settings.
- Spotlight on Sustainability**—Sustainability is a growing area of concern for businesses. Spotlight on Sustainability features describe how and why managers in modern organizations make decisions based on more than economic results, including measures of environmental performance and societal impact.
- Spotlight on Big Data Analytics**—A topic that is becoming increasingly important to managers and accountants is the use of big data and analytics to help managers make more informed business decisions. At opportune places throughout this text we will highlight how managers in our focus company or other real-world organizations use big data and analytics to make managerial decisions.

Review and Practice Material Build a

Each chapter of *Managerial Accounting* is followed by an extensive variety of end-of-chapter material that examines and integrates concepts presented in the chapter.

“
The text is very well written and makes many of the difficult concepts accessible to students. . . .
The end of chapter material is also written at several levels and allows the instructor to mix and match learning objectives and difficulty levels to create challenging but informative assignments.

—Kristian Mortenson, Oregon State University

Demonstration Case

End-of-chapter review material begins with a demonstration case that provides another self-study opportunity for students. The demonstration case is practice material that mimics what students will see in the homework. The accompanying solution allows students to check their understanding of the material before completing and submitting homework for a grade. It can also serve as a study tool for exams.

REVIEW THE CHAPTER

DEMONSTRATION CASE

Barnaby's Bicycle Company manufactures high-quality mountain bikes. The company's managerial accountant has come to you for help. She needs to classify and identify each of the following costs before she can calculate the cost to produce each mountain bike.

Classify each of the costs listed in the chart below into three categories based on the following questions:

1. Can this cost be directly and conveniently traced to each bicycle that is manufactured, or is doing so either not possible or not worth the effort?
2. Is this cost related to manufacturing the bicycles? If so, what type of cost is it? Or is it a non-manufacturing or period expense?
3. Will the total cost vary with the number of bicycles manufactured and sold, or will it remain the same regardless of how many bikes are produced and sold?

184 CHAPTER 4 Activity-Based Costing and Cost Management

CHAPTER SUMMARY

LO 4-1 Assign indirect costs to products or services using a single volume-based cost driver.

- A traditional cost system assigns indirect (overhead) costs to products or services using a volume-based measure, such as the number of direct labor hours, machine hours, or units produced. This system, while simple, assumes that all indirect costs are driven by volume and ignores other factors, such as the complexity of the production process and other non-volume drivers of cost.
- Unlike traditional cost systems that rely strictly on volume-based allocation measures, activity-based costing (ABC) systems include measures that capture something other than the sheer volume of units produced or customers served.

Chapter Summary by Learning Objectives

Each chapter concludes with an end-of-chapter summary that revisits the learning objectives from the beginning of the chapter.

Key Terms

Each chapter includes a list of the key terms introduced in the chapter and page references for those terms. Full definitions for all key terms are found in the back of the text.

76 CHAPTER 2 Job Order Costing

KEY TERMS

<p>Actual Manufacturing Overhead p. 61</p> <p>Allocation Base p. 55</p> <p>Applied Manufacturing Overhead p. 58</p> <p>Cost Driver p. 55</p> <p>Cost of Goods Completed p. 63, 66</p> <p>Cost of Goods Manufactured p. 63</p> <p>Cost of Goods Sold p. 58</p>	<p>Direct Labor Time Ticket p. 54</p> <p>Finished Goods Inventory p. 58</p> <p>Indirect Materials p. 58</p> <p>Job Cost Sheet p. 53, 55</p> <p>Job Order Costing p. 51</p> <p>Materials Requisition Form p. 54</p> <p>Overapplied Overhead p. 64</p>	<p>Predetermined Overhead Rate p. 55</p> <p>Process Costing p. 50</p> <p>Raw Materials Inventory p. 58</p> <p>Source Document p. 53</p> <p>Underapplied Overhead p. 64</p> <p>Work in Process Inventory p. 58</p>
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Strong Foundation for Future Success

PRACTICE MATERIAL

QUESTIONS

- Briefly describe the differences between job order and process costing. Give an example of a type of company that would use each one.
- Briefly explain the underlying logic of a process costing system and its assignment of costs to products.
- Explain the differences between Raw Materials Inventory, Work in Process Inventory, and Finished Goods Inventory accounts.
- Explain the flow of costs in a process costing system, including the type of accounts used and the respective financial statement on which the cost appears.
- What are the five steps in preparing a weighted-average production report?
- Why is a production report important to a company?
- What is the difference between conversion cost and manufacturing overhead?
- What two methods can be used to prepare a process costing production report? What is the key difference between them?
- How is the number of physical units reconciled to prepare a production report?
- Why must a company calculate equivalent units when using process costing?
- How can a unit be 100 percent complete with respect to materials but only partially complete in terms of conversion effort?
- How do the weighted-average and the FIFO methods treat beginning inventory?
- Is the weighted-average method or FIFO method usually more accurate? Why?
- What are the steps in preparing a FIFO production report? Are they different from the steps to prepare a weighted-average production report?
- When are the weighted-average and FIFO methods likely to arrive at different estimates of product cost?
- What does a credit to the Work in Process Inventory account represent?
- What triggers the cost of manufacturing to be transferred from the balance sheet to the income statement?

MULTIPLE CHOICE

- Which of the following is most likely to use a process costing system?
 - A company that builds and installs custom cabinetry.
 - A company that makes one style of office chair.
 - A janitorial service.
 - A paving company.
- If Wilson Corp. has 450 units that are estimated to be 60 percent complete, how many equivalent units are there?
 - 270.
 - 100.
 - 210.
 - 450.
- Masterson Company has calculated a cost per unit of \$4.00

Questions

Each chapter includes 10–20 questions that ask students to explain and discuss terms and concepts from the chapter. These open-ended questions provide a great jumping off point for class discussion.

Multiple-Choice Questions

Each chapter includes 10 multiple-choice questions that let students practice basic concepts. Solutions for all questions are provided in the back of the text.

Mini-Exercises

Mini-exercises in each chapter illustrate and ask students to apply learning objectives from the chapter to a simple scenario.

78 CHAPTER 2 Job Order Costing

connect Find More Learning Solutions on Connect.

LO 2-1 **MINI-EXERCISES**

M2-1 Identifying Companies That Use Job Order versus Process Costing
Indicate whether each of the following companies is likely to use job order (J) or process costing (P).

- Golf ball manufacturer.
- Landscaping business.
- Tile manufacturer.
- Auto repair shop.
- Pet food manufacturer.
- Light bulb manufacturer.
- Water bottling company.
- Appliance repair business.
- DVD manufacturer.
- Music video production company.

LO 2-2 **M2-2 Identifying Source Document Information**
For each of the following items, indicate whether it would appear on a materials requisition form (MRF), a direct labor time ticket (DLTT), and/or a job cost sheet (JCS). Note: An item may appear on more than one document.

- Employee name.
- Quantity of direct materials used.
- Total dollar value of direct materials.

EXERCISES

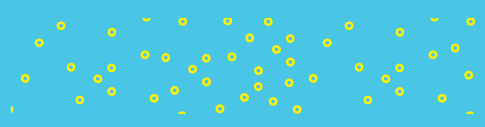
E2-1 Posting Direct Materials, Direct Labor, and Applied Overhead to T-Accounts, Calculating Ending Balances LO 2-2, 2-3, 2-4

Oak Creek Furniture Factory (OCFF), a custom furniture manufacturer, uses job order costing to track the cost of each customer order. On March 1, OCFF had two jobs in process with the following costs:

Work in Process	Balance on 3/1
Job 33	\$ 7,500
Job 34	6,000
	\$13,500

Exercises

Exercises illustrate and ask students to apply single and multiple learning objectives from the chapter. Animated, narrated Guided Examples that walk through a similar exercise in a step-by-step fashion are available for select exercises when enabled by instructors in Connect.



The Whitecotton/Libby/Phillips text is a well-written book . . . The text uses companies that students are familiar with to illustrate managerial accounting concepts. It provides a variety of end-of-chapter questions as well as check-points throughout the chapters for students to use to gauge their level of understanding.

—Holly Sudano, Florida State University

Problems (Groups A and B)

Each chapter includes two problem sets to help students develop decision-making skills. One set can be used in class and the other can be assigned for homework.

CHAPTER 2 Job Order Costing 95

GROUP A PROBLEMS

PA2-1 Recording Manufacturing and Nonmanufacturing Costs, Preparing the Cost of Goods Manufactured Report and Income Statement LO 2-3, 2-4, 2-5, 2-6

Lamonda Corp. uses a job order cost system. On April 1, the accounts had the following balances:

Raw Materials Inventory	Work in Process Inventory	Finished Goods Inventory
Bal. 25,000	Bal. 55,000	Bal. 60,000
	Manufacturing Overhead	Cost of Goods Sold
	Sales Revenue	Nonmanufacturing Expenses

The following transactions occurred during April:

- Purchased materials on account at a cost of \$136,000.
- Requisitioned materials at a cost of \$122,000, of which \$28,000 was for general factory use.
- Recorded unpaid factory labor of \$155,000, of which \$24,000 was indirect.
- Incurred other costs:

Level-Up Questions



In each chapter, particularly challenging questions, designated by the level-up icon, require students to combine multiple concepts to advance to the next level of accounting knowledge.

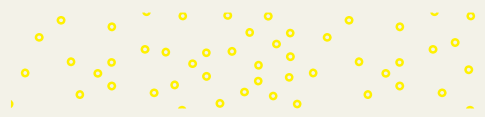
Sustainability Questions



In select chapters, questions, designated by the sustainability leaf icon, require students to apply the chapter concepts in a sustainability-related context so that they will understand how the managerial accounting system can be expanded to focus managers' attention on more than economic results, including the impact of their decisions on the environment and society.

Skills Development Cases

Select chapters offer a case that direct students to a web-based video about a real product or service. Students use the concepts they learned throughout the chapter to answer questions about the video, bringing the concepts to life. These cases help students develop critical thinking and communication skills, and allow for group discussions and projects.



What's New in the Fourth Edition?

In response to feedback and guidance from numerous managerial accounting faculty, the authors have made many important changes to the third edition of *Managerial Accounting*, including the following:

- Integrated new focus companies, including a house-flipping example (HGTV) and Levi Strauss & Co.
- Increased coverage of sustainability accounting and how the importance of three factors (people, profit, and planet) affect the triple bottom line, including adding a new Spotlight on Sustainability feature in select chapters.
- New Spotlight on Big Data and Analytics highlights topics relating to big data, data visualization, and data and business analytics.
- Edited each chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Added new mini-exercises and exercises to each chapter, including matching problems that cover key terms and definitions. This was based on instructor feedback that they want simple and short exercises to assign to students before they cover the material in class.
- New to Connect in the 4th edition, Concept Overview Videos teach each chapter's core learning objectives and concepts through an engaging multimedia presentation. These learning tools bring the text content to life through video, audio, and checkpoint questions that are graded for accuracy – ensuring students complete and fully comprehend the material. Concept Overview Videos harness the full power of technology to truly engage and appeal to all learning styles. COVs are ideal in all class formats—online, face-to-face or hybrid.

CHAPTER 1: INTRODUCTION TO MANAGERIAL ACCOUNTING

Focus Company: **California Pizza Kitchen**

- Updated statistics on the role of service and merchandising jobs, including a new exhibit which shows the dramatic trend in employment over the past 40 years. Added a section explaining why students need to know about manufacturing firms even if they are much more likely to go to work in a service or merchandising setting.
- Added a discussion of big data analytics, including definitions and examples of “big data” and the three different types of analytics.
- Added four **new** mini-exercises and three **new** exercises covering basic concepts in managerial accounting.
- Added a **new** skills development case describing how managers at **California Pizza Kitchen** used analytical techniques to better understand their consumption of energy expenses so that they could reduce spending and enhance their sustainability goals.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 2: JOB ORDER COSTING

New Focus Company: **HGTV**

- Updated the chapter focus company to be a house-flipping business, similar to the many TV shows students may be familiar with from HGTV.

- Simplified the exhibits showing the flow of manufacturing costs in job order costing to enhance students learning.
- Added five **new** mini-exercises and three **new** exercises covering basic concepts in job order costing.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 3: PROCESS COSTING

Focus Company: **Fetzer Vineyards**

- **New** Spotlight on Sustainability describing how **Fetzer** recently used **big data analytics** to track one of their key sustainability metrics and achieve an aggressive goal to reduce water consumption by 15 percent from 2015 to 2020.
- Added a numerical example to illustrate how subsequent departments would account for transferred-in costs in process costing.
- Added four **new** mini-exercises and three **new** exercises covering basic concepts in process costing.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 4: ACTIVITY-BASED COSTING AND COST MANAGEMENT

Focus Company: **Toyota Motor Company**

- Added six **new** mini-exercises and two new exercises, including four that apply activity based costing concepts to a **service setting**.

- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.
- Updated the skills development case describing Toyota's key sustainability metrics.

CHAPTER 5: COST BEHAVIOR

Focus Company: **Starbucks**

- Added definition and examples of discretionary and committed fixed costs.
- Simplified the supplement on variable versus absorption costing to enhance student understanding and learning of this challenging topic.
- Added three **new** mini-exercises and three **new** exercises covering basic concepts in cost behavior.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 6: COST-VOLUME-PROFIT ANALYSIS

Focus Company: **Starbucks**

- **New** Spotlight on Big Data Analytics describing how managers at Starbucks use big data analytics to improve the customer experience.
- Added three **new** mini-exercises and two **new** exercises covering basic concepts in cost-volume-profit analysis.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 7: INCREMENTAL ANALYSIS FOR SHORT-TERM DECISION MAKING

Focus Company: **IKEA**

- **New** Spotlight on Decision Making illustrating how incremental analysis relates to the current debate about whether the U.S. Postal Service is making or losing money by delivering products for Amazon and other high-volume sellers.
- Added two **new** mini-exercises, six **new** exercises, and two **new** problems covering incremental analysis.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 8: BUDGETARY PLANNING

New Focus Company: **Levi Strauss & Co.**

- Updated all chapter examples and exhibits illustrating how to prepare the master budget for a hypothetical division of Levi Strauss & Co.
- **New** Spotlight on Big Data Analytics describing how managers at Levi Strauss used technology and analytics to improve the customer experience, manage inventory, and improve operating efficiency.
- Added six **new** mini-exercises and three **new** exercises covering basic concepts in budgeting.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 9: STANDARD COSTING AND VARIANCES

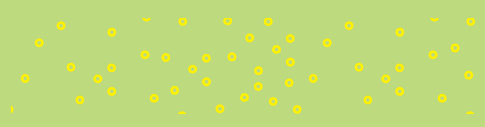
New Focus Company: **Levi Strauss & Co.**

- Updated all chapter examples and exhibits illustrating how to compute variances for a hypothetical division of Levi Strauss & Co.
- Added discussion of the differences between actual, normal and standard cost systems.
- Simplified the chapter supplement by covering journal entries for direct materials and direct labor variances only.
- Added two **new** mini-exercises and two **new** exercises covering basic concepts in variance analysis.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 10: DECENTRALIZED PERFORMANCE EVALUATION

Focus Company: **Apple**

- Updated Apple data, including operating information, business strategy and financial results.
- Updated transfer pricing example to reflect the estimated contribution margin and incremental profit earned on the transfer and sale of an Apple watch.
- Added one **new** mini-exercise and one **new** exercise covering basic concepts in performance evaluation.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.



CHAPTER 11: CAPITAL BUDGETING

Focus Company: **Apple**

- **New** introductory example describing how Edmunds.com uses the payback method to analyze the economic benefits of investing in a hybrid vehicle.
- Added one **new** mini-exercise and two **new** exercises covering basic concepts in capital budgeting.
- Edited chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 12: STATEMENT OF CASH FLOWS

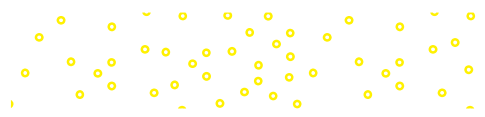
Focus Company: **Under Armour Inc.**

- Updated focus company illustrations.
- Reviewed and updated end-of-chapter material and solutions.

CHAPTER 13: MEASURING AND EVALUATING FINANCIAL PERFORMANCE

Focus Company: **Lowe's**

- Updated focus company analyses.
- Revised Exhibit 13.5 and related discussion to reflect changes made to all other chapters.
- Updated discussion to reflect FASB's going concern standards update.
- Reviewed and updated end-of-chapter material and solutions.





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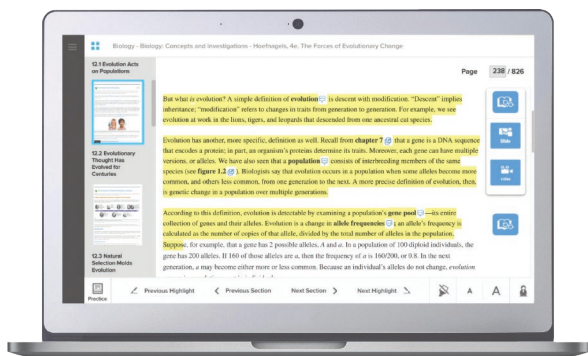
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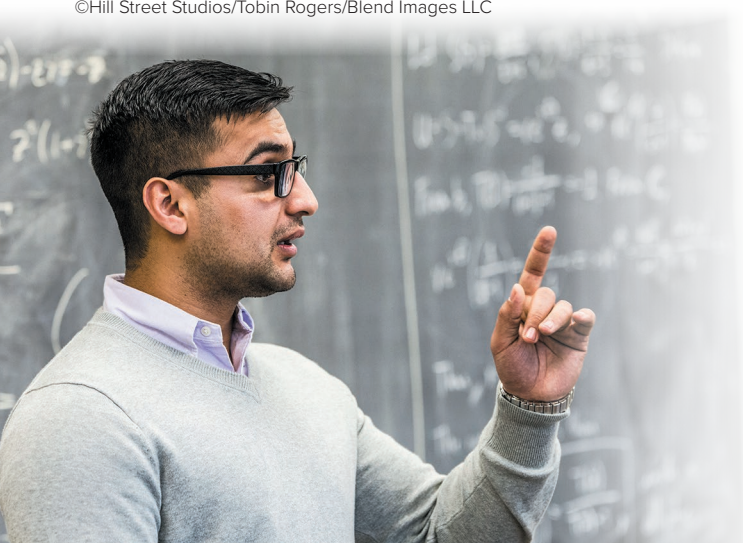
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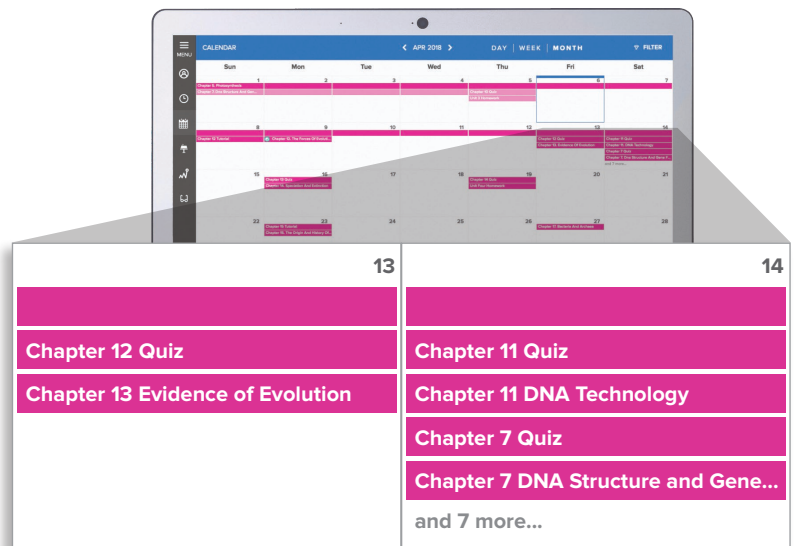
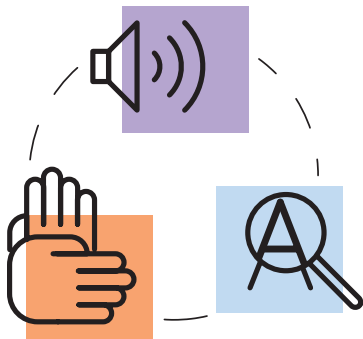
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Connect Accounting

Connect helps students learn more efficiently by providing feedback and practice material when they need it, where they need it. Connect grades homework automatically and gives immediate feedback on any questions students may have missed.

End-of-chapter questions in Connect include:

- Mini-Exercises
- Exercises
- Group A Problems

Oasis Company adds all materials at the beginning of its manufacturing process. Production information for selected months of the year follows:

Required:
1. Reconcile the number of physical units worked on during the period.

Month	Beginning Work in Process			Ending Work in Process		
	Units	Conversion	Units	Units	Units	Conversion
		Complete				Complete
February	3,000	50		38,000	13,000	30
June	8,400	75	46,600		8,000	45
September	1,800	20	52,800	50,000	4,600	60
December	5,800	30	44,000	42,800		70

Concept Overview Videos

New for this edition, the Concept Overview Videos cover each learning objective through narrated, animated presentations. Formerly Interactive Presentation, each Concept Overview Video has been enhanced for improved accessibility, and includes both the visual animations and transcript to accommodate all types of learners. The Concept Overview Videos also pause frequently to check for comprehension with assignable, auto-graded Knowledge Check questions.

Excel Simulations

Simulated Excel questions, assignable within Connect, allow students to practice their Excel skills—such as basic formulas and formatting—within the content of financial accounting. These questions feature animated, narrated Help and Show Me tutorials (when enabled), as well as automatic feedback and grading for both students and professors.

1. Compute a predetermined overhead rate.
2. Prepare schedules of cost of goods manufactured and cost of goods sold.
3. Compute underapplied or overapplied overhead cost to close the balance in Manufacturing Overhead to the appropriate accounts.

	Beginning	Ending
Inventories:		
Raw materials (all direct)	\$ 15,000	\$ 11,375
Work in process	\$ 27,875	\$ 22,350
Finished goods	\$ 34,600	\$ 26,450

21. 1. Compute applied overhead and determine the amount of underapplied or overapplied overhead:	
22. Actual manufacturing overhead cost	
23. Predetermined overhead rate	\$11.00
24. Actual direct labor hours	=B7/F25
25. Manufacturing overhead applied	

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Guided Examples

The Guided Examples in *Connect* provide a narrated, animated, step-by-step walkthrough of select exercises similar to those assigned. These short presentations can be turned on or off by instructors and provide reinforcement when students need it most.

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Editorial Review Panel

Dawn Addington, *Central New Mexico Community College*

Gilda Agacer, *Monmouth University*

Markus Ahrens, *Saint Louis Community College*

Thomas Arcuri, *Florida State College*

Kwadwo Asare, *Bryant University*

Jane Austin, *Oklahoma City University*

Vidya Awasthi, *Seattle University*

Jon Backman, *Spartanburg Community College*

Bala Balachandran, *New York University*

Scott Bartley, *Trident Technical College*

William Belski, *Samford University*

Amy Bentley, *Tallahassee Community College*

Phillip Blanchard, *University of Arizona*

Patrick Borja, *Citrus College*

Benoit Boyer, *Sacred Heart University*

Jeff Brennan, *Austin Community College*

Ann Brooks, *University of New Mexico*

Gay Lynn Brown, *Northwest Florida State College*

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Gene Elrod, *University of North Texas*

Emmanuel Emenyonu, *Southern Connecticut State University*

Diane Eure, *Texas State University—San Marcos*

Amanda Farmer, *University of Georgia*

Xiujun (Sue June) Farrier, *Tarrant County College*

Christos Fatouros, *Curry College*

Patti Fedje, *Minot State University*

Jerry Ferry, *University of Northern Alabama*

John Gabelman, *Columbus State Community College*

Mohamed Gaber, *State University of New York at Plattsburgh*

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Karen Geiger, *Arizona State University*

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Cindy Gruber, *Marquette University*

Meng Guo, *University of Texas-San Antonio*

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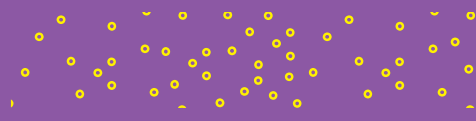
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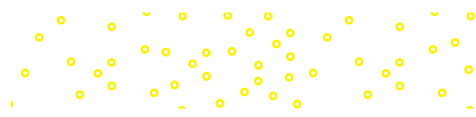
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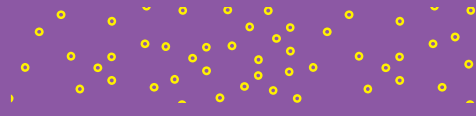
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Scott Lane, *Quinnipiac University*
Luke Lammer, *Loras College*
David E. Laurel, *South Texas College*
Ron Lazer, *University of Houston*
Chuo-Hsuan (Jason) Lee, *State University of New York at Plattsburgh*
Christy LeFevers, *Catawba Valley Community College*
Catherine Lubaski, *Southern Illinois University*
Joan Luft, *Michigan State University*
Catherine Lumbattis, *Southern Illinois University at Carbondale*
Jeanette Maier-Lytle, *University of Southern Indiana*
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Suzanne McCaffrey, *University of Mississippi*
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Brian McGuire, *University of Southern Indiana*
Shaen McMurtrie, *Northern Oklahoma College*
Pam Meyer, *University of Louisiana at Lafayette*

Earl Mitchell, *Santa Ana College*
Cathileen Montesarchio, *Broward Community College*
Arabian Morgan, *Orange Coast College*
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Matt Muller, *Adirondack Community College*
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Penelope Nall, *Limestone College*
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Vasant Raval, *Creighton University*
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Patti Roshto, *University of Louisiana at Monroe*
Luther Ross, *Central Piedmont Community College*
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Angela Sandberg, *Jacksonville State University*
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Christine Solomon, *Trident Technical College*
Charlene Spiceland, *University of Memphis*
Patrick Stegman, *College of Lake County*
Dean Steria, *State University of New York at Pittsburgh*
Jane Stoneback, *Central Connecticut State University*
Arlene Strawn, *Tallahassee Community College*
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Karen Sturm, *Loras College*
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James Sugden, *Orange Coast College*
Barbara Sumi, *Northwood University*
Ellen Sweatt, *Georgia Perimeter College*
Pavani Tallapally, *Slippery Rock University of Pennsylvania*
Diane Tanner, *University of North Florida*
Michael Tydlaska, *Mountain View College*
Linda Vaello, *University of Texas—San Antonio*
Joan Van Hise, *Fairfield University*
Jeff Varblow, *College of Lake County*





Kiran Verma, *University Massachusetts—Boston*
Sharon Walters, *Morehead State University*
Mary Ann Welden, *Wayne State University*
Anne Wessely, *Saint Louis Community College*
Jane Wiese, *Valencia Community College*
Blair A. William, *Slippery Rock University*
George Williams, *Bergen Community College*
Neil Wilner, *University of North Texas*
Joseph Winter, *Niagara University*
Jeffrey Wong, *University of Nevada at Reno*
Pete Woodlock, *Youngstown State University*
Jan Woods, *Appalachian State University*
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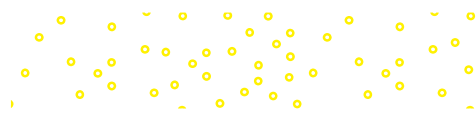
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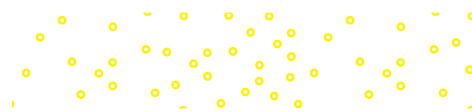
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Fourth Edition

Managerial **ACCOUNTING**

1

Introduction to Managerial Accounting

CHAPTER ONE

At the beginning of each chapter, you'll see a list of learning objectives that identify the key topics you need to master. You can also use the list as an outline for taking notes as you read through the chapter.

YOUR LEARNING OBJECTIVES

- LO 1-1** Describe the key differences between financial accounting and managerial accounting.
- LO 1-2** Describe how managerial accounting is used in different types of organizations to support the key functions of management.
- LO 1-3** Describe the importance of ethics, sustainability, and decision analytics in managerial accounting.
- LO 1-4** Define and give examples of different types of costs:
 - Out-of-pocket or opportunity costs
 - Direct or indirect costs
 - Variable or fixed costs
 - Manufacturing or nonmanufacturing costs
 - Product or period costs
 - Relevant or irrelevant costs



FOCUS COMPANY: CALIFORNIA PIZZA KITCHEN



As you start what is probably your second accounting course, you may be wondering why you need to take yet another accounting class. Wasn't one course enough? Which of the following best describes your motivation for learning about managerial accounting?

Top 10 Reasons to Take a Managerial Accounting Course

10. Accounting is truly interesting and exciting.
9. I always wanted to be an accountant when I grow up.
8. My advisor said I had to take it.
7. Accountants get good-paying jobs, even in the worst economy.
6. The accountant is always the hero in action movies.
5. I want to get rich and stay that way.
4. The rich guy always gets the girl in romance movies.
3. I want to start my own business and need to create a business plan.
2. Accounting will fulfill my foreign language requirement. (It's Greek to me.)
1. I'm enrolled in an accounting course???



Whatever your reason for taking this course, it will come in handy at some point in your future. This is true regardless of your intended career path, whether it is to start your own business, work for a large corporation, go into politics, work in health care, become a fashion designer, teach high school, work on a farm, or start a charitable foundation. Accounting is the language of business, and understanding it will help you make better business and personal decisions.

Throughout this book, you will see how managerial accounting is used by managers in real-world companies. Most of these companies sell a product or service that you encounter

everyday, like a cup of Starbucks coffee, your iPhone, or the pizza you may have for lunch. Let's begin with a company that put a new spin on pizza with innovative flavors like BBQ chicken and Thai peanut sauce.

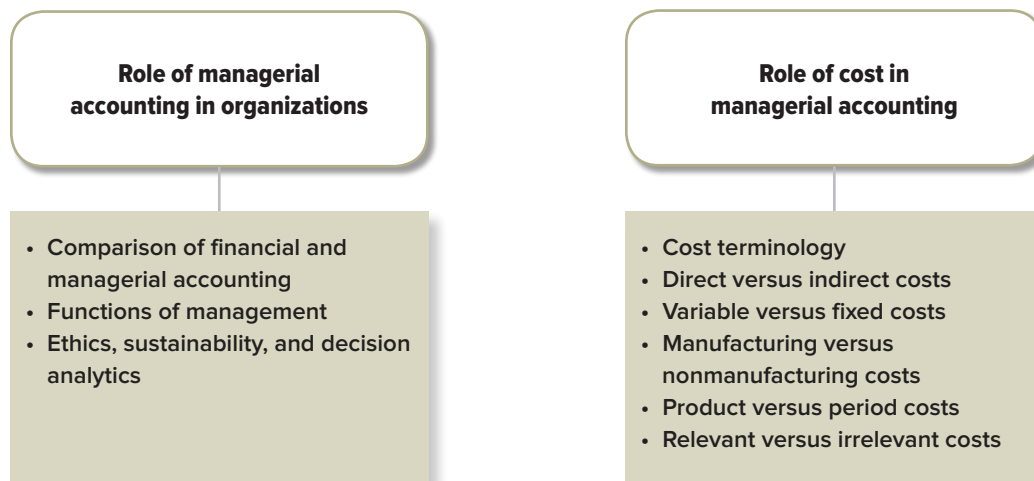
California Pizza Kitchen (CPK) was started in 1985 when two disillusioned attorneys, Larry Flax and Rick Rosenfield, decided to ditch their legal pads and open a restaurant in Beverly Hills, California. Their hearth-baked pizzas were an instant hit with an LA crowd seeking delicious and innovative food served in a casual but upscale setting. Since then, CPK has broadened its menu selection and expanded to more than 200 cities and 15 countries around the world. Today, you can enjoy one of CPK's delicious menu items in over 250 full-service restaurants; at CPK/ASAP "quick serve" stations in airports, universities, and sports arenas; or by purchasing a CPK pizza from the freezer of your local supermarket to bake at home.

As you read this chapter, try putting yourself in the shoes of one of the following managers:

- General manager responsible for the day-to-day operations of a CPK restaurant, including staffing, customer service, cost management, and compliance with Food and Drug Administration (FDA) regulations.
- Kitchen manager responsible for preparing delicious food while controlling the cost of ingredients and training the kitchen staff.
- Purchasing manager responsible for buying the freshest ingredients at the lowest possible cost, from both local and national suppliers.
- Regional manager responsible for the overall success of 25 CPK restaurants throughout the Pacific Northwest. Your annual performance evaluation is based on sales growth, profitability, and customer satisfaction.
- Senior executive responsible for expanding the CPK brand into new domestic and global markets.

Think about the types of decisions you would have to make in your chosen role and, most of all, the information you would need to make those decisions. Chances are that much of that information would come from the company's managerial accounting system.

ORGANIZATION OF THE CHAPTER



At the start of each chapter, you'll find an organizational graphic that provides a visual framework to show how the chapter concepts fit together.

Role of Managerial Accounting in Organizations

COMPARISON OF FINANCIAL AND MANAGERIAL ACCOUNTING

The primary goal of any accounting system is to capture, summarize, and report useful information to users so that they can make informed decisions. The key difference between financial accounting and managerial accounting is the intended user of the information. **Financial accounting** information is aimed at **external users**, or those outside the organization such as investors, creditors, and regulators. **Managerial accounting** information is aimed at **internal users**, or those working inside the organization, such as business owners, managers, and employees.

Because the intended users of the information are different, there are several other differences between financial and managerial accounting. Accountants prepare external financial statements according to generally accepted accounting principles (GAAP), which provide external users certain advantages in terms of their comparability and objectivity. However, internal managers often need more detailed information than those financial reports can capture. Managers need information that is timely and relevant to the specific decision at hand. Rather than knowing what happened last year or last quarter, managers need to know what is happening today and be able to predict what will happen tomorrow. See Exhibit 1–1 for a summary of the key differences between financial accounting and managerial accounting.

Learning Objective 1–1
Describe the key differences between financial accounting and managerial accounting.

COACH'S TIP

Financial accounting is sometimes referred to as **external** reporting while managerial accounting is referred to as **internal** reporting. The difference is whether the intended users are inside or outside the company.

Throughout this text, we will provide you with tips to highlight explanations of selected topics. Please read them carefully.

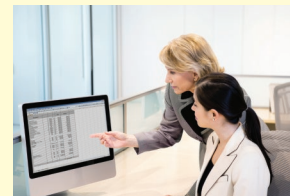
EXHIBIT 1–1

Differences between Financial and Managerial Accounting

Financial Accounting



Managerial Accounting



User perspective

Used by external parties, such as investors, creditors, and regulators

Used by internal parties, such as managers and employees

Types of reports

Classified financial statements prepared according to GAAP

Various internal reports, such as budgets, performance evaluations, and cost reports

Nature of information

Objective, reliable, historical

Subjective, relevant, future oriented

Frequency of reporting

Prepared periodically (monthly, quarterly, annually)

Prepared as needed, perhaps day-to-day or even in real time

Level of detail

Information reported for the company as a whole

Information reported at the decision-making level (by product, region, customer, or other business segment)

To illustrate these differences, let's return to **California Pizza Kitchen (CPK)**. Until 2011, CPK was a publicly traded company whose stock was traded on the NASDAQ stock exchange. The Securities and Exchange Commission (SEC) requires all publicly traded companies to file quarterly and annual reports that include an income statement, balance sheet, statement of cash flows, and disclosures about the accounting methods used to prepare the financial statements. These reports are publicly available to anyone with an interest in the company, including government regulators, financial analysts, and investors who are considering buying or selling stock in the company. The year-end financial statements of publicly traded companies must be audited by an independent accounting firm, such as **Ernst and Young** or **KPMG**, to determine whether the reports were prepared according to GAAP.

In 2011, CPK was acquired for \$470 million by **Golden Gate Capital**, a private-equity firm that owns other well-known restaurant chains, such as **On the Border**. Because it is now privately owned, CPK is no longer required to report its financial results to the SEC and the public at large. The last time that CPK released financial results to the public was in April of 2011, shortly before being bought by Golden Gate Capital. Although the external financial statements provide a glimpse into the company's financial performance, they are probably not that relevant to most of CPK's managers and employees who are more concerned about the day-to-day operations of the business than the corporate financial statements. The results reported in the external financial statements are generally most relevant to the C-suite executives (CEO, CFO, etc.) who are directly responsible for the financial performance of the company and who must answer to the firm's shareholders and board of directors.

The managerial accounting system, in contrast, provides the more detailed information that managers "behind the scenes" need to do their jobs. This internally oriented information is not publicly available and is often proprietary in nature. Even so, we can gain some insight into the internal accounting system by considering statements made by managers in the press releases that often accompany the external financial statements. For example, in their final press release before the buyout, co-CEOs Rick Rosenfield and Larry Flax stated that they would improve future shareholder value by focusing on "menu-optimization," "cost management at both the restaurant and corporate level," "shifting the sales mix to higher margin items," "expanding international locations," and introducing new menu offerings that are "in line with health and wellness trends."¹ If you think about the vast array of information that managers would need to achieve these broad objectives, you can get a sense for the types of information the managerial accounting system must provide.

To better understand how managerial accounting is used, we must consider the various functions that managers perform and what types of information they need to do their jobs.

FUNCTIONS OF MANAGEMENT

Regardless of the type and size of the organization they manage, all managers perform the same basic functions: Planning, Implementing, and Controlling. These functions are part of a continuous or ongoing cycle, called the Plan-Implement-Control cycle, as illustrated in Exhibit 1–2. Throughout this cycle, managers must make a variety of decisions, and the managerial accounting system must provide information to help them make those decisions.

- **Planning** is the future-oriented part of the management cycle. The first step in planning is to establish goals or objectives, along with the tactics that will be used to achieve those goals. Managers have to make a variety of "who, what, when, where, and how" decisions as they plan. For example: Who is my target customer? What product or service do they need and how much will they pay for it? Where and when will I provide the product and service? What resources will I need? Once managers know the answers to these questions, the next step is to create a **budget** that lays out the plan in monetary or financial terms. The budget helps managers organize their plan and ensure that they have the necessary resources to carry it out.
- **Implementing** means putting the plan into action. During the implementation phase, managers must lead, direct, and motivate others to achieve the objectives set in the

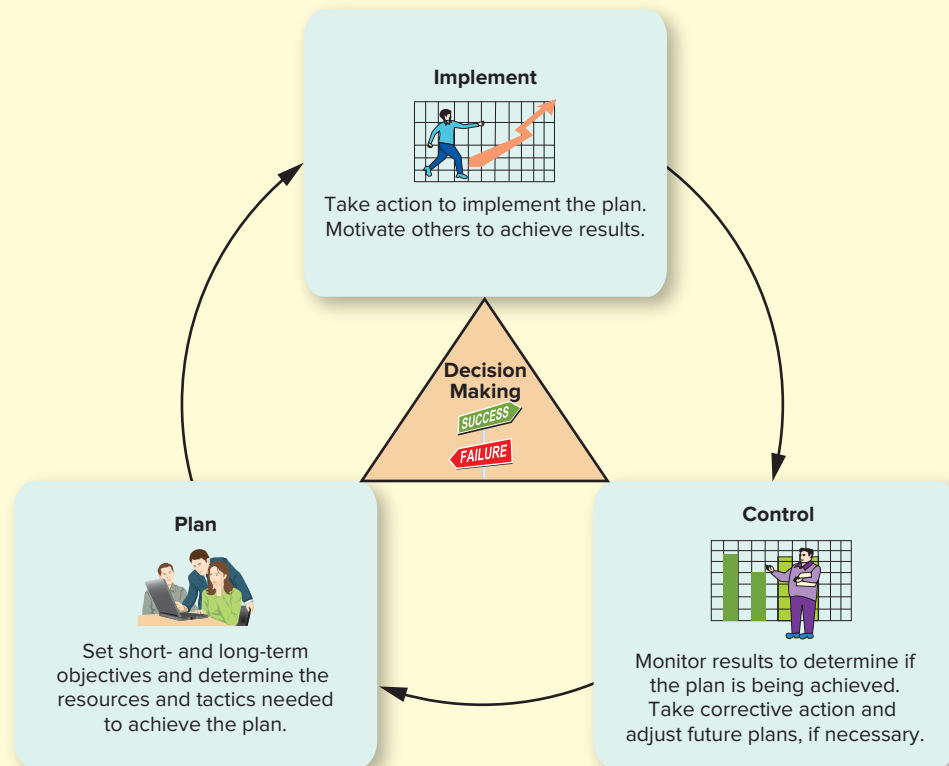
Learning Objective 1–2

Describe how managerial accounting is used in different types of organizations to support the key functions of management.

¹Press Release May 5, 2011: "California Pizza Kitchen Announces Financial Results for the First Quarter of 2011."

EXHIBIT 1-2

Plan-Implement-Control Cycle



planning stage. The decisions made during the implementation phase are sometimes called operational decisions. For example: Who should I purchase supplies from? When do I need them? How many employees should I hire? How much should I pay them? How do I train them? Again, the managerial accounting system should provide useful information to help managers answer these and other questions.

- **Controlling** is the final step in the management process. During the control phase, managers keep track of how they are doing and whether any actions must be taken to adjust the plan. The managerial accounting system plays a key role in helping managers measure and monitor the company's performance to see whether the planned objectives are being met. If not, managers may need to take corrective action to get back on track.

An easy way to think about the Plan-Implement-Control cycle is in terms of an air traffic control system. Before the flight, the pilot must file a flight **plan** that details when and where the plane will be flying. **Implementing** includes all of the actions the pilot takes to fly the plane. The pilot may fly the plane himself, or delegate it to a copilot. The **control** system includes the cockpit instruments the pilot uses to guide the plane, as well as the monitoring systems used by air traffic control. The goal of these control mechanisms is to make sure the plane does not deviate too far from the flight plan. When that happens, the system should provide a signal that the pilot needs to take corrective action.

To extend this analogy to the business world, managers are like pilots flying a plane and the managerial accounting system is the set of tools that help the pilot get the plane to its destination. The tools can be as simple as a report on a piece of paper, or as sophisticated as an information system that provides real-time data to managers on their handheld devices. These tools must provide timely, relevant, and accurate information to help managers do their jobs.

At **California Pizza Kitchen**, everyone from the kitchen manager to the CEO needs information to plan, implement, and control within their area of responsibility. Because the kitchen

manager will be making very different decisions than the CEO, the managerial accounting system must provide information for both day-to-day operational decisions and long-term strategic decisions.

In its last publicly released annual report, CPK provided the following statement of its overall strategic plan:

Our objective is to extend our leadership position in the restaurant and premium pizza market by selling innovative, high-quality pizzas . . . and related products and by providing exceptional customer service, thereby building a high degree of customer loyalty, brand awareness and superior returns for our stockholders. To reach these objectives, we plan to increase our market share by expanding our restaurant base in new and existing markets, leveraging our partnerships in nontraditional and retail channels and offering innovative menu items.²

As you can see, this high-level **plan** lays out the key factors that managers believe are important to the company's success—a high degree of customer loyalty, increased market share, and superior returns for stockholders. It also includes the tactics that managers will use to achieve these objectives—serve innovative food, provide excellent customer service, and expand into new and existing territories. One role of the managerial accounting system is to translate these goals into more specific and measurable objectives. For example, how will the company measure customer loyalty? What percentage increase in market share do managers want to achieve and in what time period? What is the target return on investment for shareholders?

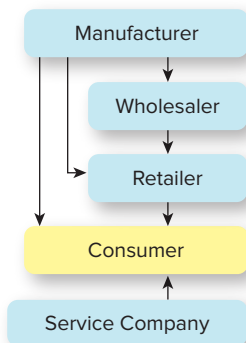
Once managers have determined the objectives they want to achieve, they begin to **implement** the plan by buying raw materials, hiring workers, negotiating with suppliers, advertising new menu items, and serving food to customers. They might also provide incentives to motivate workers to achieve specific objectives. For example, they might give restaurant managers bonuses or perks for meeting targeted sales goals for new menu items.

To **control** the business, managers monitor various metrics that are relevant to their area of responsibility. If these metrics fall below expectations, managers should take corrective action. In the last annual report, CPK managers noted that “we regularly review the sales mix of our menu items and replace lower selling items in each category with new menu items once or twice per year. Because of our ability to quickly adapt our menu, we believe that we are able to meet our customers' changing tastes and expectations.”³

As you can see, the managerial functions of planning, implementing, and controlling are interconnected. One function leads to another, and managers use feedback from the process to improve future decision making. Throughout, managers must make a variety of decisions and they need relevant, up-to-date information, including cost estimates, competitor pricing, market demand, and consumer preferences. Much of this information comes from the managerial accounting system.

Before we move on, try the Self-Study Practice to make sure you understand the major differences between financial and managerial accounting and the key functions of management.

Selling Goods and Services to Customers



Types of Organizations

Managerial accounting information is used by managers in all types of organizations: large and small, public and private, profit and nonprofit. Traditionally, businesses are classified into one of three categories:

- **Manufacturing firms** purchase raw materials from suppliers and convert them into finished products, such as **Apple** iPods, **Harley-Davidson** motorcycles, **Levi Strauss** jeans, and **Ford** cars and trucks.
- **Merchandising companies** sell the goods that manufacturers produce. Merchandisers that sell exclusively to other businesses are called **wholesalers**. Merchandisers that sell to the general public are called **retailers**. For example, **Sam's Club** started out

²California Pizza Kitchen, Inc., Annual Report for the fiscal year ended January 2, 2011, Form 10-K, United States Securities and Exchange Commission, filed March 17, 2011.

³Ibid.



How's it going?

Self-Study Practice

1. Which of the following statements best describes the difference between financial accounting and managerial accounting?
 - a. Managerial accounting targets external stakeholders while financial accounting targets individuals within the company.
 - b. Financial accounting relies more on subjective, future-oriented information than managerial accounting does.
 - c. A major focus of managerial accounting is the preparation of the income statement, while a major focus of financial accounting is the preparation of the budget.
 - d. Managerial accounting tends to focus on relevant, subjective, and future-oriented information while financial accounting relies primarily on objective, reliable, and historical information.
2. Which of the following statement(s) regarding the key management functions is true?
 - a. Planning involves setting long-term objectives and the short-term tactics necessary to achieve those objectives.
 - b. Implementing involves comparing actual results to planned objectives and making adjustments as necessary.
 - c. Controlling includes all of the operational decisions made to implement the plan.
 - d. All of the statements are true.

After you have finished, check your answers against the solutions in the margin.

The best way to know whether you are reading the chapter carefully enough is to see how well you do on a short exercise. Therefore, at important points throughout each chapter, you will find an exercise that will reinforce the concepts you have just learned and provide feedback on how well you learned them. We urge you not to skip these practices. When you are finished, check your answers against the solution below in the margin.

Solution to Self-Study Practice

1. d
2. a

as a wholesaler and then expanded into the retail market. Other well-known retailers include **Walmart**, **Macy's**, **Bed Bath & Beyond**, and **Safeway**.

- **Service companies** provide a service to customers or clients. A few well-known service providers are **Hilton Hotels**, **Southwest Airlines**, **Expedia.com**, and **Federal Express**. Many small businesses provide services to consumers and other businesses, including hair salons, law firms, architects, and home repair specialists.

Increasingly, the lines between manufacturing, merchandising, and service companies are becoming less clear. Many businesses, including **California Pizza Kitchen**, do not fall neatly into a single category. Some would consider CPK to be a service firm because it serves food to customers. Others would consider it a manufacturing company because it purchases raw materials (ingredients) and converts them into a finished product (a meal). And what about the frozen CPK pizzas that you can buy in your local supermarket? Those products are manufactured by **Nestlé**, which pays CPK a royalty fee (percentage of sales revenue) to use its recipes and brand.

As we will see in later chapters, the focus of managerial accounting is somewhat different in manufacturing firms than in merchandising and service firms. In the past, managerial accountants focused much of their efforts on preparing reports to keep track of the costs of raw materials, labor, and other costs incurred to produce a physical product. Today, nonmanufacturing firms make up an increasingly large proportion of the marketplace. In 2017, the U.S. government estimated that 80.2 percent of the nation's gross domestic product (GDP) stemmed from service activities.⁴ The following chart shows the trend in employment in goods-producing and service-providing industries over the past 40 years. As you can see, the number of employees working in service sector jobs has increased dramatically over the past 40 years, while the number of employees working in manufacturing jobs has remained relatively constant. Today, about 85 percent of the people employed in America work in nonmanufacturing fields such as health care, education, and retail, and the trend toward service industries is expected to continue.

⁴CIA, *The World Factbook*, <https://www.cia.gov/library/publications/resources/the-world-factbook/geos/us.html>.