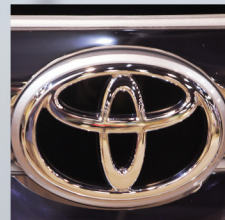


Managerial Accounting

Whitecotton | Libby | Phillips



Third Edition

Managerial **ACCOUNTING**

STACEY WHITECOTTON

Arizona State University

ROBERT LIBBY

Cornell University

FRED PHILLIPS

University of Saskatchewan



MANAGERIAL ACCOUNTING, THIRD EDITION

Published by McGraw-Hill Education, 2 Penn Plaza, New York, NY 10121. Copyright © 2017 by McGraw-Hill Education. All rights reserved. Printed in the United States of America. Previous editions © 2013 and 2011. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of McGraw-Hill Education, including, but not limited to, in any network or other electronic storage or transmission, or broadcast for distance learning.

Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 DOW/DOW1 0 9 8 7 6

ISBN 978-0-07-782648-2

MHID 0-07-782648-5

Senior Vice President, Products & Markets: *Kurt L. Strand*
Vice President, General Manager, Products & Markets: *Marty Lange*
Vice President, Content Design & Delivery: *Kimberly Meriwether David*
Managing Director: *Tim Vertovec*
Brand Manager: *Nichole Pullen*
Director, Product Development: *Rose Koos*
Director of Digital Content: *Patricia Plumb*
Lead Product Developer: *Kristine Tibbetts*
Senior Product Developer: *Rebecca Mann*
Marketing Manager: *Cheryl Osgood*
Senior Digital Product Analyst: *Xin Lin*
Director, Content Design & Delivery: *Linda Avenarius*
Program Manager: *Daryl Horrocks*
Lead Content Project Managers: *Pat Frederickson* and *Brian Nacik*
Buyer: *Sandy Ludovissy*
Design: *Matt Diamond*
Content Licensing Specialists: *Lori Slattery* and *Lori Hancock*
Cover Images: Starbucks cup: *Bloomberg/Getty Images*; Toyota: *Roberto Schmidt/Getty Images*;
Ikea: *Jung Yeon-Je/Getty Images*; Cold Stone: *Chris Weeks/Getty Images*; Apple: *Bloomberg/Getty Images*;
Office: *Imageflow/Shutterstock*
Compositor: *SPi Global*
Printer: *R. R. Donnelley*

All credits appearing on page or at the end of the book are considered to be an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Names: Whitecotton, Stacey, author. | Libby, Robert, author. | Phillips, Fred, author.
Title: Managerial accounting / Stacey Whitecotton, Arizona State University, Robert Libby, Cornell University, Fred Phillips, University of Saskatchewan.
Description: Third edition. | New York, NY : McGraw-Hill Education, [2017]
Identifiers: LCCN 2015043327 | ISBN 9780077826482 (alk. paper)
Subjects: LCSH: Managerial accounting.
Classification: LCC HF5657.4 .W495 2017 | DDC 658.15/11—dc23
LC record available at <http://lcn.loc.gov/2015043327>

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a website does not indicate an endorsement by the authors or McGraw-Hill Education, and McGraw-Hill Education does not guarantee the accuracy of the information presented at these sites.

Dedication

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

STACEY WHITCOTTON

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

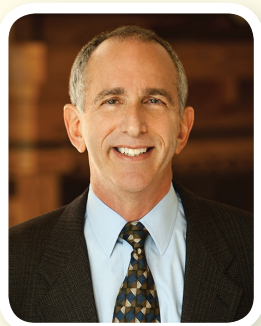


Stacey Whitecotton

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 and his MAS and PhD from the University of Illinois; he also successfully 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. He 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 and the editorial boards of *The Accounting Review* and *Accounting, Organizations, and Society*.

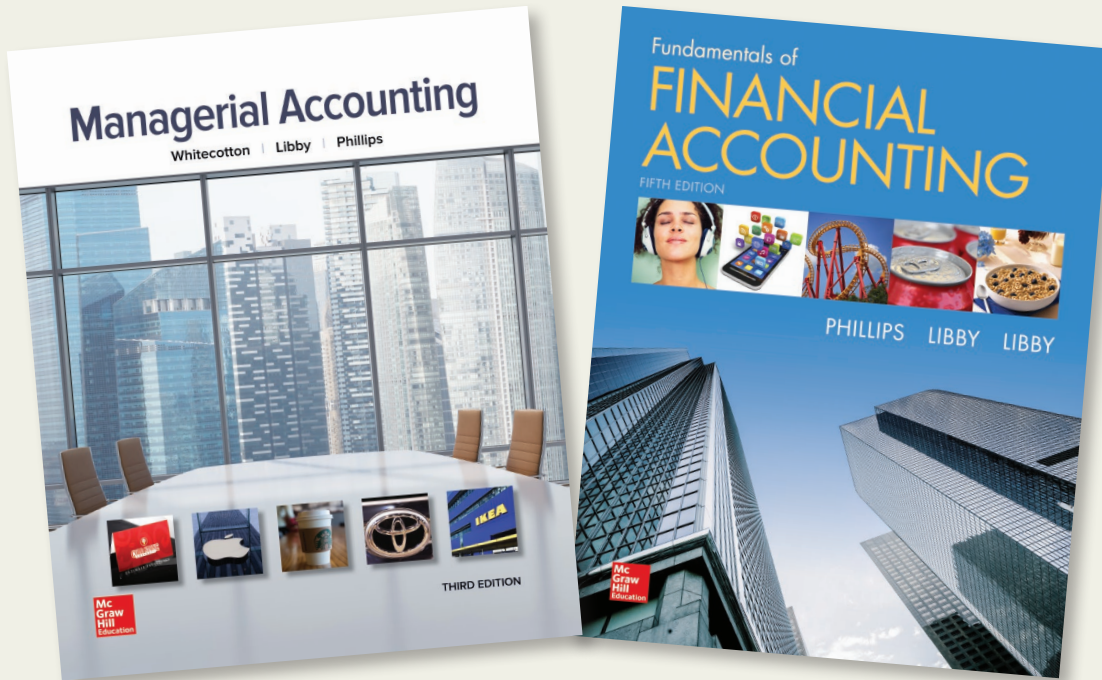
Fred Phillips

Fred Phillips is a professor and the George C. Baxter Scholar at the University of Saskatchewan, where he teaches introductory financial accounting. He also has taught introductory accounting at the University of Texas at Austin and the University of Manitoba. Fred has an undergraduate accounting degree, a CPA, and a PhD from the University of Texas at Austin. He previously worked as an audit manager at KPMG.

Fred's main career interest is accounting education. He has been recognized with more than 25 awards, as chosen by his students and peers. In 2006, Fred was awarded the title Master Teacher at the University of Saskatchewan. In 2011, he was admitted to the 3M National Teaching Fellowship, the highest honor for undergraduate teaching in Canada. In the same year, he won a national competition for an instructional case. In 2012, Fred received the L. S. Rosen Outstanding Educator Award, the American Accounting Association's Innovation in Auditing and Assurance Education Award, and the American Accounting Association's Award for Outstanding Research in Accounting Education. 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. Fred is a current member of the Teaching, Curriculum, & Learning and Two-Year College sections of the American Accounting Association. In his spare time, he likes to play tennis, drink iced cappuccinos, and relax with his family.



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*, 5e, 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

Chapter 7 Focus Company:
IKEA



© McGraw-Hill Education

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, California Pizza Kitchen, 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, Interactive Presentations, 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



© Chris Weeks/WireImage for Coldstone Creamery/Getty Images

Chapters 8 & 9 Focus Company: Cold Stone Creamery

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.

<p>CHAPTER 10 Decentralized Performance Evaluation</p>	
<p>YOUR LEARNING OBJECTIVES</p> <ul style="list-style-type: none"> 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. 	<p>FOCUS COMPANY: Apple Inc.</p> <p>There's an App for That www.apple.com</p> <p>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."¹</p> <p>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.</p> <p><small>¹Stephen Wozniak, "Remember How the Apple Came to Be," n.d., http://www.usatransics.org/dw/remember_and_how_the_apple_came_to_be/.</small></p>

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 **Spotlight on Sustainability** features that highlight how sustainability can affect how managers make decisions.

How's it going? Self-Study Practice

1. 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.

2. Which of the following statement(s) regarding the key management functions is (are) false? (You may select more than one answer.)

- 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 above.

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 in the margin.

Solutions to Self-Study Practices
1. d
2. handle one with three

COACH'S TIP
Do you think CPK is a manufacturing firm, a merchandising firm, or a service firm? Compare your answer to the discussion below.

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

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, 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. **New** 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.

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 on the following page 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?

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.

174

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. (p. 150)

- 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.

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.

CHAPTER 2 Job Order Costing

73

KEY TERMS

Actual Manufacturing Overhead p. 58	Direct Labor Time Ticket p. 49	Overapplied Overhead p. 60
Allocation Base p. 50	Finished Goods Inventory p. 53	Predetermined Overhead Rate p. 50
Cost Driver p. 50	Indirect Materials p. 53	Process Costing p. 45
Cost of Goods Completed p. 57	Job Cost Sheet p. 49	Raw Materials Inventory p. 53
Cost of Goods Manufactured p. 57	Job Order Costing p. 46	Underapplied Overhead p. 60
Cost of Goods Sold p. 53	Materials Requisition Form p. 48	Work in Process Inventory p. 53

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 for materials and \$8.50 for conversion to manufacture a

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.

MINI-EXERCISES 

M2-1 Identifying Companies That Use Job Order versus Process Costing LO 2-1


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.

M2-2 Identifying Source Document Information LO 2-2

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.
- Applied manufacturing overhead.
- Hours worked by an employee.

EXERCISES 

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

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.

What's New in the Third 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 **Fetzer Vinyards** and **IKEA**.
- 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.
- Edited each chapter to improve exposition and to clarify problem areas based on reviewer and student feedback.
- Reviewed and updated all end-of-chapter material, and enhanced material by adding:
 - New Sustainability questions and designations.

CHAPTER 1: INTRODUCTION TO MANAGERIAL ACCOUNTING

Focus Company: **California Pizza Kitchen**

- Added section on sustainability accounting, including a new diagram that shows the historical importance of the three factors in the triple bottom line (people, profit and planet).
- Updated the discussion and Exhibit 1.3 of functions of management to refer to PIC (Planning, Implementing and Control).
- 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 coach's tip explaining why they need to know about manufacturing firms even if they are much more likely to go to work in a service or merchandising setting.
- Simplified Exhibit 1.4 showing direct and indirect costs in real-world companies.
- **New** supplement highlighting careers that depend on accounting knowledge (from Phillips).
- Added two **new** discussion questions and one **new** exercise on basic sustainability principles.
- 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

Focus Company: **Toll Brothers**

- **New** spotlight on sustainability discussing sustainability issues in the construction industry.
- Added **new** exercise to illustrate how sustainability metrics can be incorporated into a job order cost system.
- 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 Vinyards**

- **New** focus company: Fetzer Vinyards.
- **New** Spotlight on Sustainability highlighting Fetzer's initiatives to reduce the amount of waste sent to landfills and the role of the accounting system is tracking sustainability metrics.
- Added **new** exercise to illustrate how Fetzer redesigned its bottling process to reduce the amount of glass used in each bottle, and how this improved the environmental and economic aspects of the triple bottom line.
- 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**

- **New** section on activity based management and sustainability, including a discussion of how an ABC system could be adapted to track sustainability metrics such as green house gas (GHG) emissions.
- **New** Spotlight on Sustainability highlighting some of Toyota's social-responsibility initiatives.
- **New** skills development case that involves identifying and measuring actual sustainability metrics from Toyota's corporate social responsibility and sustainability reports.
- 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 5: COST BEHAVIOR

Focus Company: **Starbucks**

- **New** Spotlight on Sustainability highlighting Starbuck's initiative to reduce the use of paper cups by encouraging customers to bring their own tumbler or mug.

- Added **new** exercise requiring students to predict how a sustainability initiative aimed at reducing variable costs would impact the contribution margin income statement.
- 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 Sustainability highlighting the growing area of social entrepreneurship and describing how cost-volume-profit analysis can be used to analyze the economics of launching a social venture such as Toms “one for one” program.
- Added two **new** problems requiring students to apply multi-product CVP to a social enterprise.
- 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** focus company: IKEA.
- All new examples applying incremental analysis to IKEA products and services.
- **New** comprehensive demonstration case.
- Added sustainability to the discussion of strategic factors managers should incorporate into their decision making framework.
- **New** Spotlight on Sustainability highlighting the Global Reporting Initiative’s (GRI) sustainability reporting standards and illustrating how select sustainability metrics could be factors into make-or-buy and keep-or-drop decisions.
- Added **new** requirement to two problems requiring students to analyze how a sustainability metric such as the percentage of spend from local suppliers would impact an outsourcing decision.
- 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

Focus Company: **Cold Stone Creamery**

- 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

Focus Company: **Cold Stone Creamery**

- 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.
- **New** Spotlight on Sustainability describing three ways to incorporate sustainability metrics into the balanced scorecard.
- Updated transfer pricing example for Apple iPad Air price and cost information.
- Added two **new** problems requiring students to classify sustainability metrics into the four dimensions of the balanced scorecard.
- 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** case example applying capital budgeting methods to sustainability investments when resources are limited.
- Added two **new** problems requiring students to apply the capital budgeting methods to sustainability decisions.
- 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.
- Final section of chapter illustrates user analyses that are possible with direct method but not indirect method presentation.
- Deleted spreadsheet approach, previously in chapter supplement.

- Revised demonstration cases to be more consistent with approaches illustrated in chapter.
- Reviewed and updated all end-of-chapter material.

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.

- **New** Spotlight on Decision Making to discuss impact of supply chain financing on current ratio.
- Updated discussion to reflect FASB's August 2014 going concern standards update.
- Reviewed and updated all end-of-chapter material.



McGraw-Hill Connect[®] Learn Without Limits

Connect is a teaching and learning platform that is proven to deliver better results for students and instructors.

Connect empowers students by continually adapting to deliver precisely what they need, when they need it, and how they need it, so your class time is more engaging and effective.

Course outcomes improve with Connect.



Using **Connect** improves passing rates by **10.8%** and retention by **16.4%**.

88% of instructors who use **Connect** require it; instructor satisfaction increases by 38% when **Connect** is required.

Analytics

Connect Insight[®]

Connect Insight is Connect's new one-of-a-kind visual analytics dashboard—now available for instructors—that provides at-a-glance information regarding student performance, which is immediately actionable. By presenting assignment, assessment, and topical performance results together with a time metric that is easily visible for aggregate or individual results, Connect Insight gives the user the ability to take a just-in-time approach to teaching and learning, which was never before available. Connect Insight presents data that helps instructors improve class performance in a way that is efficient and effective.

Connect helps students achieve better grades



Based on McGraw-Hill Education Connect Effectiveness Study 2013

Adaptive



THE FIRST AND ONLY
ADAPTIVE READING
EXPERIENCE DESIGNED
TO TRANSFORM THE
WAY STUDENTS READ

More students earn **A's** and **B's** when they use McGraw-Hill Education **Adaptive** products.

SmartBook®

Proven to help students improve grades and study more efficiently, SmartBook contains the same content within the print book, but actively tailors that content to the needs of the individual. SmartBook's adaptive technology provides precise, personalized instruction on what the student should do next, guiding the student to master and remember key concepts, targeting gaps in knowledge and offering customized feedback, and driving the student toward comprehension and retention of the subject matter. Available on smartphones and tablets, SmartBook puts learning at the student's fingertips—anywhere, anytime.

Over **4 billion** questions have been answered, making McGraw-Hill Education products more intelligent, reliable, and precise.

STUDENTS WANT

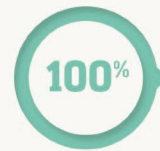
McGraw-Hill Education SMARTBOOK®



of students reported **SmartBook** to be a more effective way of reading material



of students want to use the Practice Quiz feature available within **SmartBook** to help them study



of students reported having reliable access to off-campus wifi



of students say they would purchase **SmartBook** over print alone



reported that **SmartBook** would impact their study skills in a positive way

Mc
Graw
Hill
Education

*Findings based on a 2015 focus group survey at Pellissippi State Community College administered by McGraw-Hill Education

Online Assignments

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	Transferred Out	Units	Conversion
		Complete (percent)				Complete (percent)
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

Interactive Presentations

The interactive presentations provide engaging narratives of all chapter learning objectives in an assignable, interactive online format. They follow the structure of the text and are organized to match the specific learning objectives within each chapter of *Managerial Accounting*. While the interactive presentations provide additional explanation and enhancement of material from the text chapter, allowing students to learn, study, and practice with instant feedback at their own pace.

NEW! 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.

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.

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

Use the data to answer the following.

1. Compute applied overhead and determine the amount of underapplied or overapplied overhead:

Actual manufacturing overhead cost	
Predetermined overhead rate	\$11.00
Actual direct labor hours	=B7*E23
Manufacturing overhead applied	

Attempts: 3/3

✓ MCGRAW-HILL CUSTOMER EXPERIENCE GROUP CONTACT INFORMATION

At McGraw-Hill Education, we understand that getting the most from new technology can be challenging. That's why our services don't stop after you purchase our products. You can contact our Product Specialists 24 hours a day to get product training online. Or you can search the knowledge bank of Frequently Asked Questions on our support website. For Customer Support, call **800-331-5094** or visit www.mhhe.com/support. One of our Technical Support Analysts will be able to assist you in a timely fashion.

Acknowledgments

Many dedicated instructors have devoted their time and effort to help us develop this text. We would like to acknowledge and thank all of our colleagues who helped guide our decisions. This text would not be what it is without the help of our contributors:

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*
Ann Brooks, *University of New Mexico*
Amy Browning, *Ivy Tech Community College*
Myra Bruegger, *Southeastern Community College*
Esther Bunn, *Stephen F. Austin State University*
Laurie Burney, *Mississippi State University*
Charlie Caliendo, *University of Minnesota-Minneapolis*
Dana Carpenter, *Madison Area Technical College*
Karin Caruso, *Southern New Hampshire University*
Nancy Cassidy, *University of Nebraska-Lincoln*
Chiaho Chang, *Montclair State University*
Chak-Tong Chau, *University of Houston-Downtown*
Darlene Coarts, *University of Northern Iowa*
Debora Constable, *Georgia Perimeter College—Dunwoody*
Robert Conway, *University of Wisconsin at Platteville*
Debra Cosgrove, *University of Nebraska*
Nancy Coulmas, *Bloomsburg University of Pennsylvania*
Cheryl Crespi, *Central Connecticut State University*
Kathy Crusto-Way, *Tarrant County College*
David Deeds, *University of Northern Iowa*
Elizabeth Devos, *University of Texas at El Paso*
Edward Douthett, *George Mason University*

Jan Duffy, *Iowa State University*
Dennis Elam, *Texas A&M—San Antonio*
Robert Ellison, *Texas State University-San Marcos*
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*
MaryElla Gainor, *Bryant University*
Deborah Garvin, *University of Florida at Gainesville*
Karen Geiger, *Arizona State University*
Thomas Grant, *Kutztown University of Pennsylvania*
Olen Greer, *Missouri State University*
Cindy Gruber, *Marquette University*
Theresa Hammond, *San Francisco State University*
Judith Harris, *Nova Southeastern University*
Candy Heino, *Anoka-Ramsey Community College*
David Henderson, *College of Charleston*
Margaret Hicks, *Howard University*
Rob Hochschild, *Ivy Tech Community College*
Mahmud Hossain, *University of Memphis*
Maggie Houston, *Wright State University*
Peggy Hughes, *Montclair State University*
Susan Hughes, *University of Vermont*
Audrey Hunter, *Broward College*
Laura Ilcisin, *University of Nebraska-Omaha*
John Illig, *State College of Florida*
Pamela Jackson, *Augusta State University*
Robyn Jarnagin, *Montana State University-Bozeman*
Iris Jenkel, *Saint Norbert College*
Carolyn Johnson, *Northern Oklahoma College*
Shondra Johnson, *Bradley University*
Jeffery Jones, *College of Southern Nevada*

Sandra Jordan, *Florida State College*
Celina Jozsi, *University of South Florida*
Jai Kang, *San Francisco State University*
Cindi Khanlarian, *University of North Carolina at Greensboro*
Mehmet Kocakulah, *University of Southern Indiana*
William Koprowski, *College of Charleston*
Tal Kroll, *Ozarks Technical Community College*
Cynthia Krom, *Marist College*
Wikil Kwak, *University of Nebraska-Omaha*
Scott Lane, *Quinnipiac University*
Luke Lammer, *Loras College*
Ron Lazer, *University of Houston*
Chuo-Hsuan (Jason) Lee, *State University of New York at Plattsburgh*
Catherine Lubaski, *Southern Illinois University*
Joan Luft, *Michigan State University*
Catherine Lumbattis, *Southern Illinois University at Carbondale*
Jeanette Maier-Lytle, *University of Southern Indiana*
Linda Marquis, *Northern Kentucky University*
Scott Martens, *University of Minnesota*
Angie Martin, *Tarrant County College*
Josephine Mathias, *Mercer County Community College*
Suzanne McCaffrey, *University of Mississippi*
Florence McGovern, *Bergen Community College*
Brian McGuire, *University of Southern Indiana*
Shaen McMutrie, *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*
Kristian Mortenson, *Oregon State University*
Matt Muller, *Adirondack Community College*
Gerald Myers, *Pacific Lutheran University*
Penelope Nall, *Limestone College*
Michael Newman, *University of Houston*
Emeka Ofobike, *University of Akron*
Susanna Pendergast, *Western Illinois University*
Jo Ann Pinto, *Montclair State University*
Ronald Premuroso, *University of Montana*
Jessica Rakow, *Louisiana State University*
Vasant Raval, *Creighton University*
Ronald Reed, *University Northern Colorado*
Gayle Richardson, *Bakersfield College*
Patti Roshto, *University of Louisiana at Monroe*

Luther Ross, *Central Piedmont Community College*
Martin Rudnick, *William Paterson University*
Angela Sandberg, *Jacksonville State University*
Michael Schusler, *Portland State University*
Randall Serrett, *University of Houston*
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*
Scott Stroher, *Glendale Community College*
Karen Sturm, *Loras College*
Holly Sudano, *Florida State University*
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*
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*
Janet Woods, *Macon State College*
John Woodward, *Polk State College*
Christian Wurst, *Temple University*
Myung Yoon, *Northeastern Illinois University*
Jeffrey Yost, *College of Charleston*
Ronald Zhao, *Monmouth University*

We are grateful to the following individuals who helped develop, critique, and shape the extensive ancillary package: Ann Brooks, *University of New Mexico*; Laura Ilcisin, *University of Nebraska at*

Omaha; Patti Lopez; Valencia College; Mark McCarthy, East Carolina University; Helen Roybark, Radford University; Debra Schmidt, Cerritos College; Jessica Weber; University of Nevada-Reno; and Beth Woods, Accuracy Counts.

Last, we thank the extraordinary efforts of a talented group of individuals at McGraw-Hill Education who made all of this come together. We would especially like to thank our managing director, Tim Vertovec; Nichole Pullen, our brand manager; Rebecca Mann,

our senior product developer; Pat Plumb, our director of digital content; Xin Lin, our digital product analyst; Cheryl Osgood, our marketing manager; Pat Frederickson and Brian Nacik, our lead content project managers; Matt Diamond, our senior designer; and Lori Slatery and Lori Hancock, our content licensing specialists.

Stacey Whitecotton

Robert Libby

Fred Phillips

BRIEF CONTENTS

CHAPTER 1	2	CHAPTER 10	420
Introduction to Managerial Accounting		Decentralized Performance Evaluation	
CHAPTER 2	42	CHAPTER 11	464
Job Order Costing		Capital Budgeting	
CHAPTER 3	102	CHAPTER 12	510
Process Costing		Statement of Cash Flows	
CHAPTER 4	146	CHAPTER 13	562
Activity-Based Costing and Cost Management		Measuring and Evaluating Financial Performance	
CHAPTER 5	196	GLOSSARY	597
Cost Behavior		CHECK FIGURES	605
CHAPTER 6	244	SOLUTIONS TO MULTIPLE-CHOICE QUESTIONS	609
Cost-Volume-Profit Analysis		BUSINESS INDEX	611
CHAPTER 7	288	SUBJECT INDEX	614
Incremental Analysis for Short-Term Decision Making			
CHAPTER 8	332		
Budgetary Planning			
CHAPTER 9	372		
Standard Costing and Variances			

CONTENTS

CHAPTER 1

Introduction to Managerial Accounting 2

FOCUS COMPANY: California Pizza Kitchen 3

Organization of the Chapter 4

Role of Managerial Accounting in Organizations 5

Comparison of Financial and Managerial Accounting 5

Functions of Management 6

Types of Organizations 8

Ethics and the Sarbanes-Oxley Act 10

Sustainability Accounting 12

Role of Cost in Managerial Accounting 14

Cost Terminology 14

Direct Versus Indirect Costs 15

Variable Versus Fixed Costs 17

Manufacturing Versus Nonmanufacturing Costs 19

Product Versus Period Costs 20

Relevant Versus Irrelevant Costs 20

[Review the Chapter](#) 23

[Practice Material](#) 26

CHAPTER 2

Job Order Costing 42

FOCUS COMPANY: Toll Brothers Inc. 43

Organization of the Chapter 44

Job Order versus Process Costing 44

Process Costing 45

Job Order Costing 46

Assign Manufacturing Costs to Jobs 47

Manufacturing Cost Categories 47

Materials Requisition Form 48

Direct Labor Time Tickets 49

Job Cost Sheet 49

Predetermined Overhead Rates 50

Record the Flow of Costs in Job Order Costing 53

Record the Purchase and Issue of Materials 54

Record Labor Costs 55

Record Applied Manufacturing Overhead 56

Transfer Costs to Finished Goods Inventory and Cost of Goods Sold 57

Record Actual Manufacturing Overhead 58

Record Nonmanufacturing Costs 59

Overapplied or Underapplied Manufacturing

Overhead 59

Calculate Overapplied and Underapplied Manufacturing Overhead 59

Dispose of Overapplied or Underapplied Manufacturing Overhead 60

Prepare the Cost of Goods Manufactured Report 62

Job Order Costing in a Service Firm 65

[Review the Chapter](#) 69

[Practice Material](#) 73

CHAPTER 3

Process Costing 102

FOCUS COMPANY: Fetzer Vineyards 103

Organization of the Chapter 104

Basic Concepts in Process Costing 104

Flow of Costs in Process Costing 105

Process Costing Production Report 106

Prepare the Production Report (Weighted-Average Method) 108

Step 1: Reconcile the Number of Physical Units 109

Step 2: Convert Physical Units into Equivalent Units 109

Step 3: Calculate Cost per Equivalent Unit 112

Step 4: Reconcile the Total Cost of Work in Process Inventory 113

Step 5: Prepare a Production Report 114

Accounting for Subsequent Production

Departments 114

[Review the Chapter](#) 126

[Practice Material](#) 131

CHAPTER 4

Activity-Based Costing and Cost Management 146

FOCUS COMPANY: Toyota Motor Corporation 147

Organization of the Chapter 149

Review of Volume-Based Cost Systems 150

Step 1: Determine the Cost Driver 150

Step 2: Calculate the Predetermined Overhead Rate 151

Step 3: Assign Indirect Costs to Individual Products or Services 151

Activity-Based Costing (ABC)	152
Step 1: Identify and Classify Activities	154
Step 2: Form Activity Cost Pools and Assign Indirect Costs to Each Pool	155
Step 3: Select a Cost Driver for Each Activity Cost Pool	156
Step 4: Assign Indirect Costs to Products or Services Based on Their Activity Demands	157
Activity-Based Costing in Service Industries	163
Cost Management Methods	166
Activity-Based Management (ABM)	166
Abm and Sustainability	167
Just-in-Time (JIT)	167
Total Quality Management (TQM)	169
Target Costing and Life Cycle Cost Management	170
Summary of ABC and ABM	171
Review the Chapter	172
Practice Material	175

CHAPTER 5

Cost Behavior	196
FOCUS COMPANY: Starbucks Coffee	197
<hr/>	
Organization of the Chapter	198
Cost Behavior Patterns	199
Relevant Range	199
Variable Costs	199
Fixed Costs	199
Step Costs	201
Mixed Costs	201
Estimate Cost Behavior	202
Linear Assumption	203
Scattergraph	204
High-Low Method	206
Least-Squares Regression Method	209
Summary of Linear Methods	211
Contribution Margin Approach	212
Unit Contribution Margin	213
Contribution Margin Ratio	214
Review the Chapter	220
Practice Material	223

CHAPTER 6

Cost-Volume-Profit Analysis	244
FOCUS COMPANY: Starbucks Coffee	245
<hr/>	
Organization of the Chapter	246
Cost-Volume-Profit Analysis	246
Assumptions of Cost-Volume-Profit Analysis	247
CVP Graph	247

Basic CVP Analysis	248
Profit Equation Method	249
Unit Contribution Margin Method	250
Contribution Margin Ratio Method	251
Apply Cost-Volume-Profit Analysis	253
Margin of Safety	253
CVP for Decision Making	254
Changes in Cost Structure	257
Degree of Operating Leverage	258
Multiproduct Cost-Volume-Profit Analysis	261
Weighted-Average Contribution Margin	261
Weighted-Average Contribution Margin Ratio	264
Review the Chapter	266
Practice Material	270

CHAPTER 7

Incremental Analysis for Short-Term Decision Making	288
FOCUS COMPANY: Ikea	289
<hr/>	
Organization of the Chapter	290
Managerial Decision-Making Framework	290
Steps in the Decision-Making Process	290
Relevant Versus Irrelevant Costs and Benefits	293
Opportunity Costs and Capacity Considerations	293
Special-Order Decisions	294
Make-or-Buy Decisions	298
Keep-or-Drop Decisions	300
Sell-or-Process-Further Decisions	303
Summary of Incremental Analysis	304
Prioritize Products with Constrained Resources	305
Review the Chapter	307
Practice Material	311

CHAPTER 8

Budgetary Planning	332
FOCUS COMPANY: Cold Stone Creamery	333
<hr/>	
Organization of the Chapter	334
Role of Budgets in Organizations	334
Planning and Control Cycle	334
Benefits of Budgeting	335
Behavioral Effects of Budgets	335
Components of the Master Budget	337
Prepare the Operating Budgets	339
Sales Budget	339
Production Budget	339

Raw Materials Purchases Budget	340
Direct Labor Budget	341
Manufacturing Overhead Budget	342
Budgeted Cost of Goods Sold	343
Selling and Administrative Expense Budget	343
Budgeted Income Statement	344

Prepare the Cash Budget and Merchandise

Purchases Budget	344
Budgeted Cash Receipts	345
Budgeted Cash Payments	346
Cash Budget	347
Budgeted Balance Sheet	349
Budgeting in Nonmanufacturing Firms	350

[Review the Chapter](#) 352

[Practice Material](#) 357

CHAPTER 9

Standard Costing and Variance Analysis 372

FOCUS COMPANY: Cold Stone Creamery 373

Organization of the Chapter 374

Standard Cost Systems 374

Ideal Versus Attainable Standards 374

Types of Standards 375

Standard Cost Card 375

Master Budget Versus Flexible Budget 376

Variance Analysis 378

Using the Flexible Budget to Compute Spending and Volume Variances 379

Variable Cost Variances 380

Direct Materials Variances 382

Direct Labor Variances 384

Variable Manufacturing Overhead Variances 386

Summary of Variable Cost Variances 389

Fixed Overhead Spending Variance 391

Fixed Overhead Volume Variance 392

[Review the Chapter](#) 399

[Practice Material](#) 403

CHAPTER 10

Decentralized Performance Evaluation 420

FOCUS COMPANY: Apple Inc. 421

Organization of the Chapter 422

Decentralization of Responsibility 422

Advantages and Disadvantages of
Decentralization 423

Types of Responsibility Centers 425

Designing a Performance Evaluation System 429

Balanced Scorecard 429

Financial Performance Measures 432

Limitations of Financial Performance Measures 440

Transfer Pricing 440

Market-Price Method 442

Cost-Based Method 442

Negotiation 443

[Review the Chapter](#) 444

[Practice Material](#) 447

CHAPTER 11

Capital Budgeting 464

FOCUS COMPANY: Apple Inc. 465

Organization of the Chapter 466

Capital Budgeting Process 466

Capital Investment Decisions 467

Accounting Rate of Return 468

Net Cash Flow Versus Net Income 469

Payback Period 470

Discounted Cash Flow Methods 472

Time Value of Money 472

Net Present Value 474

Internal Rate of Return 477

Profitability Index 479

Summary of Capital Budgeting Methods 479

Applying NPV and Sensitivity Analysis 481

Evaluating Mutually Exclusive Projects 481

Prioritizing Independent Projects 484

[Review the Chapter](#) 493

[Practice Material](#) 495

CHAPTER 12

Statement of Cash Flows 510

FOCUS COMPANY: Under Armour, Inc. 511

Organization of the Chapter 512

Understand the Business 512

Business Activities and Cash Flows 512

Classifying Cash Flows 513

Study the Accounting Methods 516

Relationship to other Financial Statements 516

Preparing the Statement of Cash Flows 517

Evaluate the Results 526

Evaluating Cash Flows 527

Operating Cash Flows Revisited (Direct Method) 529

[Review the Chapter](#) 536

[Practice Material](#) 540

CHAPTER 13**Measuring and Evaluating Financial Performance** 562**FOCUS COMPANY: Lowe's** 563

Organization of the Chapter 564

Understand the Business 564

Horizontal, Vertical, and Ratio Analyses 564

Study the Accounting Methods 565

Horizontal (Trend) Computations 565

Vertical (Common Size) Computations 565

Ratio Computations 568

Evaluate the Results 569

Interpreting Horizontal and Vertical Analyses 569

Interpreting Ratio Analyses 570

Underlying Accounting Decisions and Concepts 575

Review the Chapter 578

Practice Material 580

GLOSSARY 597**CHECK FIGURES** 605**SOLUTIONS TO MULTIPLE-CHOICE
QUESTIONS** 609**BUSINESS INDEX** 611**SUBJECT INDEX** 614

Third Edition

Managerial **ACCOUNTING**

Introduction to Managerial Accounting

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 role of ethics in managerial decision making, the Sarbanes-Oxley Act, and sustainability accounting.
- LO 1-4** Define and give examples of different types of cost:
 - 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



© Frazer Harrison/Getty Images for Los Angeles Magazine

FOCUS COMPANY: California Pizza Kitchen

From Legendary Pizza to a Global Brand

www.cpk.com

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 price, 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

Role of managerial accounting in organizations

- Comparison of financial and managerial accounting
- Functions of management
- Types of organizations
- Ethics and the Sarbanes-Oxley Act
- Sustainability accounting

Role of cost in managerial accounting

- Cost terminology
- Direct versus indirect costs
- Variable versus fixed costs
- Manufacturing versus nonmanufacturing costs
- Product versus period costs
- Relevant versus irrelevant costs

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

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.

Learning Objective 1-1

Describe the key differences between financial accounting and managerial accounting.

COMPARISON OF FINANCIAL AND MANAGERIAL ACCOUNTING

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.


 **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)

Left: © Andersen Ross/Brand X/Corbis; Right: © Robert Nicholas/Getty Images

To illustrate these differences, let's return to **California Pizza Kitchen (CPK)**. Until 2011, CPK was a publicly traded company whose stock was listed 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 generally considered to be 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 "new product introductions that are in line with health and wellness trends."¹ The managerial accounting systems needs to capture and report information to the managers who are responsible for achieving these more specific objectives.

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.

Learning Objective 1-2

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

FUNCTIONS OF MANAGEMENT

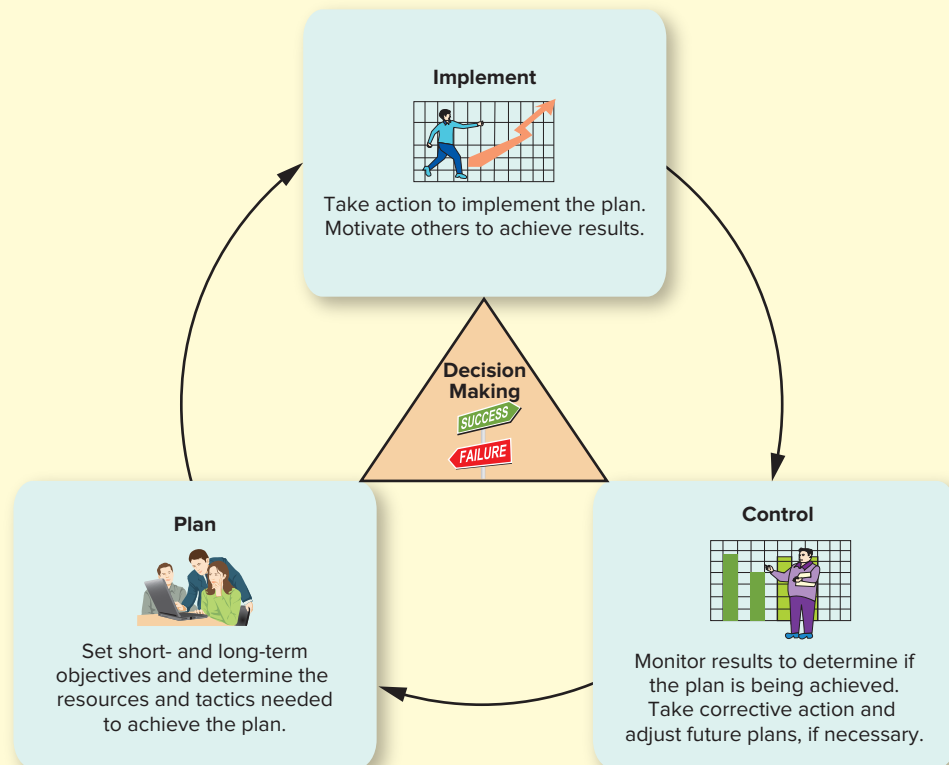
Regardless of the type and size of the organization they manage, all managers perform the same basic functions: Planning, Implementing, and Controlling. These functions are part of a continuous or ongoing cycle, called the Plan-Implement-Control cycle, as illustrated in Exhibit 1.2. Throughout this cycle, 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

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?

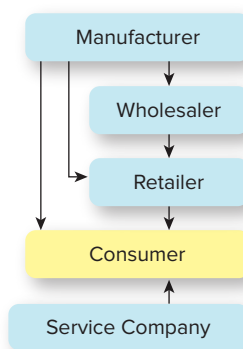
Once managers have determined the objectives they want to achieve, they begin to **implement** the plan by buying raw materials, hiring workers, negotiating with suppliers, advertising new menu items, and serving food to customers. They might also provide incentives to motivate workers to achieve specific 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 next 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 (are) false? (You may select more than one answer.)
 - 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 above.

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 in the margin.



Solution to Self-Study Practice
 1. d
 2. b and c are both false.

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 **Nestle**, which pays CPK a royalty fee (percentage of sales revenue) to use its recipes and brand.

The bottom line is that CPK is not a pure manufacturing or service company. Unlike a traditional manufacturing company, a restaurant does not have a large inventory of work in process or finished goods available for sale. But unlike a traditional service industry that provides **intangible** services, a restaurant produces a tangible product (that you can see, feel, and taste) and sells it directly to the end consumer.

Still, the distinction between these types of businesses is important because, 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 2011, the U.S. government



COACH'S TIP

Do you think CPK is a manufacturing firm, a merchandising firm, or a service firm? Compare your answer to the discussion below.