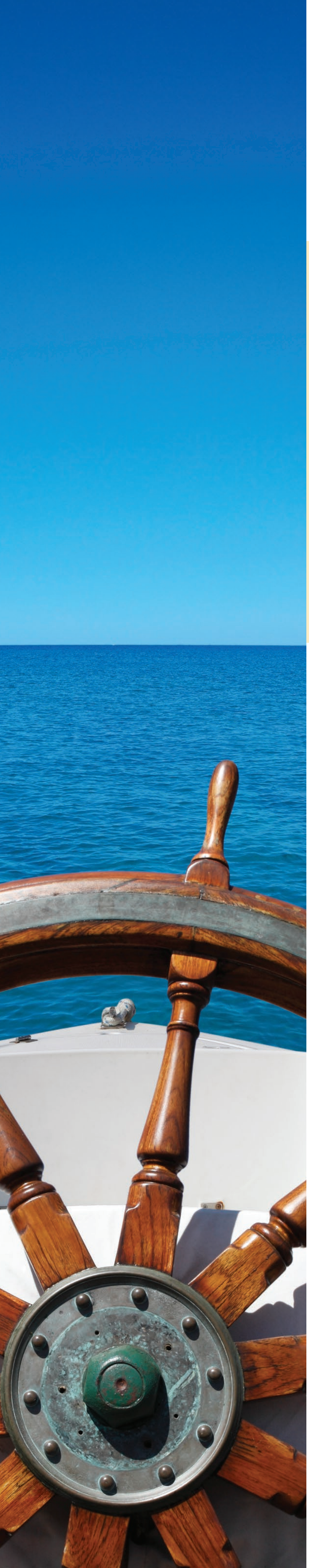
Noreen Brewer Garrison

Managerial Accounting for Managers

Fourth Edition

Mc Graw Hill Education



Managerial Accounting for Managers

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Fourth Edition

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About the Authors

Eric W. Noreen has held appointments at institutions in the United States, Europe, and Asia. He is emeritus professor of accounting at the University of Washington.

His BA degree is from the University of Washington and his MBA and PhD degrees are from Stanford University. A Certified Management Accountant, he was awarded a Certificate of Distinguished Performance by the Institute of Certified Management Accountants.

Professor Noreen has served as associate editor of *The Accounting Review* and the *Journal of Accounting and Economics.* He has numerous articles in academic journals, including the *Journal of Accounting Research; The Accounting Review;* the *Journal of Accounting and Economics; Accounting Horizons; Accounting, Organizations and Society; Contemporary Accounting Research;* the *Journal of Management Accounting Research;* and the *Review of Accounting Studies.* Professor Noreen has won a number of awards from students for his teaching.

In his spare time, Eric organizes and leads annual hut-to-hut hiking treks for friends in the Alps in Italy, Switzerland, and Austria. ■

Peter C. Brewer is a Lecturer in the Department of Accountancy at Wake Forest University. Prior to joining the faculty at Wake Forest, he was an accounting professor at Miami University for 19 years. He holds a BS degree in accounting from Penn State University, an MS degree in accounting from the University of Virginia, and a PhD from the University of Tennessee. He has published more than 40 articles in a variety of journals, including *Management Accounting Research;* the *Journal of Information Systems; Cost Management; Strategic Finance;* the *Journal of Accountancy; Issues in Accounting Education;* and the *Journal of Business Logistics.*

Professor Brewer is a member of the editorial board of the *Journal of Accounting Education* and has served on the editorial board of *Issues in Accounting Education.* His article "Putting Strategy into the Balanced Scorecard" won the 2003 International Federation of Accountants' Articles of Merit competition, and his articles "Using Six Sigma to Improve the Finance Function" and "Lean Accounting: What's It All About?" were awarded the Institute of Management Accountants' Lybrand Gold and Silver Medals in 2005 and 2006. He has received Miami University's Richard T. Farmer School of Business Teaching Excellence Award.

Prior to joining the faculty at Miami University, Professor Brewer was employed as an auditor for Touche Ross in the firm's Philadelphia office. He also worked as an internal audit manager for the Board of Pensions of the Presbyterian Church (USA).

Pete's recreational interests include fishing, bow hunting, golf, and gardening, He also enjoys biking with his wife spending quality time with his two daughters; and spoiling his two labrador retrievers, Genevieve and Sweet Baby. ■

Ray H. Garrison is emeritus professor of accounting at Brigham Young University, Provo, Utah. He received his BS and MS degrees from Brigham Young University and his DBA degree from Indiana University.

As a certified public accountant, Professor Garrison has been involved in management consulting work with both national and regional accounting firms. He has published articles in *The Accounting Review, Management Accounting,* and other professional journals. Innovation in the classroom has earned Professor Garrison the Karl G. Maeser Distinguished Teaching Award from Brigham Young University. ■

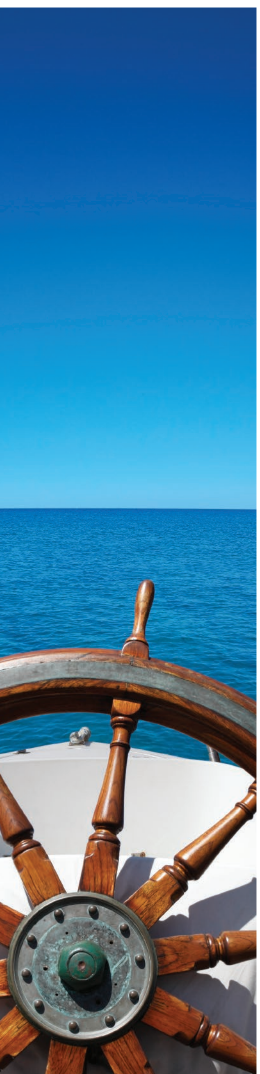
Dedication

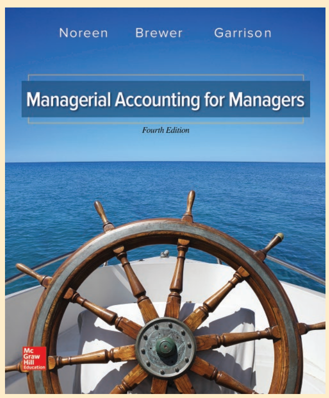
To our families and to our many colleagues who use this book.

—Eric W. Noreen, Peter C. Brewer, and Ray H. Garrison

Focus on the Future Manager

with Noreen/Brewer/Garrison





In ***Managerial Accounting for Managers,*** the authors have crafted a streamlined managerial accounting book that is perfect for non-accounting majors who intend to move into managerial positions. The traditional Process Costing, Statement of Cash Flows, and Financial Statement Analysis chapters have been dropped to enable instructors to **focus their attention on the bedrocks of managerial accounting**—planning, control, and decision making. Noreen/Brewer/Garrison focuses on the fundamentals, allowing students to develop the conceptual framework managers need to succeed.

In its fourth edition, *Managerial Accounting for Managers* continues to adhere to three core standards:

FOCUS. Noreen/Brewer/Garrison pinpoint the key managerial concepts students will need in their future careers. With no journal entries or financial accounting topics to worry about, students can focus on the fundamental principles of managerial accounting. The manager approach in Noreen allows students to develop the conceptual framework needed to succeed, with a focus on decision making and analytical skills.

RELEVANCE. Building student interest with its insightful Business Focus vignettes opening each chapter, current In Business examples throughout the text, and tried-and-true end-of-chapter material, students will always see the real-world applicability of Noreen/Brewer/Garrison.

BALANCE. There is more than one type of business, and so Noreen/Brewer/Garrison covers a variety of business models, including non-profit, retail, service, wholesale, and manufacturing organizations. Service company examples are highlighted with icons in the margins of the text.

"It's a very clear book with a healthy focus on decision making and service businesses. Great for non-majors."

—Mark Holtzman, Seton Hall University

"Very well-written and compatible with a user-based approach."

—Kay Poston, University of Indianapolis

"The best introductory management accounting book I have used. It is complete, concise, and written at a level beginning students can understand."

—Christine Haynes, University of West Georgia

New in the Fourth Edition

All Chapters

All chapters (except Chapter 1) have a new Foundational 15 feature.

Chapter 1

This chapter has a new section titled Managerial Accounting: Beyond the Numbers. It has expanded coverage of leadership skills and an expanded set of end-of-chapter exercises.

Chapter 2

The learning objective pertaining to direct and indirect costs has been moved to the front of the chapter to improve the students' ability to understand the material. Appendix 2A has been overhauled to simplify the explanation of how to use Microsoft Excel to perform least-squares regression analysis.

Chapter 3

The assumptions of CVP analysis have been moved from the end of the chapter to the beginning of the chapter. The target profit analysis and break-even analysis learning objectives have been reversed.

Chapter 4

This chapter has added Appendix 3A: Activity-Based Absorption Costing. This material was formerly Appendix 7B in the previous edition of the book. Moving this material to Chapter 3 offers instructors greater flexibility when determining how to cover activity-based costing.

Chapter 5

This chapter has added a new learning objective related to calculating companywide and segment break-even points for companies with traceable fixed costs. It has also added a new appendix related to super-variable costing.

Chapter 6

This chapter has added a new exhibit and accompanying text to better explain key concepts and terminology within the chapter.

Chapter 7

A section illustrating the meaning of a constraint has been added. Also, several new In Business boxes have been created.

Chapter 8

The learning objective pertaining to the payback period has been moved to the front of the chapter. Adopted a Microsoft Excel-based approach for depicting net present value calculations. Added a discussion of the behavioral implications of the simple rate of return method. Completely overhauled Appendix 8C so that students can more easily grasp the impact of income taxes on net present value analysis.

Chapter 9

We added new text and an exhibit to help students better understand how and why a master budget is created and how Microsoft Excel can be used to create a financial planning model that answers "what-if" questions. Two new end-of-chapter exercises that enable students to use Microsoft Excel to answer "what-if" questions have also been added.

Chapter 10

The discussion of the variance analysis cycle and management by exception have been moved into the front of this chapter. This material was previously included in the standard costing chapter. In response to customer feedback, we reversed the headings in the flexible budget performance report. The actual results are shown in the far-left column, and the planning budget is shown in the far-right column.

Chapter 11

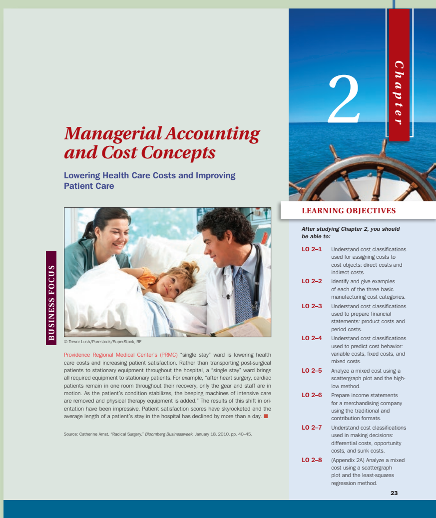
In response to customer feedback, we reversed the headings in the general model for standard cost variance analysis. The actual results (AQ × AP) are shown in the far-left column and the flexible budget (SQ × SP) is shown in the far-right column.

Chapter 12

This chapter a new Business Focus feature and two new In Business boxes were added.

Noreen's Powerful Pedagogy

Managerial Accounting for Managers is full of pedagogy designed to make studying productive and hassle-free.



Chapter 2

Managerial Accounting and Cost Concepts

Lowering Health Care Costs and Improving Patient Care

BUSINESS FOCUS

© Trevor Lush/Purestock/SuperStock, RF

Providence Regional Medical Center's (PRMC) "single stay" ward is lowering health care costs and increasing patient satisfaction. Rather than transporting post-surgical patients to stationary equipment throughout the hospital, a "single stay" ward brings all required equipment to stationary patients. For example, "after heart surgery, cardiac patients remain in one room throughout their recovery, only the gear and staff are in motion. As the patient's condition stabilizes, the beeping machines of intensive care are removed and physical therapy equipment is added." The results of this shift in orientation have been impressive. Patient satisfaction scores have skyrocketed and the average length of a patient's stay in the hospital has declined by more than a day. ■

Source: Catherine Arnst, "Radical Surgery," *Bloomberg Businessweek*, January 18, 2010, pp. 40–45.

LEARNING OBJECTIVES

After studying Chapter 2, you should be able to:

- LO 2–1 Understand cost classifications used for assigning costs to cost objects: direct costs and indirect costs.
- LO 2–2 Identify and give examples of each of the three basic manufacturing cost categories.
- LO 2–3 Understand cost classifications used to prepare financial statements: product costs and period costs.
- LO 2–4 Understand cost classifications used to predict cost behavior: variable costs, fixed costs, and mixed costs.
- LO 2–5 Analyze a mixed cost using a scattergraph plot and the high-low method.
- LO 2–6 Prepare income statements for a merchandising company using the traditional and contribution formats.
- LO 2–7 Understand cost classifications used in making decisions: differential costs, opportunity costs, and sunk costs.
- LO 2–8 (Appendix 2A) Analyze a mixed cost using a scattergraph plot and the least-squares regression method.

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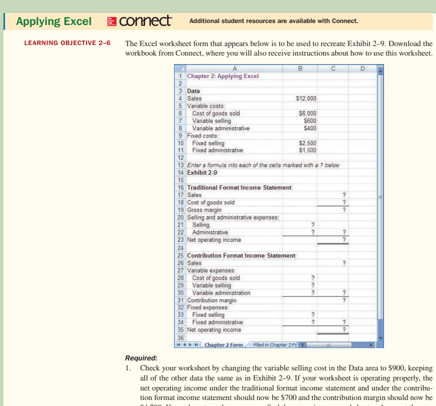
Opening Vignette

Each chapter opens with a **Business Focus** feature that provides a real-world example for students, allowing them to see how the chapter's information and insights apply to the world outside the classroom. **Learning Objectives** alert students to what they should expect as they progress through the chapter.

"Many concepts in accounting are rather abstract if not given some type of context to understand them in. The business focus features help to provide this context and can lead to discussions in class if the instructor wishes."

—Jeffrey Wong, University of Nevada, Reno



Applying Excel connect **Additional student resources are available with Connect.**

LEARNING OBJECTIVE 2–6 The Excel worksheet form that appears below is to be used to recreate Exhibit 2–9. Download the workbook from Connect, where you will also receive instructions about how to use this worksheet.

	A	B	C	D
1	Chapter 2: Applying Excel			
2				
3	Data			
4	Sales	$12,000		
5	Variable costs:			
6	Cost of goods sold	$6,000		
7	Variable selling	$600		
8	Variable administrative	$400		
9	Fixed costs:			
10	Fixed selling	$2,500		
11	Fixed administrative	$1,500		
12				
13	Enter a formula into each of the cells marked with a ? below			
14	Exhibit 2-9			
15				
16	Traditional Format Income Statement			
17	Sales		?	
18	Cost of goods sold		?	
19	Gross margin		?	
20	Selling and administrative expenses:			
21	Selling	?		
22	Administrative	?	?	
23	Net operating income		?	
24				
25	Contribution Format Income Statement			
26	Sales		?	
27	Variable expenses:			
28	Cost of goods sold	?		
29	Variable selling	?		
30	Variable administration	?	?	
31	Contribution margin		?	
32	Fixed expenses:			
33	Fixed selling	?		
34	Fixed administrative	?	?	
35	Net operating income		?	
36				

Chapter 2 Form / Filled in Chapter 2 F

Required:

1. Check your worksheet by changing the variable selling cost in the Data area to $900, keeping all of the other data the same as in Exhibit 2–9. If your worksheet is operating properly, the net operating income under the traditional format income statement and under the contribution format income statement should now be $700 and the contribution margin should now be $4,700. If you do not get these answers, find the errors in your worksheet and correct them.

Applying Excel

This exciting end-of-chapter feature **links the power of Excel with managerial accounting concepts** by illustrating how Excel functionality can be used to better understand accounting data. Applying Excel goes beyond plugging numbers into a template by providing students with an opportunity to build their own Excel worksheets and formulas. Students are then asked "what if" questions in which they analyze not only **how** related pieces of accounting data affect each other but **why** they do. Applying Excel immediately precedes the Exercises in eleven of the twelve chapters in the book and is also **integrated with Connect,** allowing students to practice their skills online with algorithmically generated datasets and to watch animated, narrated tutorials on how to use formulas in Excel.

"An excellent pedagogical feature that helps further reinforce students' knowledge of key concepts in the text book, while strengthening students' Excel skills that are so important in the work place."

—Marianne L. James, California State University, Los Angeles

"[Applying Excel is] an excellent way for students to programmatically develop spreadsheet skills without having to be taught spreadsheet techniques by the instructor. A significant associated benefit is that students gain more exposure to the dynamics of accounting information by working with what-if scenarios."

—Earl Godfrey, Gardner–Webb University

The Foundational 15

NEW to the fourth edition of Noreen!

Each chapter now contains one Foundational 15 exercise that includes 15 "building-block" questions related to one concise set of data. These exercises can be used for in-class discussion or as homework assignments. They are found before the Exercises and are available in **Connect.**

Additional student resources are available with Connect. connect **The Foundational 15**

LEARNING OBJECTIVES 2–1, 2–2, 2–3, 2–4, 2–6, 2–7

Martinez Company's relevant range of production is 7,500 units to 12,500 units. When it produces and sells 10,000 units, its unit costs are as follows:

	Amount Per Unit
Direct materials	$6.00
Direct labor	$3.50
Variable manufacturing overhead	$1.50
Fixed manufacturing overhead	$4.00
Fixed selling expense	$3.00
Fixed administrative expense	$2.00
Sales commissions	$1.00
Variable administrative expense	$0.50

In Business Boxes

These helpful boxed features offer a glimpse into how real companies use the managerial accounting concepts discussed within the chapter. Each chapter contains from three to fourteen of these current examples.

IN BUSINESS

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FOOD PRICES HIT RECORD HIGHS FOR RESTAURANTS

Direct material costs are critically important to restaurants and fast-food chains. In recent years, some food costs have spiked to record highs. For example, unexpected freezing temperatures in the southwestern portion of the United States caused the cost of lettuce to increase 290%. Similarly, the costs of green peppers, tomatoes, and cucumbers jumped 145%, 85%, and 30%, respectively. A large chain such as Subway can withstand these price increases better than smaller competitors because of its buying power and long-term contracts.

Source: Anne VanderMey, "Food For Thought," *Fortune*, May 9, 2011, p. 12.

"I love these. Again, a connection to the real world that adds credence to the course."

—Larry N.Bitner, Shippensburg University

Managerial Accounting in Action Vignettes

These vignettes depict cross-functional teams working together in real-life settings. Using products and services students recognize from their own lives increases engagement and enhances problem-solving skills. Students are shown step-by-step how accounting concepts are implemented in organizations and how these concepts are applied to solve everyday business problems. First, "The Issue" is introduced through a dialogue; the student then walks through the implementation process; finally, "The Wrap-up" summarizes the big picture.

Job-Order Costing—An Example

To introduce job-order costing, we will follow a specific job as it progresses through the manufacturing process. This job consists of two experimental couplings that Yost Precision Machining has agreed to produce for Loops Unlimited, a manufacturer of roller coasters. Couplings connect the cars on the roller coaster and are a critical component in the performance and safety of the ride. Before we begin our discussion, recall from a previous chapter that companies generally classify manufacturing costs into three broad categories: (1) direct materials, (2) direct labor, and (3) manufacturing overhead. As we study the operation of a job-order costing system, we will see how each of these three types of costs is recorded and accumulated.

MANAGERIAL ACCOUNTING IN ACTION
The Issue

YOST Precision Machining

Yost Precision Machining is a small company in Michigan that specializes in fabricating precision metal parts that are used in a variety of applications ranging from deep-sea exploration vehicles to the inertial triggers in automobile air bags. The company's top managers gather every morning at 8:00 A.M. in the company's conference room for the daily planning meeting. Attending the meeting this morning are: Jean Yost, the company's president; David Cheung, the marketing manager; Debbie Turner, the production manager; and Marc White, the company controller. The president opened the meeting:

Jean: The production schedule indicates we'll be starting Job 2B47 today. Isn't that the special order for experimental couplings, David?

David: That's right. That's the order from Loops Unlimited for two couplings for their new roller coaster ride for Magic Mountain.

Debbie: Why only two couplings? Don't they need a coupling for every car?

David: Yes. But this is a completely new roller coaster. The cars will go faster and will be subjected to more twists, turns, drops, and loops than on any other existing roller coaster. To hold up under these stresses, Loops Unlimited's engineers completely

"This element is exceptional. The situations truly reflect real life issues business people would face—not just "textbook" manufactured examples that always have black-and-white answers."

—Ann E. Selk, University of Wisconsin–Green Bay

Applying Excel connect Additional student resources are available with Connect.

LEARNING OBJECTIVES 4–1, 4–2, 4–4

The Excel worksheet form that appears below will reinforce your ability to compute underapplied and overapplied overhead. It is based on the data pertaining to Turbo Crafters Company that was discussed earlier in the chapter. Download the workbook from Connect, where you will also receive instructions about how to use this worksheet.

Exercises connect Additional student resources are available with Connect.

EXERCISE 4–1 Compute the Predetermined Overhead Rate [LO4–1]
Logan Products computes its predetermined overhead rate annually on the basis of direct labor-hours. At the beginning of the year, it estimated that 40,000 direct labor-hours would be required for the period's estimated level of production. The company also estimated $466,000 of fixed manufacturing overhead expenses for the coming period and variable manufacturing overhead of

Problems connect Additional student resources are available with Connect.

PROBLEM 3–19 Break-Even Analysis; Pricing [LO3–1, LO3–4, LO3–5]
Minden Company introduced a new product last year for which it is trying to find an optimal selling price. Marketing studies suggest that the company can increase sales by 5,000 units for each $2 reduction in the selling price. The company's present selling price is $70 per unit, and variable expenses are $40 per unit. Fixed expenses are $540,000 per year. The present annual sales volume

Cases connect Additional student resources are available with Connect.

CASE 3–32 Break-Evens for Individual Products in a Multiproduct Company [LO3–5, LO3–9]
Cheryl Montoya picked up the phone and called her boss, Wes Chan, the vice president of marketing at Piedmont Fasteners Corporation: "Wes, I'm not sure how to go about answering the questions that came up at the meeting with the president yesterday."
"What's the problem?"

End-of-Chapter Material

Building on Garrison/Noreen/Brewer's reputation for having the best end-of-chapter review and discussion material of any text on the market, Noreen's problem and case material continues to conform to AACSB recommendations and makes a great starting point for class discussions and group projects.

Applying Excel integrates key course concepts and Excel—a software students will encounter in the workplace, whether they go into accounting or any other business major. With Applying Excel, students not only gain practice working with Excel software, they also learn how Excel can be used to present accounting data and how that data is interrelated.

"The problem material is still the best I can find."

—Noel McKeon, Florida State College–Jacksonville

"The teaching supplementary materials are excellent for new professors as well as seasoned professors."

—Terence Pitre, University of St. Thomas

Author-Written Supplements

Unlike other managerial accounting texts, the book's authors write all of the major supplements, ensuring a perfect fit between text and supplements. For more information on ***Managerial Accounting for Managers'*** supplements package.

- Instructor's Resource Guide
- Test Bank
- Solutions Manual

Utilizing the Icons

To reflect our service-based economy, the text is replete with examples from service-based businesses. A helpful icon distinguishes service-related examples in the text.

Ethics assignments and examples serve as a reminder that good conduct is vital in business. Icons call out content that relates to ethical behavior for students.

The writing icon denotes problems that require students to use critical thinking as well as writing skills to explain their decisions.

The IFRS icon highlights content that may be affected by the impending change to IFRS and possible convergence between U.S. GAAP and IFRS.

"I strongly recommend this book to colleagues [for the] introductory course in managerial accounting. It fits students without a background in managerial accounting. It is the best textbook in managerial accounting."

—Yousef Jahmani, Savannah State University

"Excellent, comprehensive book. Easy for students to read and understand."

—Sandy Copa, North Hennepin College

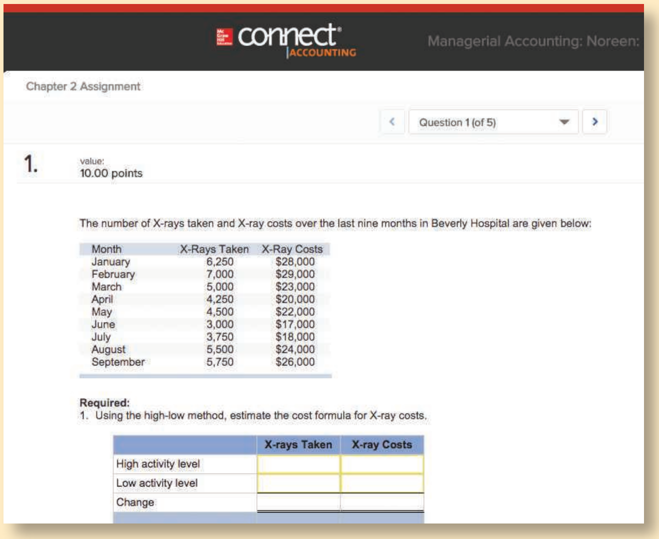
"Students can easily understand the book. [Noreen] covers all the pertinent topics needed in Managerial Accounting in a concise, easy to understand format."

—Linda Malgeri, Kennesaw State University

A Market-Leading Book Deserves

Education is changing . . . and so are we.

McGraw-Hill's Connect is a digital teaching and learning environment that support student's skills in the classroom and beyond. With Connect, instructors use technology to enhance learning by delivering interactive assignments, quizzes, and tests easily online. Connect digital assets focus on concepts, application, and assessment. Students can practice important skills at their own pace and on their own schedule.



Online Assignments

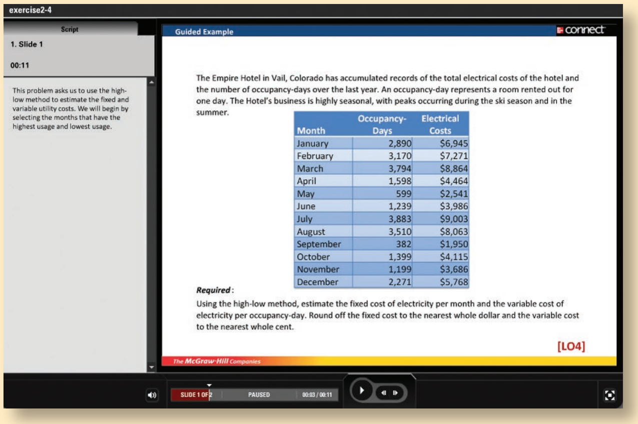
Connect helps students learn more efficiently by providing feedback and practice material when and where they need it. Connect grades homework automatically, and students benefit from the immediate feedback that they receive, particularly on any questions they may have missed. Furthermore, algorithmic questions provide students with unlimited opportunities for practice.

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.

Interactive Presentations

Interactive Presentations, assignable by individual learning objective within Connect, teach the core concepts of the text in an animated, narrated, and interactive multimedia format, bringing the key concepts of the course to life—particularly helpful for online courses and for those audio and visual learners who struggle reading the textbook page by page.



Guided Examples

Guided Examples, available as hints within Connect when enabled by the instructor, provide a narrated, animated, step-by-step walkthrough of select exercises similar to those assigned. These short presentations provide reinforcement when students need it most.

Market-Leading Technology

Less Managing. More Teaching. Greater Learning.

Connect offers a number of powerful tools and features to make managing assignments easier, so faculty can spend more time teaching. With *Connect,* students can engage with their coursework anytime, anywhere, making the learning process more accessible and efficient. Please see the previous page for a description of the student tools available within *Connect.*

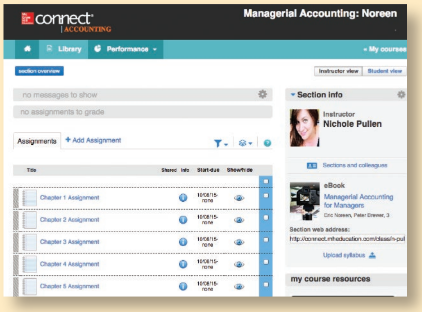
connect *Connect* for Instructors

Simple Assignment Management and Smart Grading. With *Connect,* creating assignments is easier than ever, so you can spend more time teaching and less time managing. *Connect* enables you to:

- Create and deliver assignments and assessments easily with selectable static and algorithmic end-of-chapter questions and test bank items.
- Go paperless with online submission and grading of student assignments and by sharing notes through the media-rich eBook.
- Have assignments scored automatically, giving students immediate feedback on their work and comparisons with correct answers and explanations.
- Reinforce classroom concepts by assigning Guided Examples, LearnSmart modules, and Interactive Presentations.

Instructor Library

The *Connect* Instructor Library is your repository for additional resources to improve student engagement in and out of class. You can select and use any asset that enhances your lecture. The *Connect* Instructor Library includes access to the textbook's Solutions Manual, Test Bank, Instructor PowerPoint® Slides, Instructor's Resource Guide, Applying Excel Solutions, Sample Syllabus, and Media-rich eBook.



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- A powerful search function to pinpoint and connect key concepts in a snap.
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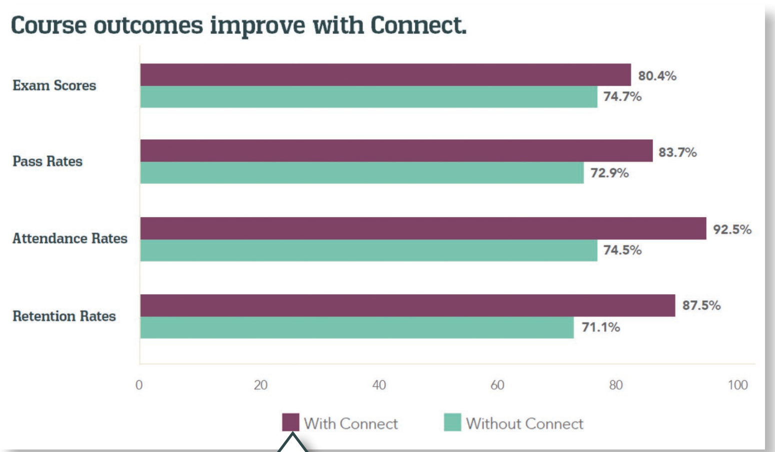

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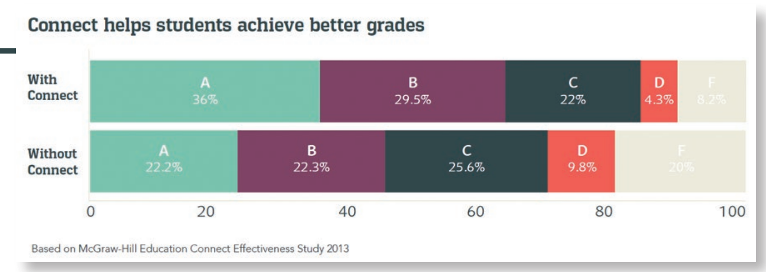

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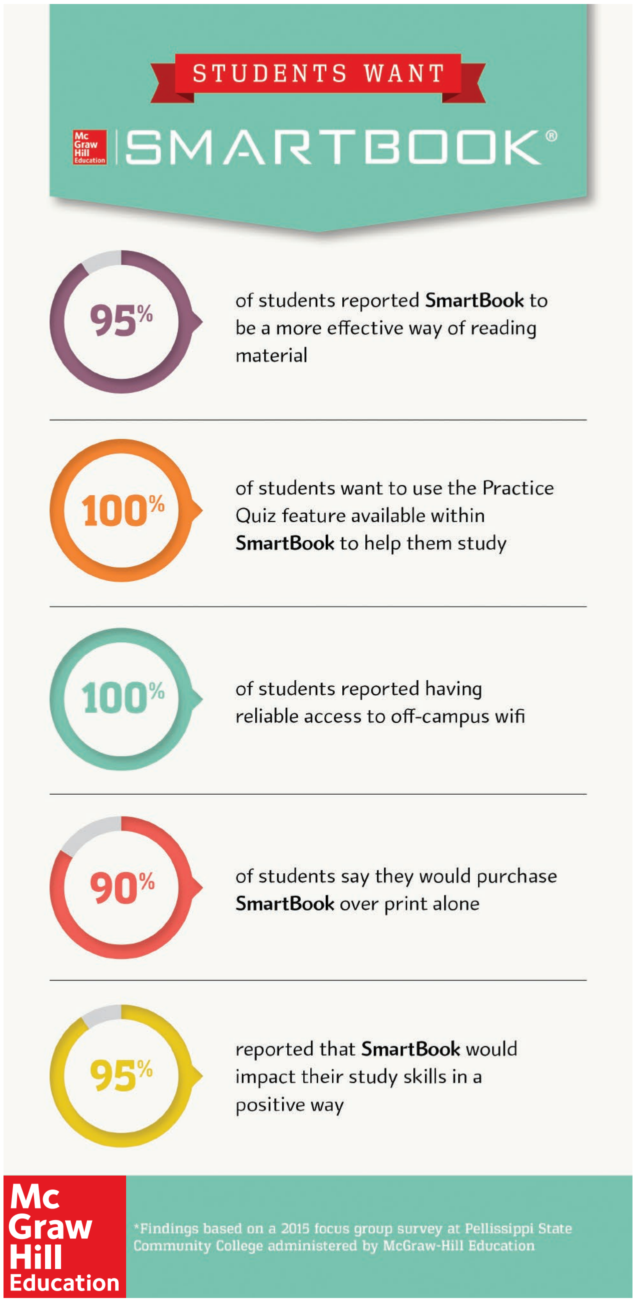

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Eric W. Noreen • Peter C. Brewer • Ray H. Garrison

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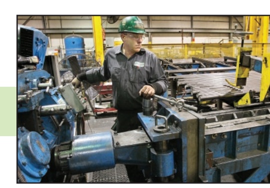

Appendix A

Appendix B

Chapter 1

Managerial Accounting: An Overview

Managerial Accounting: It's More Than Just Crunching Numbers

BUSINESS FOCUS

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"Creating value through values" is the credo of today's management accountant. It means that management accountants should maintain an unwavering commitment to ethical values while using their knowledge and skills to influence decisions that create value for organizational stakeholders. These skills include managing risks and implementing strategy through planning, budgeting and forecasting, and decision support. Management accountants are strategic business partners who understand the financial and operational sides of the business. They not only report and analyze financial measures, but also nonfinancial measures of process performance and corporate social performance. Think of these responsibilities as profits (financial statements), process (customer focus and satisfaction), people (employee learning and satisfaction), and planet (environmental stewardship). ■

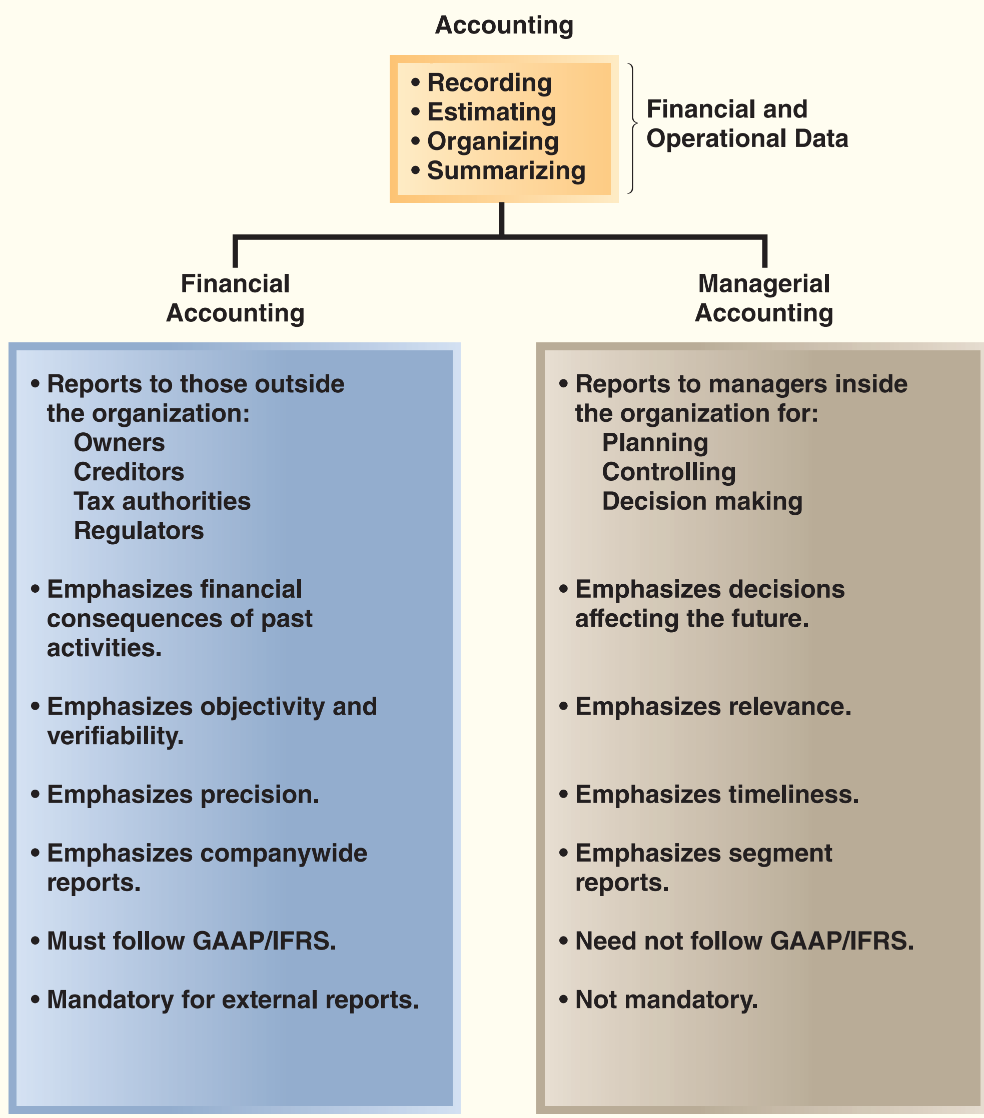
Source: Conversation with Jeff Thomson, president and CEO of the Institute of Management Accountants.

This chapter explains why managerial accounting is important to the future careers of all business students. It begins by answering two questions: (1) What is managerial accounting? and (2) Why does managerial accounting matter to your career? It concludes by discussing six topics—ethics, strategic management, enterprise risk management, corporate social responsibility, process management, and leadership—that define the business context for applying the quantitative aspects of managerial accounting.

What Is Managerial Accounting?

Many students enrolled in this course will have recently completed an introductory *financial accounting* course. **Financial accounting** is concerned with reporting financial information to external parties, such as stockholders, creditors, and regulators. **Managerial accounting** is concerned with providing information to managers for use within the organization. Exhibit 1–1 summarizes seven key differences between financial and managerial accounting. It recognizes that the fundamental difference between financial and managerial accounting is that financial accounting serves the needs of those

EXHIBIT 1–1
Comparison of Financial and Managerial Accounting



outside the organization, whereas managerial accounting serves the needs of managers employed *inside* the organization. Because of this fundamental difference in users, financial accounting emphasizes the financial consequences of past activities, objectivity and verifiability, precision, and companywide performance, whereas managerial accounting emphasizes decisions affecting the future, relevance, timeliness, and *segment* performance. A **segment** is a part or activity of an organization about which managers would like cost, revenue, or profit data. Examples of business segments include product lines, customer groups (segmented by age, ethnicity, gender, volume of purchases, etc.), geographic territories, divisions, plants, and departments. Finally, financial accounting is mandatory for external reports and it needs to comply with rules, such as generally accepted accounting principles (GAAP) and international financial reporting standards (IFRS), whereas managerial accounting is not mandatory and it does not need to comply with externally imposed rules.

As mentioned in Exhibit 1–1, managerial accounting helps managers perform three vital activities—*planning, controlling,* and *decision making.* **Planning** involves establishing goals and specifying how to achieve them. **Controlling** involves gathering feedback to ensure that the plan is being properly executed or modified as circumstances change. **Decision making** involves selecting a course of action from competing alternatives. Now let's take a closer look at these three pillars of managerial accounting.

Planning

Assume that you work for Procter & Gamble (P&G) and that you are in charge of the company's campus recruiting for all undergraduate business majors. In this example, your planning process would begin by establishing a goal such as: our goal is to recruit the "best and brightest" college graduates. The next stage of the planning process would require specifying how to achieve this goal by answering numerous questions such as:

- How many students do we need to hire in total and from each major?
- What schools do we plan to include in our recruiting efforts?
- Which of our employees will be involved in each school's recruiting activities?
- When will we conduct our interviews?
- How will we compare students to one another to decide who will be extended job offers?
- What salary will we offer our new hires? Will the salaries differ by major?
- How much money can we spend on our recruiting efforts?

As you can see, there are many questions that need to be answered as part of the planning process. Plans are often accompanied by a *budget.* A **budget** is a detailed plan for the future that is usually expressed in formal quantitative terms. As the head of recruiting at P&G, your budget would include two key components. First, you would have to work with other senior managers inside the company to establish a budgeted amount of total salaries that can be offered to all new hires. Second, you would have to create a budget that quantifies how much you intend to spend on your campus recruiting activities.

Controlling

Once you established and started implementing P&G's recruiting plan, you would transition to the control process. This process would involve gathering, evaluating, and responding to feedback to ensure that this year's recruiting process meets expectations. It would also include evaluating the feedback in search of ways to run a more effective recruiting campaign next year. The control process would involve answering questions such as:

- Did we succeed in hiring the planned number of students within each major and at each school?
- Did we lose too many exceptional candidates to competitors?
- Did each of our employees involved in the recruiting process perform satisfactorily?

- Is our method of comparing students to one another working?
- Did the on-campus and office interviews run smoothly?
- Did we stay within our budget in terms of total salary commitments to new hires?
- Did we stay within our budget regarding spending on recruiting activities?

As you can see, there are many questions that need to be answered as part of the control process. When answering these questions your goal would be to go beyond simple yes or no answers in search of the underlying reasons why performance exceeded or failed to meet expectations. Part of the control process includes preparing *performance reports*. A **performance report** compares budgeted data to actual data in an effort to identify and learn from excellent performance and to identify and eliminate sources of unsatisfactory performance. Performance reports can also be used as one of many inputs to help evaluate and reward employees.

Although this example focused on P&G's campus recruiting efforts, we could have described how planning enables FedEx to deliver packages across the globe overnight, or how it helped Apple develop and market the iPad. We could have discussed how the control process helps Pfizer, Eli Lilly, and Abbott Laboratories ensure that their pharmaceutical drugs are produced in conformance with rigorous quality standards, or how Kroger relies on the control process to keep its grocery shelves stocked. We also could have looked at planning and control failures such as BP's massive oil spill in the Gulf of Mexico. In short, all managers (and that probably includes you someday) perform planning and controlling activities.

Decision Making

Perhaps the most basic managerial skill is the ability to make intelligent, data-driven decisions. Broadly speaking, many of those decisions revolve around the following three questions. *What* should we be selling? *Who* should we be serving? *How* should we execute? Exhibit 1–2 provides examples of decisions pertaining to each of these three categories.

The left-hand column of Exhibit 1–2 suggests that every company must make decisions related to the products and services that it sells. For example, each year Procter & Gamble must decide how to allocate its marketing budget across 23 brands that each generates over $1 billion in sales as well as other brands that have promising growth potential. Mattel must decide what new toys to introduce to the market. Southwest Airlines must decide what ticket prices to establish for each of its thousands of flights per day. General Motors must decide whether to discontinue certain models of automobiles.

EXHIBIT 1–2
Examples of Decisions

What should we be selling?	Who should we be serving?	How should we execute?
What products and services should be the focus of our marketing efforts?	Who should be the focus of our marketing efforts?	How should we supply our parts and services?
What new products and services should we offer?	Who should we start serving?	How should we expand our capacity?
What prices should we charge for our products and services?	Who should pay price premiums or receive price discounts?	How should we reduce our capacity?
What products and services should we discontinue?	Who should we stop serving?	How should we improve our efficiency and effectiveness?

The middle column of Exhibit 1–2 indicates that all companies must make decisions related to the customers that they serve. For example, Sears must decide how to allocate its marketing budget between products that tend to appeal to male versus female customers. FedEx must decide whether to expand its services into new markets across the globe. Hewlett-Packard must decide what price discounts to offer corporate clients that purchase large volumes of its products. A bank must decide whether to discontinue customers that may be unprofitable.

The right-hand column of Exhibit 1–2 shows that companies also make decisions related to how they execute. For example, Boeing must decide whether to rely on outside vendors such as Goodrich, Saab, and Rolls-Royce to manufacture many of the parts used to make its airplanes. Cintas must decide whether to expand its laundering and cleaning capacity in a given geographic region by adding square footage to an existing facility or by constructing an entirely new facility. In an economic downturn, a manufacturer might have to decide whether to eliminate one 8-hour shift at three plants or to close one plant. Finally, all companies have to decide among competing improvement opportunities. For example, a company may have to decide whether to implement a new software system, to upgrade a piece of equipment, or to provide extra training to its employees.

This portion of the chapter has explained that the three pillars of managerial accounting are planning, controlling, and decision making. This book helps prepare you to become an effective manager by explaining how to make intelligent data-driven decisions, how to create financial plans for the future, and how to continually make progress toward achieving goals by obtaining, evaluating, and responding to feedback.

Why Does Managerial Accounting Matter to Your Career?

Many students feel anxious about choosing a major because they are unsure if it will provide a fulfilling career. To reduce these anxieties, we recommend deemphasizing what you cannot control about the future, instead focusing on what you can control right now. More specifically, concentrate on answering the following question: What can you do now to prepare for success in an unknown future career? The best answer is to learn skills that will make it easier for you to adapt to an uncertain future. You need to become adaptable!

Whether you end up working in the United States or abroad, for a large corporation, a small entrepreneurial company, a nonprofit organization, or a governmental entity, you'll need to know how to plan for the future, how to make progress toward achieving goals, and how to make intelligent decisions. In other words, managerial accounting skills are useful in just about any career, organization, and industry. If you commit energy to this course, you'll be making a smart investment in your future—even though you cannot clearly envision it. Next, we will elaborate on this point by explaining how managerial accounting relates to the future careers of business majors and accounting majors.

Business Majors

Exhibit 1–3 provides examples of how planning, controlling, and decision making affect three majors other than accounting—marketing, supply chain management, and human resource management.

The left-hand column of Exhibit 1–3 describes some planning, controlling, and decision-making applications in the marketing profession. For example, marketing managers make planning decisions related to allocating advertising dollars across various communication mediums and to staffing new sales territories. From a control standpoint, they may closely track sales data to see if a budgeted price cut is generating an anticipated increase in unit sales, or they may study inventory levels during the holiday shopping

EXHIBIT 1–3
Relating Managerial Accounting to Three Business Majors

	Marketing	Supply Chain Management	Human Resource Management
Planning	How much should we budget for TV, print, and Internet advertising?	How many units should we plan to produce next period?	How much should we plan to spend for occupational safety training?
	How many sales-people should we plan to hire to serve a new territory?	How much should we budget for next period's utility expense?	How much should we plan to spend on employee recruit-ment advertising?
Controlling	Is the budgeted price cut increasing unit sales as expected?	Did we spend more or less than expected for the units we actually produced?	Is our employee retention rate exceeding our goals?
	Are we accumulating too much inventory during the holiday shopping season?	Are we achieving our goal of reducing the number of defective units produced?	Are we meeting our goal of completing timely performance appraisals?
Decision Making	Should we sell our ser-vices as one bundle or sell them separately?	Should we transfer production of a component part to an overseas supplier?	Should we hire an on-site medical staff to lower our health care costs?
	Should we sell directly to customers or use a distributor?	Should we redesign our manufacturing process to lower inventory levels?	Should we hire tem-porary workers or full-time employees?

season so that they can adjust prices as needed to optimize sales. Marketing managers also make many important decisions such as whether to bundle services together and sell them for one price or to sell each service separately. They may also decide whether to sell products directly to the customer or to sell to a distributor, who then sells to the end consumer.

The middle column of Exhibit 1–3 states that supply chain managers have to plan how many units to produce to satisfy anticipated customer demand. They also need to budget for operating expenses such as utilities, supplies, and labor costs. In terms of control, they monitor actual spending relative to the budget, and closely watch operational measures such as the number of defects produced relative to the plan. Supply chain managers make numerous decisions, such as deciding whether to transfer production of a component part to an overseas supplier. They also decide whether to invest in redesigning a manufacturing process to reduce inventory levels.

The right-hand column of Exhibit 1–3 explains how human resource managers make a variety of planning decisions, such as budgeting how much to spend on occupational safety training and employee recruitment advertising. They monitor feedback related to numerous management concerns, such as employee retention rates and the timely completion of employee performance appraisals. They also help make many important decisions such as whether to hire on-site medical staff in an effort to lower health care costs, and whether to hire temporary workers or full-time employees in an uncertain economy.

For brevity, Exhibit 1–3 does not include all business majors, such as finance, management information systems, and economics. Can you explain how planning, controlling, and decision-making activities would relate to these majors?

Accounting Majors

Many accounting graduates begin their careers working for public accounting firms that provide a variety of valuable services for their clients. Some of these graduates will build successful and fulfilling careers in the public accounting industry; however, most will leave public accounting at some point to work in other organizations. In fact, the Institute of Management Accountants (IMA) estimates that more than 80% of professional accountants in the United States work in nonpublic accounting environments (**www.imanet.org/about_ima/our_mission.aspx**).

The public accounting profession has a strong financial accounting orientation. Its most important function is to protect investors and other external parties by assuring them that companies are reporting historical financial results that comply with applicable accounting rules. Managerial accountants also have strong financial accounting skills. For example, they play an important role in helping their organizations design and maintain financial reporting systems that generate reliable financial disclosures. However, the primary role of managerial accountants is to partner with their co-workers within the organization to improve performance.

Given the 80% figure mentioned above, if you are an accounting major there is a very high likelihood that your future will involve working for a nonpublic accounting employer. Your employer will expect you to have strong financial accounting skills, but more importantly, it will expect you to help improve organizational performance by applying the planning, controlling, and decision-making skills that are the foundation of managerial accounting.

IN BUSINESS

A NETWORKING OPPORTUNITY

The Institute of Management Accountants (IMA) is a network of more than 70,000 accounting and finance professionals from over 120 countries. Every year the IMA hosts a student leadership conference that attracts 300 students from over 50 colleges and universities. Guest speakers at past conferences have discussed topics such as leadership, advice for a successful career, how to market yourself in a difficult economy, and excelling in today's multigenerational workforce. One student who attended the conference said, "I liked that I was able to interact with professionals who are in fields that could be potential career paths for me." For more information on this worthwhile networking opportunity, contact the IMA at the phone number and website shown below.

Source: Conversation with Jodi Ryan, the Institute of Management Accountants' Director, Education/Corporate Partnerships. (201) 474-1556 or visit its website at www.imanet.org.

Professional Certification—A Smart Investment If you plan to become an accounting major, the Certified Management Accountant (CMA) designation is a globally respected credential (sponsored by the IMA) that will increase your credibility, upward mobility, and compensation. Exhibit 1–4 summarizes the topics covered in the two-part CMA exam. For brevity, we are not going to define all the terms included in this exhibit. Its purpose is simply to emphasize that the CMA exam focuses on the planning, controlling, and decision-making skills that are critically important to nonpublic accounting employers. The CMA's internal management orientation is a complement to the highly respected Certified Public Accountant (CPA) exam that focuses on rule-based compliance—assurance standards, financial accounting standards, business law, and the tax code. Information about becoming a CMA is available on the IMA's website (www.imanet.org) or by calling 1-800-638-4427.

EXHIBIT 1–4
CMA Exam Content Specifications

Part 1	*Financial Reporting, Planning, Performance and Control*
	External financial reporting decisions
	Planning, budgeting, and forecasting
	Performance management
	Cost management
	Internal controls
Part 2	*Financial Decision Making*
	Financial statement analysis
	Corporate finance
	Decision analysis
	Risk management
	Investment decisions
	Professional ethics

IN BUSINESS

HOW'S THE PAY?

The Institute of Management Accountants has created the following table that allows individuals to estimate what their salary would be as a management accountant.

			Your Calculation
Start with this base amount		$75,879	$75,879
If you are top-level management	ADD	$48,471	
OR, if you are senior-level management.	ADD	$26,516	
OR, if you are entry-level management.	SUBTRACT	$22,137	
Number of years in the field ______	TIMES	$ 7	
If you have an advanced degree	ADD	$14,662	
If you hold the CMA	ADD	$19,992	
If you hold the CPA	ADD	$15,837	______
Your estimated salary level			======

For example, if you make it to top-level management in 10 years, have an advanced degree and a CMA, your estimated salary would be $159,074 [$75,879 + $48,471 + (10 × 7) + $14,662 + $19,992].

Source: Lee Schiffel, and Coleen Wilder, "IMA 2013 Salary Survey. Rainy Days Persist," *Strategic Finance* June 2014, pp. 23–39.

Managerial Accounting: Beyond the Numbers

Exhibit 1–5 summarizes how each chapter of the book teaches measurement skills that managers use on the job every day. For example, Chapter 9 teaches you the measurement skills that managers use to answer the question—how should I create a financial plan for next year? Chapters 10 and 11 teach you the measurement skills that managers use to answer the question—how well am I performing relative to my plan? Chapter 6 teaches you measurement skills related to product, service, and customer profitability. However, it is vitally important that you also understand managerial accounting involves more than just "crunching numbers." To be successful, managers must complement their

EXHIBIT 1–5
Measurement Skills: A Manager's Perspective

Chapter Number	The Key Question from a Manager's Perspective
Chapter 2	What cost classifications do I use for different management purposes?
Chapter 3	How will my profits change if I change my selling price, sales volume, or costs?
Chapter 4	What is the value of our ending inventory and cost of goods sold for external reporting purposes?
Chapter 5	How should the income statement be presented?
Chapter 6	How profitable is each of our products, services, and customers?
Chapter 7	How do I quantify the profit impact of pursuing one course of action versus another?
Chapter 8	How do I make long-term capital investment decisions?
Chapter 9	How should I create a financial plan for next year?
Chapters 10 & 11	How well am I performing relative to my plan?
Chapter 12	What performance measures should we monitor to ensure that we achieve our strategic goals?

measurement skills with six business management perspectives that "go beyond the numbers" to enable intelligent planning, control, and decision making.

An Ethics Perspective

Ethical behavior is the lubricant that keeps the economy running. Without that lubricant, the economy would operate much less efficiently—less would be available to consumers, quality would be lower, and prices would be higher. In other words, without fundamental trust in the integrity of business, the economy would operate much less efficiently. Thus, for the good of everyone—including profit-making companies—it is vitally important that business be conducted within an ethical framework that builds and sustains trust.

Code of Conduct for Management Accountants The Institute of Management Accountants (IMA) of the United States has adopted an ethical code called the *Statement of Ethical Professional Practice* that describes in some detail the ethical responsibilities of management accountants. Even though the standards were developed specifically for management accountants, they have much broader application. The standards consist of two parts that are presented in full in Exhibit 1–6. The first part provides general guidelines for ethical behavior. In a nutshell, a management accountant has ethical responsibilities in four broad areas: first, to maintain a high level of professional competence; second, to treat sensitive matters with confidentiality; third, to maintain personal integrity; and fourth, to disclose information in a credible fashion. The second part of the standards specifies what should be done if an individual finds evidence of ethical misconduct.

The ethical standards provide sound, practical advice for management accountants and managers. Most of the rules in the ethical standards are motivated by a very practical consideration—if these rules were not generally followed in business, then the economy and all of us would suffer. Consider the following specific examples of the consequences of not abiding by the standards:

- Suppose employees could not be trusted with confidential information. Then top managers would be reluctant to distribute such information within the company and, as a result, decisions would be based on incomplete information and operations would deteriorate.