

SIXTH EDITION

CORNERSTONES



OF MANAGERIAL ACCOUNTING

MOWEN › HANSEN › HEITGER

SIXTH EDITION

CORNERSTONES OF MANAGERIAL ACCOUNTING

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**Cornerstones of Managerial Accounting,
Sixth Edition**

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Dan L. Heitger**

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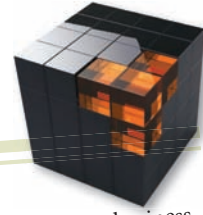
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This book is dedicated to our students—past, present, and future—who are at the heart of our passion for teaching.



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Dear Colleague,

Managerial accounting is one of the most important courses in the business curriculum. It is one of the first business courses students take, and it is critical in teaching students the value and the role of information for a variety of organizational settings. Students need to learn the basic concepts and models of managerial accounting while developing the capability to think analytically and understand relationships to use information for planning, decision making and control. However, students taking this basic course often lack the interest and motivation to fully engage and obtain the benefits available—benefits that will provide an important foundation for more advanced courses and eventually, for their professional activities. To help build this foundation, we've developed the *Cornerstones* approach for the managerial accounting course. *Cornerstones* examples provide concise descriptions of the how and why of concepts and models that will allow students to work basic exercises. While the *Cornerstones* approach has been well-received, we felt that additional complementary pedagogical tools would be very useful and appealing to both instructors and students. These complementary tools enhance and supplement the *Cornerstones*' pedagogy and should enable instructors to take managerial accounting to the next level.

When revising *Cornerstones of Managerial Accounting, 6e* and the associated content for the online homework platform, CengageNOWv2, we focused on three core areas:

Motivation: It's an interesting challenge to motivate managerial accounting students. Providing rich and detailed assets should be particularly appealing to today's students—given the strong and pervasive technological culture to which they are accustomed. We understand how important it is to engage students in the digital world, which is why we value the online resources Cengage Learning provides. These online resources include our own "Experience Managerial Accounting" videos. These videos use real-world settings that help students understand the application value of what they are learning. Animated Activities and Tell Me More videos are great ways to prepare students for class and use as online tools for "flipping the classroom."

Application: To build the proper foundation, the *Cornerstones* approach is implemented throughout the text and carried through to homework within CengageNOWv2. We want to make it as easy as possible for students to understand important concepts so that there is more time for analytical thinking. Show Me How *Cornerstone* videos are revised and offer additional hints and tips to help students as they work through *Cornerstones* exercises. In addition, we now offer an entire new set of Blueprint Problems with the *Cornerstones* used as their foundation. These online problems enable students to learn the basic concepts of each chapter with questions and exercise materials that test their understanding of basic concepts, before attempting the assigned homework. Recognizing the importance of developing students' spreadsheet skills, we also have developed Blueprint Problems Using Excel for each chapter. Students are required to develop their own Excel formulas to solve the problem. To help show the power of spreadsheets for understanding relationships and engaging in sensitivity analysis, analytical questions are provided. To ensure consistency and good integration with the text, these Blueprint Problems and Blueprint Problems Using Excel were authored by us.

Mastery: To help students develop a deeper understanding and greater decision-making skills, we have created interactive problems where variables can be manipulated and students can visually see the interrelationships between core concepts. These interactive problems are called Analyzing Relationship Problems and should prove to be great teaching tools as well as an entertaining and interesting way for students to learn.

Additional opportunities to develop and master basic spreadsheet skills are provided by another new feature called Analyzing *Cornerstones* Using Excel. In this set of problems, we have created many "what if" scenarios and problems grounded in the *Cornerstones* of each chapter. This approach helps students learn to make sound business decisions, while they continue developing their spreadsheet skills. As we all know, employers highly value job candidates with sound knowledge of spreadsheet skills. As we all know, employers highly value job candidates with sound knowledge of spreadsheets and our product helps students learn to master the basics of Excel. The goal is not to teach Excel in the classroom, but we provide the tools necessary for students to learn and apply basic Excel formulas and analyze business information.

Carefully crafted in response to student reading behavior studies and vast digital market research, the *Cornerstones* approach along with CengageNOWv2 has proven effective in increasing student engagement and preparedness while improving grades on exams. We believe it will work in your classroom. We are proud to welcome you to the *Cornerstones* family!

Sincerely,

Maryanne Mowen, Don Hansen, Dan Heitger



Get there with

CORNERSTONES AND CENGAGENOW^{v2}

Cornerstones is a complete text and technology solution that helps you and your students reach course goals and objectives. The **Cornerstone** pedagogy incorporates step-by-step coverage of important concepts throughout each chapter by utilizing the familiar **Cornerstones** examples and exercises throughout. The approach provides students with a solid foundation of the core concepts, which allows them to build on that knowledge to get to a higher understanding of managerial accounting. The integration of the **Cornerstones** text and unique features in CengageNOWv2 will get students thinking like a manager! The goal of this text is to solidify homework concepts so that students can spend more time learning how to analyze business situations and become good decision makers.

The Cornerstones approach focuses on three core needs:

BUILDING A STRONG FOUNDATION



Students simply cannot move forward in this course until they have built and practiced the foundational aspects of accounting. With *Cornerstones*, students learn the foundations of managerial accounting **FASTER**, so that they can easily transition into applying and analyzing business information in a conceptual manner.

ANALYZING RELATIONSHIPS



Students also need to be able to analyze and interpret the interrelationships between the numbers and how they affect one another in order to make sound business decisions. Because accounting is an interrelated accounting system, *Cornerstones* incorporates digital technology to allow students to visually see end results.

DECISION MAKING



Cornerstones has a plethora of tools to give students practice in decision making. Armed with the foundational knowledge and interrelationship understanding, students should now feel comfortable analyzing the data in order to make sound business decisions.



Building a Strong Foundation

Students need to obtain a solid understanding of the foundations of accounting to set the stage for thinking like a manager.

Where other texts bury their examples in blocks of text, **Cornerstone examples** are easy to find, clear, and consistently formatted to help students digest material faster. Students value step-by-step, clear examples more than any other feature in a text.

Converting Departmental Data to Plantwide Data to Calculate the Overhead Rate and Apply Overhead to Production



5.4

Why:

This step helps managers realize that overhead rates are just a way of allocating overhead. Overhead is not increased or decreased by the method chosen, it is just allocated to units differently depending on their usage of departmental drivers.

Information:

At the beginning of the year, Sorrel Company estimated the following:

	Machining Department	Assembly Department	Total
Overhead	\$240,000	\$360,000	\$600,000
Direct labor hours	135,000	240,000	375,000
Machine hours	200,000	—	200,000

Sorrel has decided to use a plantwide overhead rate based on direct labor hours. Actual data for the month of June are as follows:

	Machining Department	Assembly Department	Total
Overhead	\$22,500	\$30,750	\$53,250
Direct labor hours	11,000	20,000	31,000
Machine hours	17,000	—	17,000

OBJECTIVE 2 CORNERSTONE 5.4 Cornerstone Exercise 5-25 Convert Departmental Data to Plantwide Data, Plantwide Overhead Rate, Apply Overhead to Production

Refer to the information in **Cornerstone Exercise 5-24** for data. Now, assume that Hallett has decided to use a plantwide overhead rate based on direct labor hours.

Required:

1. Calculate the predetermined plantwide overhead rate. (*Note:* Round to the nearest cent.)
2. Calculate the overhead applied to production for the month of June.
3. Calculate the overhead variance for the month of June.

OBJECTIVE 3 CORNERSTONE 5.5 Cornerstone Exercise 5-26 Prepare Job-Order Cost Sheets, Predetermined Overhead Rate, Ending Balance of WIP, Finished Goods, and COGS

At the beginning of June, Rhone Company had two jobs in process, Job 44 and Job 45, with the following accumulated cost information:

	Job 44	Job 45
Direct materials	\$5,100	\$1,500
Direct labor	1,200	3,000
Applied overhead	780	1,950
Balance, June 1	—	—

Cornerstone Exercises at the end-of chapter reference the corresponding Cornerstone example from the text that will aid the student in completing that particular exercise. This makes getting started with the homework less intimidating and encourages students to learn independently.

As further reinforcement, newly revised **Show Me How Cornerstone Videos** are available for every Cornerstone example and are linked to the Cornerstone Exercises in CengageNOWv2. These videos further solidify concepts as they walk through Cornerstone examples in a way that appeals to visual and auditory learners!

Calculating Product Cost in Total and Per Unit

BlueDenim Company makes blue jeans. Last week, direct materials (denim, thread, zippers, and rivets) costing \$48,000 were put into production. Direct labor of \$30,000 (50 workers × 40 hours × \$15 per hour) was incurred. Overhead equaled \$72,000. By the end of the week, BlueDenim had manufactured 30,000 pairs of jeans.

Required:

1. Calculate the total product cost for last week.
2. Calculate the cost of one pair of jeans that was produced last week.

$$\begin{aligned} \text{Total Product Cost} &= \text{Direct Materials} + \text{Direct Labor} + \text{Manufacturing Overhead} \\ &= \$48,000 + \$30,000 + \$72,000 \\ &= \$150,000 \end{aligned}$$

$$\begin{aligned} \text{Per-Unit Product Cost} &= \frac{\text{Total Product Cost}}{\text{Number of Units Produced}} \\ &= \frac{\$150,000}{30,000 \text{ jeans}} \\ &= \$5 \end{aligned}$$



Analyzing Relationships

Students need to be able to get beyond just understanding the individual pieces of an accounting system and be able to connect concepts and see the relationships between the parts.

The chapter-spanning **Making the Connection** assignments present opportunities to integrate concepts from several chapters in order to analyze managerial accounting information in a broader context.

Illustrating Relationships: NPV, Discount Rates, and Cash Flows

Estimating cash flows is often difficult and certainly a major source of risk for capital budgeting decisions. The discount rate is the minimum acceptable required rate of return and, under certainty, would correspond to the firm's cost of capital. Because of uncertain future cash flows, firms may use a higher discount rate than its cost of capital. It is also common to provide pessimistic and most likely cash flow scenarios to help assess a project's risk (as **Hard Rock** does). As the discount rate increases, the present value of future cash flows decreases, making it harder for a project to achieve a positive NPV. Alternatively, providing pessimistic and likely assessments of cash flows also allows managers to see the effect of differences in cash flow estimates on project viability as measured by NPV. Illustrating the relationship between the discount rate and cash flows affords rich insight about the economic feasibility of a project.

For purposes of illustration, suppose that an amusement park is considering an investment in a new ride that has the following data:

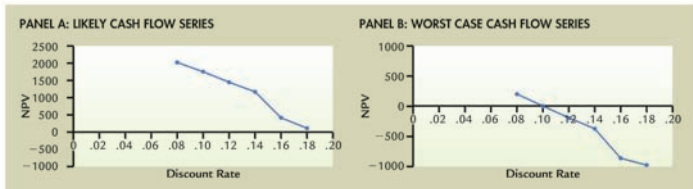
Investment:	\$3,500,000
Likely annual cash flow:	\$1,200,000
Pessimistic annual cash flow:	\$800,000
Discount rate range:	0.08 to 0.18, increments of 0.02
Expected cost of capital:	0.10
Project life:	6 years

Using this information, the NPV is calculated and plotted as the discount rate varies (increasing by increments of 0.02 for the range indicated) for each series of cash flows. Exhibit 14.1 illustrates the relationships. For the likely cash flow scenario, the project has a positive NPV for all discount rates. For the worst case scenario, the NPV is negative for the four highest discount rates, about zero (actually slightly negative) for the 10% rate and positive only for the 8% rate.

Knowing these relationships, what decision should be made? For the expected cost of capital of 10%, the worst prediction is a NPV of about zero ($-\$16,000$). Thus, it appears to be a fairly safe investment since there seems to be very little likelihood of

(EXHIBIT 14.1)

NPV, Discount Rates and Cash Flow



losing on the project. Using both Panels A and B provides good insight into the risk and economic viability of the proposed project.



MAKING THE CONNECTION

INTEGRATIVE EXERCISE (CHAPTERS 1-4)

Cost Behavior and Cost-Volume-Profit Analysis for Many Glacier Hotel

Chapters	Objectives	Cornerstones
2-4	2-2	3-2
	3-3	4-2
	4-1	4-5
	4-2	4-7
	4-4	4-9
	4-5	

The purpose of this integrated exercise is to demonstrate the interrelationship between cost estimation techniques and subsequent uses of cost information. In particular, this exercise illustrates how the variable and fixed cost information estimated from a high-low analysis can be used in a single- and multiple-product CVP analysis.

Using the High-Low Method to Estimate Variable and Fixed Costs

Located on Swiftcurrent Lake in Glacier National Park, **Many Glacier Hotel** was built in 1915 by the Great Northern Railway. In an effort to supplement its lodging revenue, the hotel decided in 2003 to begin manufacturing and selling small wooden canoes decorated with symbols hand painted by Native Americans living near the park. Due to the great success of the canoes, the hotel began manufacturing and selling paddles as well in 2006. Many hotel guests purchase a canoe and paddles for guided tours of Swiftcurrent Lake. Because production of the two products is highly correlated, the canoe and paddle are sold as a bundle.

Instructors have told us most texts do not explain the interrelationships between the numbers. The Cornerstones text explains those relationships where appropriate throughout the text and identified as "Illustrating Relationships."

The end of chapter materials also contain exercises and problems that challenge students to think backwards, to give students a better understanding of the different accounting interrelationships.



Decision Making

Students need concrete ways to practice how to use accounting information to make sound business decisions.

You Decides take *Cornerstones'* concepts beyond the foundations. Students must put themselves in the shoes of a manager or business owner and consider the different implications and outcomes of their "company's" decisions. *Cornerstones* gives students a chance to actually *practice* making decisions.

YOUDECIDE Creating Source Documents for Other Activities

You are the cost accounting manager for a company that provides photography services for special events, such as weddings, bar mitzvahs, anniversary parties, and corporate functions. The cost of the services varies from job to job. The time of the photographers assigned to the job is already kept track of using labor time tickets. However, your company now wants to reimburse the photographers for mileage and may want to include an additional charge to clients for mileage.

What type of source document could serve to accumulate miles driven?

In this case, your company needs to know not only the number of miles each photographer drives, but also to which job the mileage pertains. A relatively simple mileage log, listing the date, starting mileage, ending mileage, and purpose of the trip should suffice. This will allow you to compute the miles driven (ending mileage minus beginning mileage) and assign it to the specific photographic job. In addition, total miles for each

photographer can be computed on a monthly basis and multiplied by your company's mileage reimbursement rate for purposes of reimbursing each photographer for automotive operating costs.

Some companies might have other specific needs. For example, perhaps the company has a fleet of different vehicles and wants to compute different rates depending on the vehicle. Using a van might require a higher rate than using a small automobile. In this case, an additional column to record the type of vehicle or vehicle's license plate would be necessary.

Still other companies may use an overhead application base other than direct labor hours. Perhaps machine hours may be used to apply overhead. Then, a new document must be developed. A source document that will track the machine hours used by each job can be modeled on job time tickets.

As a result, different firms may have different source documents to support their specialized needs for accounting information.

Problem 5-51 Calculate Job Cost and Use It to Calculate Price

Suppose that back in the 1970s, Steve was asked to build speakers for two friends. The first friend, Jan, needed a speaker for her band. The second friend, Ed, needed a speaker built into the back of his hatchback automobile. Steve figured the following costs for each:

	Jan's Job	Ed's Job
Materials	\$50	\$75
Labor hours	10	20

Steve knew that Jan's job would be easier, since he had experience in building the type of speaker she needed. Her job would not require any special equipment or specialized fitting. Ed's job, on the other hand, required specialized design and precise fitting. Steve thought he might need to build a mock-up of the speaker first, to fit it into the space. In addition, he might have to add to his tool collection to complete the job. Normally, Steve figured a wage rate of \$6 per hour and charged 20% of labor and materials as an overhead rate.

Required:

1. Prepare job-order cost sheets for the two jobs, showing total cost.
2. **CONCEPTUAL CONNECTION** Which cost do you think is more likely to be accurate? How might Steve build in some of the uncertainty of Ed's job into a budgeted cost?

Conceptual Connection requirements within many end-of-chapter assignments ask students to go beyond the calculations and analyze the conceptual context of the problem. Students will better understand how companies use the calculations to make sound business decisions.

"This is what attracted me to the textbook in the first place. Features that promote decision making and classroom discussion and group work would be greatly appreciated!"

—Mark E. Motluck, Anderson University

The depth of valuable insight in the **Here's the Real Kicker** continuing case is possible because of a unique relationship between the authors and Kicker, a company that makes car stereos. Because of the depth of information obtained through this relationship, these examples are especially valuable students.



Here's the Real Kicker

In the 1970s, **Kicker** began operations in Steve Irb's garage. Steve was an engineering student at Oklahoma State University and a keyboard player with a local band. The band needed speakers but couldn't afford new ones. Steve and his father built wooden boxes and fitted them with secondhand components. Word spread, and other bands asked for speakers. Steve partnered with a friend to fill the orders. Then, an oil-field worker asked if Steve could rig up speakers for his pickup truck. Long days bouncing over rough fields went more smoothly with music, but the built-in audio systems at the time were awful. Steve

designed and built a speaker to fit behind the driver's seat, and Kicker was born.

At first, each job was made to order to fit a particular truck or car. The price Steve charged depended heavily on the cost of the job. Since each job was different, the various costs had to be computed individually. Clearly, the costs of wood, fabric, glue, and components were traceable to each job. Steve could also trace labor time. But the other costs of design time, use of power tools, and space were combined to create an overhead rate. To the extent that the price of a job was greater than its costs, Steve earned a profit.



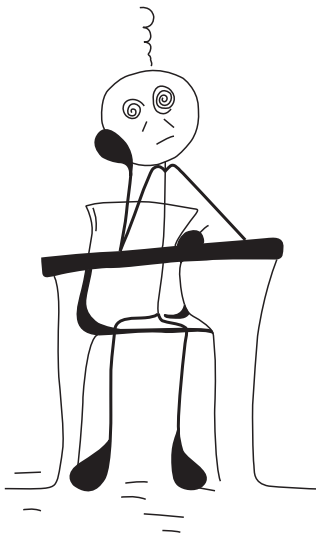
Job-Order Production and Costing

Firms operating in job-order industries produce a wide variety of services or products that are quite distinct from each other. Customized or built-to-order products fit into this category, as do services that vary from customer to customer, like **Sky Limo Company**, which provides air charter services. A job is one distinct unit of production.



Engage your students from **Motivation to Mastery**

We've talked with hundreds of accounting instructors across the country, and here is what we heard when we asked: *What are the most significant challenges you face in the managerial accounting course?*



"Students are unprepared for class and are difficult to keep engaged."



"Students get frustrated and have trouble connecting concepts."



"Students' lack of critical thinking skills and inability to keep up with coursework."

Motivation: Engaging students by establishing relevance and providing exposure to material to better prepare them for class.

Application: Helping students develop problem solving skills and apply accounting concepts and procedures to real-world accounting problems.

Mastery: Teaching students to go beyond basic recall and memorization to true understanding of how accounting impacts a business and how to use accounting information to make business decisions.





Motivation

Prepare and spark your students' interest in a fun way!



The Experience Accounting Video Series show students how progressive companies such as ColdStone Creamery, Second City, and Hard Rock Cafe incorporate managerial accounting to fuel better business performance. These companies are also featured in the chapter-opening vignettes.



"I am experimenting with 'flipping the classroom/active learning' and I would love to have videos like these to assign prior to coming to class then reinforce with in-class quizzes!"

—Ann Brooks, University of New Mexico

NEW Tell Me More Videos explain the core concepts of the chapter through an engaging auditory and visual presentation that is ideal for all class formats—flipped model, online, hybrid, face-to-face. Tell Me More lecture activities are assignable/gradable in CengageNOWv2 and available for self-study and review.

Animated Activities are engaging animated scenarios that visually guide students through selected core topics. Each activity uses a realistic company example to illustrate how the concepts relate to the everyday activities of a business. These activities include multiple-choice questions that gauge student understanding of the overarching chapter concepts. They can be assigned or used for self-study.





Application



Apply the accounting foundations

Calculating Product Cost in Total and Per Unit

BlueDenim Company makes blue jeans. Last week, direct materials (denim, thread, zippers, and rivets) costing \$48,000 were put into production. Direct labor of \$30,000 (50 workers × 40 hours × \$15 per hour) was incurred. Overhead equaled \$72,000. By the end of the week, BlueDenim had manufactured 30,000 pairs of jeans.

Required:

1. Calculate the total product cost for last week.
2. Calculate the cost of one pair of jeans that was produced last week.

$$\begin{aligned} \text{Total Product Cost} &= \text{Direct Materials} + \text{Direct Labor} + \text{Manufacturing Overhead} \\ &= \$48,000 + \$30,000 + \$72,000 \\ &= \$150,000 \end{aligned}$$

$$\begin{aligned} \text{Per-Unit Product Cost} &= \frac{\text{Total Product Cost}}{\text{Number of Units Produced}} \\ &= \frac{\$150,000}{30,000 \text{ jeans}} \\ &= \$5 \end{aligned}$$

Show Me How Cornerstones Videos

These are the same Cornerstones videos that many are accustomed to already, but with a facelift! Not only does the video still step the student through each problem, but additional hints and tips have been added for further guidance as well as interactive on-screen writing. There is a video for each Cornerstone in the book and the videos are also linked to all Cornerstone Exercises within CengageNOWv2.

Step 2: Job Costing with Departmental Rates

Departmental overhead rates are a widely used type of multiple rate. The plantwide overhead cost pool is divided into overhead cost pools for each department. Thus, the sum of the overhead costs assigned to each department is the total plantwide overhead. A departmental rate is calculated as follows:

$$\text{Departmental Overhead Rate} = \frac{\text{Estimated Department Overhead}}{\text{Estimated Departmental Activity Level}}$$

For example, if the Machining Department has estimated overhead of \$100,000 and expects to use 25,000 machine hours, then the Machining Department Overhead Rate is \$4 per machine hour. If the Assembly Department has estimated overhead of \$42,000 and expects to use 7,000 direct labor hours then the Assembly Department Overhead Rate is \$6. Thus, overhead assigned to jobs would use two rates. Suppose that a job passes through the machining department and uses 100 machine hours and then goes to the assembly department and uses 50 direct labor hours. The overhead assigned to this job would be \$14,000. Multiple rates increase the number of source documents needed. In this example, each job would need to gather the machine hours used in the machining department and the direct labor hours used in the assembly department.

Points: 0 / 1

Feedback

Check My Work

Review the following Cornerstones:

- Cornerstone 5.1
- Cornerstone 5.3
- Cornerstone 5.4
- Cornerstone 5.5

"I found that the way the material was presented was more understandable and varied from the way I would present the material (in a classroom environment)."

—Jeri Brysch, Lake Superior College

The videos are linked in various locations throughout the CengageNOWv2 platform such as within the Cornerstones exercises, within the author-created Blueprint Problems, and the Study Tools section.

eBook Video

Cornerstone Exercise 4-18 (Algorithmic)
Sales Needed to Earn Target Income

Head-First Company plans to sell 4,693 bicycle helmets at \$75 each in the coming year. Variable cost is 60% of the sales price; contribution margin is 40% of the sales price. Total fixed cost equals \$49,500 (includes fixed factory overhead and fixed selling and administrative expense).

Required:

1. Calculate the sales revenue that Head-First must make to earn operating income of \$81,900. Round your answer to the nearest dollar.

\$



Application

the Cornerstones Way!



Blueprint Problems

Brand NEW Blueprint Problems have been written for this edition by the authors themselves. You can assign these teaching problems to help students understand the fundamental accounting concepts and their associated building blocks—not just memorizing the formulas. Written in a stepped approach, they are designed as an overview of the material, and then allow the student to then apply the concepts.

Physical Flow Schedule, Equivalent Units, and Unit Costs

A physical flow schedule shows the units to account for and also accounts for them—regardless of their stage of completion. It is the first of five steps for process costing. There are two sections to the schedule:

Physical Flow Schedule		
Units to Account for:		
- Select your answer -		XXXXXX
- Select your answer -		XXXXXX
Units in BWIP		XXXXXX
Units in EWIP		XXXXXX
Units accounted for:		
Units Completed:		
From: - Select your answer -		XXXXXX
Started and completed	XXXXXX	XXXXXX
Units in - Select your answer -		XXXXXX
Total units accounted for		XXXXXX

Equivalent units are the complete units that could have been produced given the total amount of producing effort expended for the period under consideration. Preparing a schedule of equivalent units is the second of five steps of process costing. Equivalent units measure the - Select your answer -. A fully completed unit is counted as a unit of output. Output in ending work in process is counted by its degree of completion. If, for example, production inputs are applied uniformly, then saying that work in process is 25 percent complete means that 25 percent of the direct materials, direct labor, and overhead have been used and that another 75 percent are needed to finish the units. If there is no BWIP, and if all manufacturing inputs are applied uniformly for a process, the calculation for equivalent units is as follows:

“It is important for the students to see the application of the concept (in Excel). Practicing with changing variables will help them see the impact of their decision.”

—Suneel Maheshwari, Marshall University

Feedback

Check My Work Feedback in CengageNOWv2 now only reports on what students have actually attempted, which prevents them from “guessing” their way through assignments. Explanation feedback enables students to receive a better understanding of how to troubleshoot their errors and improve their understanding.

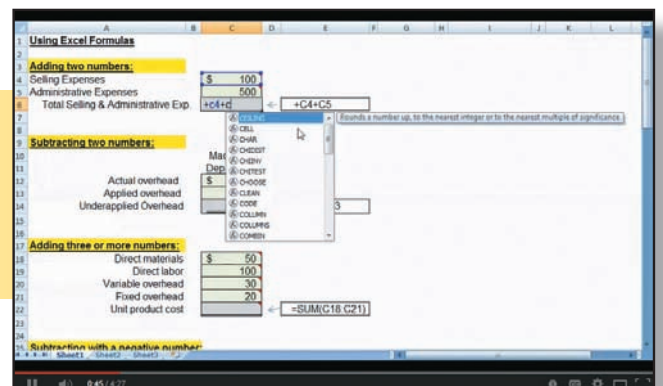
Blueprint Problems Using Excel



Provide your students with more real-world experience and knowledge of Excel by assigning these NEW author-created teaching problems. Based on the regular Blueprint Problems, these problems have students apply the concepts in Excel using formulas, and are ideal for practicing how to analyze data.

Excel Tutorial Videos

These NEW tutorial videos provide students with the extra help they may need to apply the correct formulas to their spreadsheets, without relying on the instructor to teach them Excel.





Mastery



Apply the accounting foundations

A variety of different visuals are used to demonstrate visually how changes in the variables impact the results.

“These types of teaching tools are most helpful for students. They can use them 24/7 even when I am not available to answer their questions.”

—Bob Burdette, Salt Lake Community College

When student moves the slider here

Slider 1	\$0 to \$20	\$10.00	Unit Sales Price
Slider 2	\$0 to \$10	\$8.00	Unit Costs
Slider 3	\$0 to \$50,000	\$10,000	Fixed Costs

Units	Fixed Costs	Unit Costs	Total Costs	Total Revenue	Gain or Loss
0	\$10,000	\$0	\$10,000	\$0	(\$10,000)
500	\$10,000	\$3,000	\$13,000	\$5,000	(\$8,000)
1,000	\$10,000	\$6,000	\$16,000	\$10,000	(\$6,000)
1,500	\$10,000	\$9,000	\$19,000	\$15,000	(\$4,000)
2,000	\$10,000	\$12,000	\$22,000	\$20,000	(\$2,000)
2,500	\$10,000	\$15,000	\$25,000	\$25,000	\$0
3,000	\$10,000	\$18,000	\$28,000	\$30,000	\$2,000
3,500	\$10,000	\$21,000	\$31,000	\$35,000	\$4,000

Costs change here



Line graph changes when costs change

Analyzing Relationship Problems

Brand NEW to this edition and created by the authors, these problems allow students to manipulate different variables to visually see how interrelationships among core concepts are affected. Various graphs change as students enter different pieces of information to visually illustrate the impact.

“I like that students can manipulate it themselves and see how the relationships are affected.”

—Jay Cohen, Oakton Community College



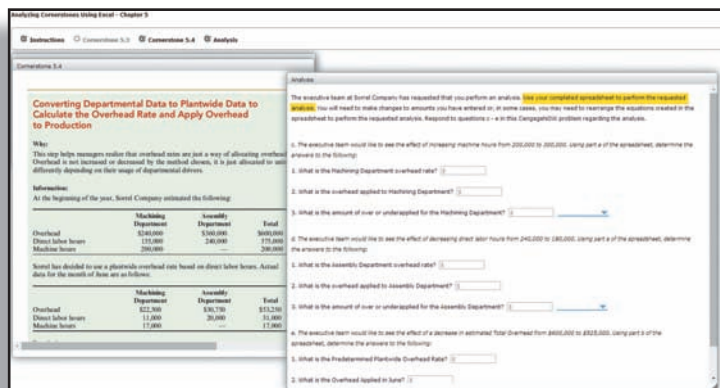
Mastery

the Cornerstones Way to elevate thinking



Analyzing Cornerstones Using Excel

- Research showed that instructors want students to utilize Microsoft Excel in the managerial accounting course. To fulfill instructor needs, we have added more spreadsheet problems that allow students to actually create formulas, not just plug in numbers.
- The data used in each problem is derived from several **Cornerstones** throughout the chapter. Utilizing the Cornerstones serves as a “checkpoint” to ensure that students are on the right track. If the student’s formulas are correct, their Excel spreadsheet will match the Cornerstone data.
- Next, questions are asked within CengageNOWv2 to allow for auto-grading and data analysis. The student will need to make changes to their spreadsheet to answer “what if” questions, allowing you to assess their depth of understanding and analytical skills.



34 Complete the Excel worksheet below by creating formulas that satisfy the associated requirements.

35

36

37 Requirements:

38

39 1. Calculate a predetermined plantwide rate based on direct labor hours (round to the nearest cent)

40 2. Calculate the applied overhead for the year for all jobs (round to the nearest dollar)

41 3. Using the predetermined plantwide overhead rate, calculate the unit cost for Jobs 15 and 16:

42

43 Job 15, unit cost (round to the nearest cent)

44 Job 16, unit cost (round to the nearest cent)

45

46 4. Calculate the per unit bid prices for each job:

47

48 Job 15, bid price (round to the nearest cent)

49 Job 16, bid price (round to the nearest cent)

50

51 5. Assume both jobs are completed in January but only Job 15 is sold. Calculate the following:

52

Blueprint Connections

Blueprint Connections are scenario-based problems that solidify concepts and demonstrate their interrelationships, as well as promote critical thinking. Blueprint Connections combine multiple topics, allowing students to explore a larger concept more fully, and strengthen analytical skills. Blueprint Connections are assignable and gradable in CengageNOWv2.

“This will help students to design their personal worksheets based on their own formulas. Thereafter, based on those worksheets and formulas, they can answer various questions related to accounting data.”

—Dr. Aamir Ahmad Salaria, Harris-Stowe State University



Elevate Decision Making: Using Excel with



MASTERY

Analyzing Cornerstones Using Excel

Data used in each problem is derived from several Cornerstones throughout the chapter, which students analyze using Excel as a tool. Utilizing the Cornerstones serves as a 'checkpoint' to ensure that students are on the right track.

MASTERY



APPLICATION

Excel Templates

Numerous Excel templates are available to give students a taste of how Excel can be used. Students enter in correct numbers and find totals using simple formulas.

Blueprint Problems Using Excel

Students are tasked with creating their own formulas in a provided spreadsheet, to gain real-world experience using the software. Questions that follow ask students to change data and analyze the information.

APPLICATION



MOTIVATION

Excel Tutorial Videos

Because instructors need to spend time in class reviewing managerial content, there is no time to teach Excel. Simple tutorial videos provide students with the extra help they may need to learn and apply the correct formulas to their spreadsheets.

MOTIVATION



Multi-Panel View

CengageNOWv2 is available with *Cornerstones of Managerial Accounting, 6e*. With the Multi-Panel View, students can more easily follow along to improve comprehension.



New Multi-Panel View in CengageNOWv2 enables students to see all the elements of a problem on one screen. With the ability to move and resize forms, financial statements and the information within the problem, students can see all the steps side by side, making it easier to navigate the problem and understand the interrelated pieces of the accounting system.

Excel-Based Blueprint - Job-Order Costing

Step 1: Job Costing with Predetermined Plantwide Overhead Rates Step 2: Job Costing with Departmental Rates Step 3: Apply the Concepts Using Excel

Overhead has thus far been applied using a plantwide overhead rate. A plantwide rate is a single rate calculated using all estimate overhead for a plant divided by the estimated activity level for the entire plant. However, some believe that multiple overhead rates give more accurate cost assignments. Departmental overhead rates are a widely used type of multiple rate. The plantwide overhead cost pool is divided into overhead cost pools for each department. Thus, the sum of the overhead costs assigned to each department the total plantwide overhead. A departmental rate is calculated as follows:

Departmental Overhead Rate = Estimated Department Overhead/Estimated Departmental Activity

For example, if the Machining Department has estimated overhead of \$100,000 and expects to hours, then the Machining Department Overhead Rate is \$ per machine hour. If the Assembly Department has estimated overhead of \$42,000 and expects to use 7,000 direct labor hours then the Assembly Department Overhead Rate is \$. Thus, overhead assigned to jobs would use two rates. Suppose that a job passes through the machining department and uses 100 machine hours and then goes to the assembly department and uses 50 direct labor hours. The overhead assigned to this job would be \$. Multiple rates increase the number of source documents needed. In this example, each job would need to gather the machine hours used in the machining department and the direct labor hours used in the assembly department.

is greater than
 is less than
 equals

“The Blueprint Problems are a wonderful way for the students to really be ‘taught’ how to do a problem by giving them guided step by step instruction and examples and the multi-panel view has now just enhanced that overall learning experience for the student. It allows the student to view the concept steps and apply those steps simultaneously, eliminating the scrolling frustration that students used to feel and really allowing them to be guided through a given process.”

—Kristen Quinn, professor at Northern Essex Community College



Blank Sheet of Paper Experience



Many students perform well on homework but struggle when it comes to exams. CengageNOWv2 was built with you and your students in mind. Instructors want students to work problems in homework that are less leading and discourages over-reliance on the system. Students must problem-solve on their own – just as they would taking a test on a blank sheet of paper.

The **Blank Sheet of Paper Experience** was created in CengageNOWv2 to combat these problems.

Record the transactions for July 11 and 15 on page 2 of the journal, referring to the [chart of accounts](#) in select.

JOURNAL					
	DATE	DESCRIPTION	POST. REF.	DEBIT	CREDIT
1	Jul 23	rent exp			1
2					2
3					3
4					4
5					5
6					6
7					7

- CengageNOWv2 eliminates the use of drop-down menus and smart entry in journals, ledgers, financial statements and many other accounting forms. Students must refer to the Chart of Accounts and decide for themselves what type of account is impacted.
- Because the format of the statement or form is blank, and not pre-populated with drop-down menus, it does not give away the number of transactions (rows) that are needed to completed the assignment item.
- Check My Work feedback in CengageNOWv2 only reports on what students have actually attempted, preventing students from “guessing” their way through the assignment.
- Sophisticated grading within the Blank Sheet of Paper Experience allows more control over student mistakes and has a weighted grading system. Students aren’t penalized for order of entry differences.
- Students often complete homework at odd times. And when they struggle with homework, they want help right when they need it. New **Adaptive Feedback within the Blank Sheet of Paper Experience** responds to students based upon their unique answers and alerts them to the type of error that they have made without giving away the answer.



Adaptive Study Plan and Start-Up Center

Students don't want to waste time going over concepts they already know! With the new Adaptive Study Plan they can focus on learning the topics that they struggle with the most!



New Adaptive Study Plan in CengageNOWv2 is an assignable/gradable study center that adapts to each student's unique needs and provides a remediation pathway to keep students progressing.

Motivate students by reshaping their misconceptions about the introductory accounting course.

CengageNOWv2 Start-Up Center

- Students are often surprised by both the approach to learning accounting and the necessary amount of time they need to spend outside of class working through homework assignments. The **CengageNOWv2 Start-Up Center** will help them identify what they need to do and where they need to focus in order to be successful with a variety of brand new resources.
- NEW **Student Advice** video messages feature real introductory accounting students giving guidance to students who are just starting the course about what it takes to be successful in introductory accounting.
- NEW **Success Strategies Tip Sheet** is designed to be a quick reference in the textbook for key tips regarding how to be successful in the course.
- Get your students up to speed on necessary math skills with NEW **Math Review Assignments** designed to allow students to practice basic math concepts, including:
 - Whole number operations
 - Decimal operations and rounding
 - Percentage operations and conversion
 - Fraction operations
 - Converting numbers expressed in one form to a different form
 - Positive and negative numbers, ratios, and averages
- NEW **How to Use CengageNOWv2** module allows students to focus on learning accounting, not on a particular software system. Quickly familiarize your students with CengageNOWv2 and direct them to all of its built-in student resources.



Improve Exam Performance

with  CENGAGENOW^{v2}

Refreshed Design: This refreshed look will help you and your students focus easily and quickly on what is important, while maintaining the same functionality that CengageNOWv2 users know and love.

Integration with Popular Learning Management Systems: Single login, deep linking, and grade return! (Check with your Learning Consultant for more details!)

Upload Files Capability: You can now upload files in CengageNOWv2 for student use – including videos, Excel files, Word files, and more.

Email Instructor Feature: Students can now send you an image of the exact question they are working on directly through CengageNOWv2 and ask specific questions about where they are stuck.

Better Date Management: When modifying assignment due dates for a whole course, the system will now automatically adjust due dates based on a new start date, making it easier to reuse a course from one term to the next or adjust for snow days, etc.

New Student Registration Process: When you create a course, a URL will be generated that will automatically take students right into the instructor's course without them having to enter the course key!

Streamlined Assignment Creation Process: A simplified and streamlined Assignment Creation process allows instructors to quickly set up and manage assignments from a single page!

New Report Options: New reporting options allow you to get better reports on your students' progress.

More NEW features:

- Drop Lowest Score Options
- Student Calculator
- Ability to Hide Public Folders
- Total Course Points View



Get there with Cornerstones



The Cornerstones approach focuses on three core needs:

BUILDING A STRONG FOUNDATION



Students simply cannot move forward in this course until they have built and practiced the foundational aspects of accounting. With *Cornerstones*, students learn the foundations of managerial accounting **FASTER**, so that they can easily transition into applying and analyzing business information in a conceptual manner.

ANALYZING RELATIONSHIPS



Students also need to be able to analyze and interpret the interrelationships between the numbers and how they affect one another in order to make sound business decisions. Because accounting is an interrelated accounting system, *Cornerstones* incorporates digital technology to allow students to visually see end results.

DECISION MAKING



Cornerstones has a plethora of tools to give students practice in decision making. Armed with the foundational knowledge and interrelationship understanding, students should now feel comfortable analyzing the data in order to make sound business decisions.



NEW TO THIS EDITION



- **Blueprint Problems:** These are new to CengageNOWv2 for this edition and are author-written specifically for this text. These are teaching-type problems that are also based on the Cornerstones from within the chapter. Each chapter contains 2-4 Blueprint Problems and were written to help students understand the fundamental accounting concepts and their associated building blocks—not just memorizing the formulas. They are written in a stepped format from an overview to applying the concepts.
- **Analyzing Relationship Problems:** Created by the authors, these problems are also new to CengageNOWv2 and are designed to enhance critical thinking skills. Students can manipulate different variables to visually see how interrelationships among core concepts are affected. Different types of graphs are used and change when variables are changed to visually show the impact.
- **Blueprint Problems Using Excel:** These are also new to CengageNOWv2 for this edition and are designed as an alternative to the Blueprint Problems as a way to incorporate Microsoft Excel in greater detail. Students build their own spreadsheets and create their own formulas, rather than simply applying numbers into a template. The unique Blueprint format starts as a conceptual overview, followed by applying the chapter concepts using Excel.
- **Show Me How Cornerstone Videos:** These are revised and updated Cornerstone videos with clear examples. Additional hints and tips have been added to guide students through each Cornerstone problem.
- **Analyzing Cornerstones Using Excel:** New to the 6th edition are spreadsheet problems that allow students to actually create formulas, and not just plug numbers into a template. Data used in each problem is derived from several Cornerstones throughout the chapter. Utilizing the Cornerstones serves as a “checkpoint” to ensure that students are on the right track. Students will need to make changes to their spreadsheet and then answer “what if” type questions within CengageNOWv2 to allow for auto-graded data analysis.
- **Excel Tutorial Videos:** Simple Excel tutorial videos provide students with the extra help they may need to apply the correct formulas necessary for all Excel problems.



KEY FEATURES

- **Conceptual Material in End-of-Chapter:** These questions, which are identified as Conceptual Connections in the end-of-chapter materials, ask students to go beyond the calculations to articulate the conceptual context behind the work they've just completed and how that information may impact a company's decision making.
- **Excel Spreadsheet Templates:** To give students practice using Microsoft Excel to complete their homework, we have provided additional templates to allow for an introductory Excel learning experience.
- **Concept Q&As:** Located throughout the text, the Concept Q&As challenge students to use higher-level reasoning skills, go beyond the procedures, and understand the larger business implications.
- **Experience Accounting Videos:** These videos show students how progressive companies such as Cold Stone Creamery, The Second City, and Hard Rock Cafe in corporate managerial accounting to fuel better business performance. These companies are also featured in the chapter-opening vignettes.
- **Here's the Real Kicker:** This feature's the real-world car stereo company, Kicker, and provides continuing case examples with valuable insider information.
- **You Decide:** Each chapter includes a variety of You Decide features that put students into an active, decision-making role as the accountant or manager for a particular company. This enables them to move beyond learning basic concepts in order to analyze business situations and discover how accounting information informs key decisions.



- **Author-Revised Check My Work Feedback:** CengageNOWv2 helps students progress farther outside the classroom and keeps them from getting stuck in their studies by providing them with meaningful, guidance and tips as they work through your homework assignment. Feedback has been fully revised by the author team and are consistent with material presented in the text.
- **Post-Submission Feedback:** Also available in CengageNOWv2 is the ability to show the full solution in addition to newly added source calculations to enhance the learning process. Now students can see where they may have gone wrong so that they can correct their work through further practice.
- **Animated Activities:** Animated Activities in CengageNOWv2 are the perfect pre-lecture assignment to expose students to concepts before class! These cartoon-like illustrations visually guide students through selected core topics using a realistic company example to illustrate how the concepts relate to the everyday activities of a business. Animated Activities are assignable or available for self-study and review.
- **Blueprint Connections:** These are scenario based teaching problems that solidify concepts and demonstrate their interrelationships, as well as promote critical thinking. Blueprint Connections combine multiple topics, allowing students to explore a larger concept more fully.



SUPERIOR SUPPLEMENTS

Solutions Manual

Author-written and carefully verified multiple times to ensure accuracy and consistency with the text, the Solutions Manual contains answers to all Discussion Questions, Multiple-Choice Questions, Cornerstone Exercises, Exercises, Problems, and Cases that appear in the text. These solutions help you easily plan, assign, and efficiently grade assignments. All solutions are given in simplified Excel spreadsheets and also are available in PDF format. The Solutions Manual is available electronically for instructors only on the password-protected portion of the text's website at <http://login.cengage.com>.

Test Bank

The Test Bank has been revised and verified to ensure accuracy and is available in both Microsoft Word and Cengage Learning Testing Powered by Cognero. It includes questions clearly identified by topic, learning objectives, level of difficulty, Time estimate, Bloom's Taxonomy, AICPA, ACBSP, IMA, and other business program standards to allow greater guidance in developing assessments and evaluating student progress. The Test Bank is available electronically for instructors only on the password-protected portion of the text's website at <http://login.cengage.com>. Cognero is accessible on the SSO dashboard, NOT on the text website.

PowerPoint® Lecture Slides

The PowerPoint® slides allow for ease in preparing and presenting lectures to encourage lively classroom discussions. All Cornerstones within each chapter appear in the slides. The slides are available for instructors on the password-protected portion of the text's website at <http://login.cengage.com>.

Spreadsheet Templates and Solutions

All spreadsheet problems and solutions, identified by a spreadsheet icon in the text, are available for instructors only on the password-protected portion of the text's website at <http://login.cengage.com>. All spreadsheet template files are available for students at www.cengagebrain.com.

Instructor's Manual

Simplify class preparation with the Instructor's Manual designed to help you quickly identify content and assignments to suit your course needs. Within the manual are the learning objectives for each chapter, the chapter outline, in-class applications and instructional information for using the Experience Accounting videos complete with follow-up exercises. The Instructor's Manual is available in Word and posted to the password-protected portion of the text's website at <http://login.cengage.com>.

Free Study Tools for Students online at CengageBrain.com

This robust product website provides immediate access to a rich array of interactive learning resources for students that include flashcards, chapter-by-chapter online quizzes, sample final exam, crossword puzzles, PowerPoint® student slides, and the Cornerstones Videos. Students should go to www.cengagebrain.com. At the CengageBrain.com homepage, search by the author, title, or ISBN of the text at the top of the page. CengageBrain.com will lead students to the product page to access the free study resources.



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1

Introduction to Managerial Accounting



After studying Chapter 1, you should be able to:

- 1 Explain the meaning of managerial accounting.
- 2 Explain the differences between managerial accounting and financial accounting.
- 3 Identify and explain the current focus of managerial accounting.
- 4 Describe the role of managerial accountants in an organization.
- 5 Explain the importance of ethical behavior for managers and managerial accountants.
- 6 Identify three forms of certification available to managerial accountants.



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EXPERIENCE MANAGERIAL DECISIONS

with BuyCostumes.com

The greatest benefit of managerial accounting is also its biggest challenge—to provide managers with information that improves decisions and creates organizational value. This information helps inform managers about the impact of various strategic and operational decisions on key nonfinancial performance measures and their eventual impact on the organization’s financial performance. The information is challenging to prepare and analyze because it requires an understanding of all value chain components that affect the organization, including research and development, production, marketing, distribution, and customer service.

Since its inception in 1999, **BuyCostumes.com** has blended the right managerial accounting information and an innovative business model to provide costumes to customers in over 50 countries. Using

the Internet and marketing creativity, BuyCostumes.com serves a market of 150 million U.S. consumers who spend \$3.6 billion on costumes each year.

According to CEO Jalem Getz, BuyCostumes.com measures key performance indicators to guide its decision making. For example, managerial accountants

“Using the Internet and marketing creativity, BuyCostumes.com serves a market of 150 million U.S. consumers who spend \$3.6 billion on costumes each year.”

analyze measures of customer satisfaction, average time between order placement and costume arrival for each shipping method, and the profitability of individual customer types. As customer trends change, competitors emerge, and techno-

logical advances occur, BuyCostumes.com’s managerial accounting information adapts to provide crucial insight into the company’s performance and how its strategy should evolve to remain the world’s largest Internet costume retailer.

OBJECTIVE 1

Explain the meaning of managerial accounting.

THE MEANING OF MANAGERIAL ACCOUNTING

What do we mean by managerial accounting? Quite simply, **managerial accounting** is the provision of accounting information for a company's internal users. It is the firm's internal accounting system and is designed to support the information needs of managers. Unlike financial accounting, managerial accounting is not bound by any formal criteria such as generally accepted accounting principles (GAAP). Managerial accounting has three broad objectives:

- To provide information for planning the organization's actions.
- To provide information for controlling the organization's actions.
- To provide information for making effective decisions.

Using recent examples from many companies in both the for-profit and not-for-profit sectors, this textbook explains how all manufacturing (e.g., aircraft producer—**Boeing Corporation**), merchandising (e.g., clothing retailer—**American Eagle Outfitters**) and service (e.g., healthcare provider—**Cleveland Clinic**, or online retailer **Amazon.com**) organizations use managerial accounting information and concepts. People in all types of positions—from corporate presidents to graphic designers to hospital administrators—can improve their managerial skills by being well-grounded in the basic concepts and use of managerial accounting information for planning, controlling, and decision making.

Furthermore, thousands of companies increasingly release to the public (i.e., suppliers, regulators, employees, human rights organizations, environmental groups, customers, etc.) very large quantities of managerial accounting information that traditionally either did not exist or was released only internally. This information is released through optional reports known as corporate sustainability reports (e.g., **Starbucks**, **McDonald's**), social responsibility reports (e.g., **Apple**, **Chiquita**), or citizenship reports (e.g., **General Electric**). The release of these reports often occurs because firms want to manage their reputation by preparing and releasing such information themselves, rather than having Internet bloggers, newspapers, and cable news networks publish their own estimates of such information. Some leading companies (e.g., **PepsiCo**, **Novo Nordisk**, **British Telecom**) have even moved so far as to combine their sustainability report with their annual report, thereby resulting in a single, integrated report containing both traditional financial accounting information as well as managerial accounting information.¹ The exciting reality is that the importance and scope of managerial accounting information is growing rapidly around the globe. As a result, the demand for business people who possess the ability to create, understand, use and communicate managerial accounting information continues to grow.

Information Needs of Managers and Other Users

Managerial accounting information is needed by a number of individuals. In particular, managers and empowered workers need comprehensive, up-to-date information for the following activities:

- planning
- controlling
- decision making

Planning

The detailed formulation of action to achieve a particular end is the management activity called **planning**. Planning requires setting objectives and identifying methods to

¹ For a more in-depth discussion of the future of sustainability accounting, see Robert Eccles and Michael Krzus, *One Report: Integrated Reporting for a Sustainable Strategy* (John Wiley & Sons, Inc., Hoboken, NJ: 2010) or Brian Ballou, Dan Heitger, and Chuck Landes, "Accounting for the Sustainability Cycle," 2013, available from the American Institute of Certified Public Accountants' website: www.aicpa.org/interestareas/frc/assuranceadvisoryservices/downloadabledocuments/sustainability/whitepaper_accounting_for_the_sustainability_cycle.pdf

achieve those objectives. For example, a firm may set the objective of increasing its short-term and long-term profitability by improving the overall quality of its products. **DaimlerChrysler** drastically improved the quality and profitability of its **Chrysler** automobile division during the beginning of the 21st century to the point where its quality surpassed that of **Mercedes-Benz** (also owned by DaimlerChrysler). By improving product quality, firms like DaimlerChrysler should be able to reduce scrap and rework, decrease the number of customer complaints and warranty work, reduce the resources currently assigned to inspection, and so on, thus increasing profitability. To realize these benefits, management must develop some specific methods that, when implemented, will lead to the achievement of the desired objective. A plant manager, for example, may start a supplier evaluation program to identify and select suppliers who are willing and able to supply defect-free parts. Empowered workers may be able to identify production causes of defects and to create new methods for producing a product that will reduce scrap and rework and the need for inspection. The new methods should be clearly specified and detailed.

Controlling

Planning is only half the battle. Once a plan is created, it must be implemented and its implementation monitored by managers and workers to ensure that the plan is being carried out as intended. The managerial activity of monitoring a plan's implementation and taking corrective action as needed is referred to as **controlling**. Control is usually achieved by comparing actual performance with expected performance. This information can be used to evaluate or to correct the steps being taken to implement a plan. Based on the feedback, a manager (or worker) may decide to let the plan continue as is, take corrective action of some type to put the actions back in harmony with the original plan, or do some midstream replanning.

The managerial accounting information used for planning and control purposes can be either financial or nonfinancial in nature. For example, **Duffy Tool and Stamping** saved \$14,300 per year by redesigning a press operation.² In one department, completed parts (made by a press) came down a chute and fell into a parts tub. When the tub became full, press operators had to stop operation while the stock operator removed the full tub and replaced it with an empty one. Workers redesigned the operation so that each press had a chute with two branches—each leading to a different tub. Now when one tub is full, completed parts are routed into the other tub. The \$14,300 savings are a financial measure of the success of the redesign. The redesign also eliminated machine downtime and increased the number of units produced per hour (operational feedback), both of which are examples of nonfinancial performance. Both types of measures convey important information. Often financial and nonfinancial feedback is given to managers in the form of performance reports that compare the actual data with planned data or other benchmarks.

Decision Making

The process of choosing among competing alternatives is called **decision making**. This managerial function is intertwined with planning and control in that a manager cannot successfully plan or control the organization's actions without making decisions regarding competing alternatives. For instance, if **BMW** contemplates the possibility of offering a car that runs on gasoline and hydrogen, its ultimate decision would be improved if information about the alternatives (e.g., pertaining to gasoline versus hydrogen versus hybrid combinations of these two automobile fuel options) is gathered and made available to managers. One of the major roles of the managerial accounting information system is to supply information that facilitates decision making.

² George F. Hanks, "Excellence Teams in Action," *Management Accounting* (February 1995): 35.

YOU DECIDE What Constitutes Managerial Accounting Information?

You are the **Costco** executive who has been chosen to decide whether or not the company should continue its policy of sourcing its finest coffee from Rwanda.

What types of information should you consider as you decide how best to structure and analyze this important long-term strategic decision? What challenges do you expect to face in making this decision?

What constitutes managerial accounting information is growing considerably as organizations must make decisions that include the global consequences of their actions, as well as the impact on an increasingly large number of vocal, well-informed, and powerful stakeholders. Stakeholders include the company's customers, suppliers, employees, regulators, politicians, lawmakers, and local community members. Generally speaking, managerial accounting information can be *financial* in nature, such as sales revenue or cost of sales, or *nonfinancial* in nature, such as the number of quality defects or the percentage of manufacturing plants that are inspected for compliance with human rights policies. One of the most exciting—and yet daunting—aspects of managerial accounting is that one can choose to measure *anything*, assuming the resources, information technology, and creativity exist to capture the desired performance measure.

As a Costco executive, one of the first nonfinancial factors you likely would consider measuring is the quality of the Rwandan coffee to ensure that it fulfills Costco's strategic goal of creating a competitive advantage by providing premium coffee to customers. Quality could be defined by the beans' taste, shelf life longevity, or other factors valued by customers. Other important

nonfinancial performance measures might include the time required to ship the harvested beans from Rwanda to Costco stores around North America and the presence of a local farming workforce in Rwanda critical to successfully sustaining a long-term supply chain between Rwandan fields and Costco customers.

One of the most important financial items to measure would be the importance to Costco's customers of purchasing premium quality coffee, which could be measured by the additional price they are willing to pay for Rwandan coffee over and above more average quality coffee. Other financial measures might include the cost of harvesting, inspecting, and shipping beans, as well as investments in Rwandan farming communities (e.g., physical infrastructure and schools) that ensure the relationship is sustainable for future generations.

Finally, you should consider how the decision to continue sourcing premium coffee from Rwanda will be perceived by Costco's important stakeholders, including its customers who buy the coffee, suppliers who provide the coffee beans, and government officials in the United States and Rwanda who set trading policies between the two countries. Accurately measuring issues like stakeholder perceptions of such decisions can be difficult because the managerial accountant oftentimes must invent new measures, figure out where the data to create such measures might come from, and estimate how accurate these measures will be once collected.

The managerial accountant's ability to inform executive decision makers by providing innovative, accurate, and timely performance measures can create an important competitive advantage for the organization by improving its key decisions.

OBJECTIVE 2

Explain the differences between managerial accounting and financial accounting.

FINANCIAL ACCOUNTING AND MANAGERIAL ACCOUNTING

There are two basic kinds of accounting information systems: financial accounting and managerial accounting.

Financial Accounting

Financial accounting is primarily concerned with producing information (financial statements) for *external* users, including investors, creditors, customers, suppliers, government agencies (Food and Drug Administration, Federal Communications Commission, etc.), and labor unions. This information has a historical orientation and is used for such things as investment decisions, stewardship evaluation, monitoring activity, and regulatory measures. Financial statements must conform to certain rules and conventions that are defined by various agencies, such as the Securities and Exchange Commission (SEC), the Financial Accounting Standards Board (FASB), and the International Accounting Standards Board (IASB). These rules pertain to issues such as the recognition of revenues; timing of expenses; and recording of assets, liabilities, and stockholders' equity.

Managerial Accounting

The managerial accounting system produces information for *internal* users, such as managers, executives, and workers. Thus, managerial accounting could be properly called *internal accounting*, and financial accounting could be called *external accounting*. Specifically, managerial accounting identifies, collects, measures, classifies, and reports financial and nonfinancial information that is useful to internal users in planning, controlling, and decision making.

Comparison of Financial and Managerial Accounting

When comparing financial accounting to managerial accounting, several differences can be identified. Some of the more important differences follow and are summarized in Exhibit 1.1.

- *Targeted users.* Managerial accounting focuses on providing information for internal users, while financial accounting focuses on providing information for external users.
- *Restrictions on inputs and processes.* Managerial accounting is not subject to the requirements of generally accepted accounting principles set by the SEC and the FASB that must be followed for financial reporting. The inputs and processes of financial accounting are well defined. Only certain kinds of economic events qualify as inputs, and processes must follow generally accepted methods. Unlike financial accounting, managerial accounting has no official body that prescribes the format, content, and rules for selecting inputs and processes and preparing reports.
- *Type of information.* The restrictions imposed by financial accounting tend to produce objective and verifiable financial information. For managerial accounting, information may be financial or nonfinancial and may be much more subjective in nature.
- *Time orientation.* Financial accounting has a historical orientation (i.e., looking through the rear view mirror). It records and reports events that have already happened. Although managerial accounting also records and reports events that have already occurred, it strongly emphasizes providing information about future events (i.e., looking through the front windshield). Management, for example, may want to know what it will cost to produce a product next year. This future orientation is necessary for planning and decision making.
- *Degree of aggregation.* Managerial accounting provides measures and internal reports used to evaluate the performance of entities, product lines, departments, and managers. Essentially, detailed information is needed and provided. Financial accounting, on the other hand, focuses on overall firm performance, providing a more aggregated viewpoint.
- *Breadth.* Managerial accounting is much broader than financial accounting. It includes aspects of managerial economics, industrial engineering, and management science as well as numerous other areas.

EXHIBIT 1.1

Comparison of Financial and Managerial Accounting

Financial Accounting

- Externally focused
- Must follow externally imposed rules
- Objective financial information
- Historical orientation
- Information about the firm as a whole
- More self contained

Managerial Accounting

- Internally focused
- No mandatory rules
- Financial and nonfinancial information; subjective information possible
- Emphasis on the future
- Internal evaluation and decisions based on very detailed information
- Broad, multidisciplinary

The accounting system should be designed to provide both financial and managerial accounting information. The key point here is flexibility—the system should be able to supply different information for different purposes.

OBJECTIVE 3

Identify and explain the current focus of managerial accounting.

CURRENT FOCUS OF MANAGERIAL ACCOUNTING

The business environment in which companies operate has changed dramatically over the past several decades. For instance, advances in technology, the Internet, the opening of markets around the world, increased competitive pressures and increased complexity of strategy (e.g., alliances between **McDonald's** and **The Walt Disney Company** for promotional tie-ins) and operations all have combined to produce a global business environment. Effective managerial accounting systems also have changed in order to provide information that helps improve companies' planning, control, and decision-making activities. Several important uses of managerial accounting resulting from these advances include new methods of estimating product and service cost and profitability, understanding customer orientation, evaluating the business from a cross-functional perspective, and providing information useful in improving total quality.

New Methods of Costing Products and Services

Today's companies need focused, accurate information on the cost of the products and services they produce. In the past, a company might have produced a few products that were roughly similar to one another. Only the cost of materials and labor might have differed from one product to another and figuring out the cost of each unit was relatively easy. Now, with the increase in technology and automation, it is more difficult to generate the costing information needed by management. As Peter Drucker, internationally respected management guru, points out:

Traditional cost accounting in manufacturing does not record the cost of nonproducing such as the cost of faulty quality, or of a machine being out of order, or of needed parts not being on hand. Yet these unrecorded and uncontrolled costs in some plants run as high as the costs that traditional accounting does record. By contrast, a new method of cost accounting developed in the last 10 years—called “activity-based” accounting—records all costs. And it relates them, as traditional accounting cannot, to value-added.³

Activity-based costing (ABC) is a more detailed approach to determining the cost of goods and services. ABC improves costing accuracy by emphasizing the cost of the many activities or tasks that must be done to produce a product or offer a service. **United Parcel Service Inc. (UPS)** used ABC to discover and manage the cost of the activities involved with shipping packages by truck, as opposed to by plane, in order to beat **FedEx** at its overnight delivery business in quick mid-distance (up to 500 miles) overnight deliveries.⁴ Process-value analysis focuses on the way in which companies create value for customers. The objective is to find ways to perform necessary activities more efficiently and to eliminate those that do not create customer value.

Customer Orientation

Customer value is a key focus because firms can establish a competitive advantage by creating better customer value for the same or lower cost than competitors or creating equivalent value for lower cost than that of competitors. Customer value is the difference between what a customer receives and what the customer gives up when buying a product or service. When we talk about customer value, we consider the complete range

³ Peter F. Drucker, “We Need to Measure, Not Count,” *The Wall Street Journal* (April 13, 1993): A14.

⁴ Charles Haddad and Jack Ewing, “Ground Wars: UPS’s Rapid Ascent Leaves FedEx Scrambling,” *BusinessWeek* (May 21, 2001): 64–68.

of tangible and intangible benefits that a customer receives from a purchased product. Customers receive basic and special product features, service, quality, instructions for use, reputation, brand name, and other important factors. On the other hand, customers give up the cost of purchasing the product, the time and effort spent acquiring and learning to use the product, and the costs of using, maintaining, and disposing of it.

Strategic Positioning Effective cost information can help the company identify strategies that increase customer value and, in so doing, create a sustainable competitive advantage.⁵ Generally, firms choose one of two general strategies:

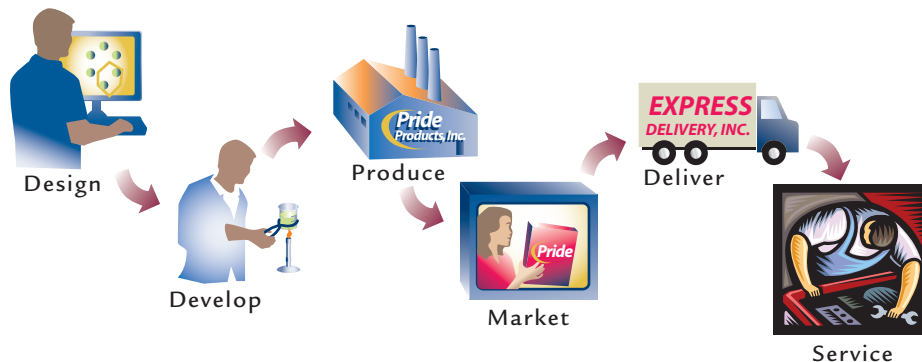
- *Cost leadership*: The objective of the cost leadership strategy is to provide the same or better value to customers at a *lower* cost than competitors.
- *Superior products through differentiation* (e.g., highest performance quality, most desired product features, best customer service, etc.): A differentiation strategy strives to increase customer value by providing something to customers not provided by competitors. For example, **Best Buy**'s Geek Squad of computer technicians creates a competitive advantage for Best Buy by providing 24-hour in-home technical assistance for its customers. Accurate cost information is important to see whether or not the additional service provided by the Geek Squad adds more to revenue than it does to cost.

The Value Chain Successful pursuit of cost leadership and/or differentiation strategies requires an understanding of a firm's value chain. The **value chain** is the set of activities required to design, develop, produce, market, and deliver products and services, as well as provide support services to customers. Exhibit 1.2 illustrates the value chain. A managerial accounting system should track information about a wide variety of activities that span the value chain. For example, **Apple** spends considerable effort researching the cost of developing, manufacturing and servicing each new iteration of its iPhone and iPad products. Also, customer value can be increased by improving the speed of delivery and response, as many customers believe that delivery delayed is delivery denied. **FedEx** exploited this part of the value chain and successfully developed a service that was not being offered by the **U.S. Postal Service**.

It is important to note that companies have internal customers as well. For example, the procurement process acquires and delivers parts and materials to producing departments. Providing high-quality parts on a timely basis to managers of producing departments is just as vital for procurement as it is for the company as a whole to provide high-quality goods to external customers. The emphasis on managing the internal value chain and servicing internal customers has revealed the importance of a cross-functional perspective.

(EXHIBIT 1.2)

The Value Chain



⁵ Deloitte Insights, "Cutting Costs to Drive Growth", CFO Journal (August 27, 2013). Taken from <http://deloitte.wsj.com/cfo/2013/08/27/cutting-costs-to-drive-growth-trends-among-the-fortune-1000/> on January 14, 2014.