CHAPTER 1

10,000 Hours/DigitalVision/Getty Images

Managerial Accounting in the Information Age

LEARNING OBJECTIVES

1. Explain the primary goal of managerial accounting and distinguish between financial and managerial accounting.
2. Define cost terms used in planning, control, and decision making.
3. Explain the two key ideas in managerial accounting.
4. Discuss the impact of information technology on business processes and the interactions companies have with suppliers and customers.
5. Describe a framework for ethical decision making and discuss the duties of the controller.

What type of job will you hold in the future? You may be a marketing manager for a consumer electronics firm, you may be the director of human resources for a biotech firm, or you may be the president of your own company. In these and other managerial positions you will have to plan operations, evaluate subordinates, and make a variety of decisions using accounting information. In some cases, you will find information from your firm's balance sheet, income statement, statement of retained earnings, and statement of cash flows to be useful. However, much of the information in these statements is more relevant to *external* users of accounting information, such as stockholders and creditors. In addition, you will need information prepared specifically for firm managers, the *internal* users of accounting information. This type of information is referred to as managerial accounting information.

If you are like most users of this book, you have already studied financial accounting. Financial accounting stresses accounting concepts and procedures that relate to preparing reports for external users of accounting information. In comparison, **managerial accounting** stresses accounting concepts and procedures that are relevant to preparing reports for internal users of accounting information. This book is devoted to the subject of managerial accounting, and this first chapter provides an overview of the role of managerial accounting in planning, control, and decision making. The chapter also defines important cost concepts and introduces key ideas that will be emphasized throughout the text. The chapter ends with a discussion of the information age and the impact of information technology on business, a framework for ethical decision making, and the role of the controller as the top management accountant. Note that you can enhance and test your knowledge of the chapter using Wiley's online resources and the self-assessment quiz at the end of the chapter. The end-of-chapter material also includes two solved review problems.

LEARNING OBJECTIVE 1

Explain the primary goal of managerial accounting and distinguish between financial and managerial accounting.

Goal of Managerial Accounting

Virtually all managers need to plan and control their operations and make a variety of decisions. The goal of managerial accounting is to provide the information they need for **planning, control**, and **decision making**. If *your* goal is to be an effective manager, a thorough understanding of managerial accounting is essential.

Planning

Planning is a key activity for all companies. A plan communicates a company's goals to employees aiding coordination of various functions, such as sales and production. A plan also specifies the resources needed to achieve company goals.

Budgets for Planning

The financial plans prepared by managerial accountants are referred to as **budgets**. A wide variety of budgets may be prepared. For example, a *profit budget* indicates planned income, a *cash-flow budget* indicates planned cash inflows and outflows, and a *production budget* indicates the planned quantity of production and the expected costs.

Consider the production cost budget for the Surge Performance Beverage Company. In the coming year, the company plans to produce 5,000,000 12-ounce bottles of beverage. This amount is based on forecasted sales. To produce this volume, the company estimates it will spend $1,500,000 on bottles, $400,000 on ingredients, $150,000 on water, and pay workers at its bottling plant $300,000. It also expects to pay $60,000 for rent, incur $80,000 of depreciation of equipment, and pay $100,000 for other miscellaneous costs. The production cost budget presented in **Illustration 1.1** summarizes this information. This budget informs the managers of Surge about how many bottles the company intends to produce and what the necessary resources will cost.

ILLUSTRATION 1.1 Production cost budget

Budgeted Production Costs For the Year Ended December 31, 2020	
Budgeted Production	**5,000,000 Bottles**
Cost of bottles	$1,500,000
Ingredient cost	400,000
Water	150,000
Labor cost	300,000
Rent	60,000
Depreciation	80,000
Other	100,000
Total budgeted production cost	$2,590,000

Control

Control of organizations is achieved by evaluating the performance of *managers* and the *operations* for which they are responsible. The distinction between evaluating managers and evaluating the operations they control is important. Managers are evaluated to determine how their performance should be rewarded or punished, which in turn motivates them to perform at a high level. Based on an evaluation indicating good performance, a manager might receive a substantial bonus. An evaluation indicating a manager performed poorly might lead to the manager being fired. In part because evaluations of managers are typically tied to compensation and promotion opportunities, managers work hard to ensure that they will receive favorable evaluations. (Of course, managers may also work hard because they love their jobs, receive respect from coworkers, or value the sense of accomplishment from a job well done!)

Operations are evaluated to provide information as to whether they should be changed or not (i.e., expanded, contracted, or modified in some way). An evaluation of an operation can be negative even when the evaluation of the manager responsible for the operation is basically positive. For example, the manager of one of the two bottling plants at Surge Performance Beverage Company may do a good job of controlling costs and meeting deadlines, given that the plant is old and out-of-date. Still, senior management may decide to close the plant because, given the outdated equipment in the plant, it is not an efficient operation. In this scenario, the manager receives a positive evaluation whereas the operation receives a negative evaluation.

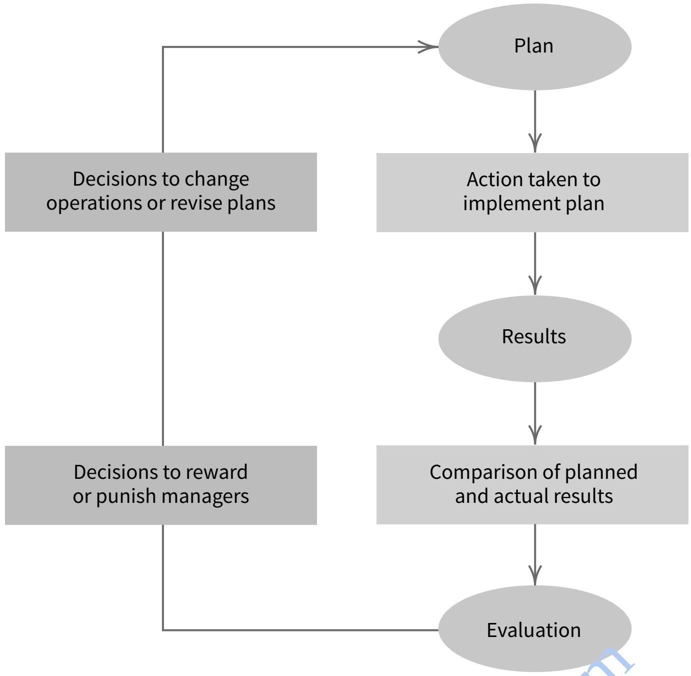
Company plans often play an important role in the control process. Managers can compare actual results with planned results and decide whether corrective action is necessary. If actual results differ from the plan, the plan may not have been followed properly; the plan may not have been well thought out; or changing circumstances may have made the plan out-of-date.

Illustration 1.2 presents the major steps in the planning and control process. Once a plan has been made, actions are taken to implement it. These actions lead to results that are compared with the original plan. Based on this evaluation, managers are rewarded (e.g., given substantial bonuses or promoted if performance is judged to be good) or punished (e.g., given only a small bonus, given no bonus, or even fired if performance is judged to be poor). Also, based on the evaluation process, operations may be changed. Changes may consist of expanding (e.g., adding a second shift), contracting (e.g., closing a production plant), or improving operations (e.g., training employees to do a better job answering customer product inquiries). Changes may also consist of revising an unrealistic plan.

Performance Reports for Control

The reports used to evaluate the performance of managers and the operations they control are referred to as **performance reports**. Although there is no generally accepted method

ILLUSTRATION 1.2 Planning and control process



of preparing a performance report, such reports frequently involve a comparison of current-period performance with performance in a prior period or with planned (budgeted) performance.

Suppose, for example, that during 2020, Surge Performance Beverage Company actually produced 5,000,000 bottles and incurred these costs:

Cost of bottles	$1,650,000
Ingredient cost	450,000
Water	152,000
Labor cost	295,000
Rent	60,000
Depreciation	80,000
Other	101,000
Total actual production cost	$2,788,000

A performance report comparing these actual costs to the budgeted costs is presented in **Illustration 1.3**.

Typically, performance reports only suggest areas that should be investigated; they do not provide definitive information on performance. For example, the performance report presented in **Illustration 1.3** indicates that something may be amiss in the control of bottle and ingredient cost. Actual costs are $150,000 more than planned for bottles and $50,000 more than planned for ingredients. There are many possible reasons why these costs are greater than the amounts budgeted. Perhaps the price of bottles or key ingredients increased, or perhaps bottles were damaged in the production process. Management must investigate these possibilities before taking appropriate corrective action.

Although performance reports may not provide definitive answers, they are still extremely useful. Managers can use them to flag areas that need closer attention and to avoid areas that are under control. It would not seem necessary, for example, to investigate labor, rent, depreciation, or other costs, because these costs are either equal to or relatively close to the planned level of cost. Typically, managers follow the principle of **management by exception** when using performance reports. This means that managers investigate departures from the plan that appear to be exceptional; they do not investigate minor departures from the plan.

ILLUSTRATION 1.3 Performance report

Performance Report, Production Costs
For the Year December 31, 2020

	Actual	Budget	Difference (Actual Minus Budget)
Production (number of bottles)	5,000,000	5,000,000	-0-
Cost of bottles	$1,650,000	$1,500,000	$150,000*
Ingredient cost	450,000	400,000	50,000*
Water	152,000	150,000	2,000
Labor cost	295,000	300,000	(5,000)
Rent	60,000	60,000	-0-
Depreciation	80,000	80,000	-0-
Other	101,000	100,000	1,000
Total production cost	$2,788,000	$2,590,000	$198,000

*Red numbers indicate differences deemed deserving of investigation.

Decision Making

As indicated in **Illustration 1.2**, decision making is an integral part of the planning and control process—decisions are made to reward or punish managers, and decisions are made to change operations or revise plans. Should a firm add a new product? Should it drop an existing product? Should it manufacture a component used in assembling its major product or contract with another company to produce the component? What price should a firm charge for a new product? These questions indicate just a few of the key decisions that confront companies. How well they make these decisions will determine future profitability and, possibly, the survival of the company. Recognizing the importance of making good decisions, we devote all of Chapters 7, 8, and 9 to the topic. Below you'll see that one of the two key ideas of managerial accounting relates to decision making and its focus on so-called incremental analysis. Finally, at the end of each chapter, there is a feature called Making Business Decisions. This feature will remind you of how the chapter material is linked to decision making, and it will summarize the knowledge and skills presented in the chapter that will help you make good decisions as a manager.

Test Your Knowledge

With respect to managerial accounting, which of the following statements are valid?

a. Budgets are used for planning.
b. Performance reports are used for control.
c. A goal of managerial accounting is to provide information useful in decision making.
d. All of the above are valid statements.

Correct answer is d.

A Comparison of Managerial and Financial Accounting

As suggested in the opening of this chapter, there are important differences between managerial and financial accounting:

1. Managerial accounting is directed at internal rather than external users of accounting information.
2. Managerial accounting may deviate from generally accepted accounting principles (GAAP).

3. Managerial accounting may present more detailed information.
4. Managerial accounting may present more nonmonetary information.
5. Managerial accounting places more emphasis on the future.

Internal versus External Users

Financial accounting is aimed primarily at external users of accounting information, whereas managerial accounting is aimed primarily at internal users (i.e., company managers). External users include investors, creditors, and government agencies, which need information to make investment, lending, and regulatory decisions. Their information needs differ from those of internal users, who need information for planning, control, and decision making.

Need to Use GAAP

Much of financial accounting information is required. The Securities and Exchange Commission (SEC) requires large, publicly traded companies to prepare reports in accordance with generally accepted accounting principles (GAAP). Even companies that are not under the jurisdiction of the SEC prepare financial accounting information in accordance with GAAP to satisfy creditors. Managerial accounting, however, is completely optional. It stresses information that is *useful* to internal managers for planning, control, and decision making. If a company believes that deviating from GAAP will provide more useful information to managers, GAAP need not be followed.

Detail of Information

Financial accounting presents information in a highly summarized form. Net income, for example, is presented for the company as a whole. To run a company, however, managers need more detailed information; for example, information about the cost of operating individual departments versus the cost of operating the company as a whole or sales broken out by product versus total company sales.

Emphasis on Nonmonetary Information

Both managerial and financial accounting reports generally contain monetary information (information expressed in dollars, such as revenue and expense). But managerial accounting reports often contain a substantial amount of additional nonmonetary information. The quantity of material consumed in production, the average time taken to process a customer service call, and the number of product defects are examples of important nonmonetary data that appear in managerial accounting reports.

Emphasis on the Future

Financial accounting is primarily concerned with presenting the results of past transactions. Managerial accounting, however, places considerable emphasis on the future. As indicated previously, one of the primary purposes of managerial accounting is planning. Thus, managerial accounting information often involves estimates of the costs and benefits of future transactions.

Similarities Between Financial and Managerial Accounting

We should not overstate the differences between financial accounting and managerial accounting in terms of their respective user groups. Financial accounting reports are aimed *primarily* at external users, and managerial accounting reports are aimed *primarily* at internal users. However, managers also make significant use of financial accounting reports, and external users occasionally request financial information that is generally considered appropriate for internal users. For example, creditors may ask management to provide them with detailed cash-flow projections.

Test Your Knowledge

Which of the following is **false?**

a. Compared to financial accounting, managerial accounting places more emphasis on generally accepted accounting principles (GAAP).

b. Compared to financial accounting, managerial accounting may present more nonmonetary information.

c. Compared to financial accounting, managerial accounting places more emphasis on the future.

d. Compared to financial accounting, managerial accounting may present more detailed information.

Correct answer is a.

LEARNING OBJECTIVE 2

Define cost terms used in planning, control, and decision making.

Cost Terms Used in Discussing Planning, Control, and Decision Making

When managers discuss planning, control, and decision making, they frequently use the word *cost*. Unfortunately, what they mean by this word is often ambiguous. This section defines key cost terms so that you will have the accounting vocabulary necessary to begin discussing issues related to planning, control, and decision making. The treatment will be brief because we will return to these cost terms and examine them in detail in later chapters.

Variable and Fixed Costs

The classification of a cost as variable or fixed depends on how the cost changes in relation to changes in the level of business activity.

Variable Costs

Costs that increase or decrease in proportion to increases or decreases in the level of business activity are **variable costs**. Material and direct labor are generally considered to be variable costs because in many situations they fluctuate in proportion to changes in production (business activity). Suppose that for Surge Performance Beverage Company, the cost of bottles, ingredients, water, and labor are variable costs and in the prior month, when production was 400,000 bottles, costs were $120,000 for bottles, $32,000 for ingredients, $12,000 for water, and $24,000 for labor. How much variable cost should the company plan on for the current month if production is expected to increase by 20 percent, to 480,000 bottles? Since the variable costs change in proportion to changes in activity, if production increases by 20 percent, these costs should also increase by 20 percent. Thus, the cost of bottles should increase to $144,000, the cost of ingredients should increase to $38,400, the cost of water to $14,400, and the cost of labor to $28,800.

	Prior Month		Current Month	
Production	400,000 Bottles	Per Unit	480,000 Bottles	Per Unit
Variable costs:				
Cost of bottles	$120,000	$0.30	$144,000	$0.30
Ingredient cost	32,000	0.08	38,400	0.08
Water	12,000	0.03	14,400	0.03
Labor cost	24,000	0.06	28,800	0.06
Total variable cost	$188,000	$0.47	$225,600	$0.47

Note that although the *total variable cost* increases from $188,000 to $225,600 when production changes from 400,000 to 480,000 units, the *variable cost per unit* does not change. It remains $0.47 per bottle. With variable cost of $0.47 per bottle, variable cost increases by $37,600 (i.e., $0.47 × 80,000) when production increases by 80,000 bottles.

Fixed Costs

Costs that remain constant when there are changes in the level of business activity are **fixed costs**. Depreciation and rent are costs that typically do not change with changes in business activity. Suppose that in the prior month, Surge Performance Beverage Company incurred $20,000 of fixed costs including $5,000 of rent, $6,667 of depreciation, and $8,333 of other miscellaneous fixed costs. If the company increases production to 480,000 bottles in the current month, the levels of rent, depreciation, and other fixed costs incurred should remain the same as when production was only 400,000 bottles. However, with fixed costs, the cost per unit does change when there are changes in production. When production increases, the constant amount of fixed cost is spread over a larger number of units. This drives down the fixed cost per unit. With an increase in production from 400,000 to 480,000 units, *total fixed costs* remains at $20,000. Note, however, that *fixed cost per unit* decreases from $0.0500 per unit to $0.0417 per unit.

	Prior Month		Current Month	
Production	400,000 Bottles	Per Unit	480,000 Bottles	Per Unit
Fixed costs:				
Rent	$ 5,000	$0.0125	$ 5,000	$0.0104
Depreciation	6,667	0.0167	6,667	0.0139
Other	8,333	0.0208	8,333	0.0174
Total fixed cost	$20,000	$0.0500	$20,000	$0.0417

Sunk Costs

Costs incurred in the past are referred to as **sunk costs**. These costs are not relevant for decision making because they do not change when decisions are made. For example, suppose you buy a ticket to a play for $30. Before the play, you run into a friend who invites you to a party. If you go to the party, you won't be able to attend the play. The cost of the ticket is irrelevant to the decision as to whether you should go to the party. What matters is how much you will enjoy the party versus the play and how much you can *sell* the ticket for (not how much you *paid* for it). Whether you go to the play or go to the party, you are out of pocket by $30 (the price of the ticket to the play, which is sunk).

Link to Practice

Every Business Decision Has an Opportunity Cost

It may surprise you, but every business decision has an opportunity cost. That's because there is always an alternative decision with a foregone benefit. Here are some illustrative examples:

1. You decide to hire John as the new assistant director of marketing.

   The opportunity cost? You could have hired Mary.
2. You decide to locate a new plant in New York.

   The opportunity cost? You could have located the plant in South Carolina.
3. You decide that no employees can work from home.

   The opportunity cost? Some qualified individuals may not apply for jobs at the company.
4. You decide to lease a corporate jet.

   The opportunity cost? The lower cost of commercial travel.
5. You decide to advertise in the print edition of The New York Times.

   The opportunity cost? You could have advertised online.

Opportunity Costs

The value of benefits forgone when one decision alternative is selected over another is an **opportunity cost**. For example, suppose Surge Performance Beverage Company refuses an order to produce 50,000 bottles for a grocery chain because taking on the order will require the company to miss delivery deadlines on orders already taken. Suppose the order would have generated \$50,000 of additional revenue (the product sells for \$1 per bottle) and \$23,500 of additional costs. Then the opportunity cost (the net benefit forgone) associated with meeting current delivery deadlines is $\$26,500$ ($\$50,000 - \$23,500$).

Direct and Indirect Costs

Costs that are directly traceable to a product, activity, or department are **direct costs**. **Indirect costs** are those that either cannot be directly traced to a product, activity, or department or are not worth tracing. The distinction between a direct and an indirect cost depends on the object of the cost tracing. For example, Surge Performance Beverage Company has a production facility in Memphis for which it incurs insurance costs. The insurance cost related to the Memphis plant is obviously a direct cost of the Memphis plant. However, the insurance cost is an indirect cost with respect to the individual types of sports drinks produced in the Memphis plant because *direct* tracing of the insurance cost to each type of drink is not possible. This situation is presented in **Illustration 1.4**.

Controllable and Noncontrollable Costs

A manager can influence a **controllable cost** but cannot influence a **noncontrollable cost**. The distinction between controllable and noncontrollable costs is especially important when evaluating a manager's performance. A manager should not be evaluated unfavorably if a noncontrollable cost sharply increases.

As an example of controllable and noncontrollable costs, consider a plant supervisor. This individual influences labor and material costs by scheduling workers and ensuring an efficient production process. Thus, labor and material costs are the supervisor's controllable costs. However, the supervisor cannot determine insurance for a plant. A plant manager or an insurance specialist makes decisions regarding insurance. Therefore, insurance cost is a supervisor's noncontrollable cost but a plant manager's or an insurance specialist's controllable cost.

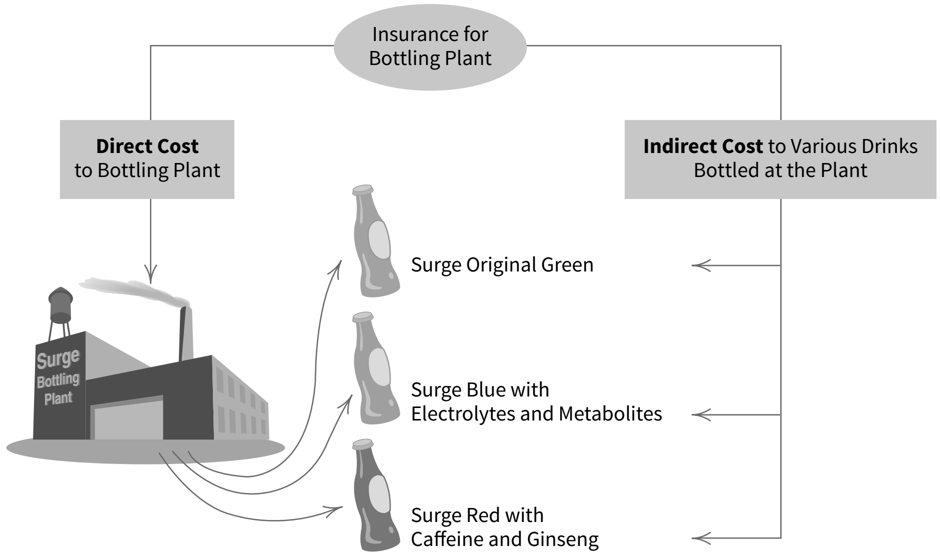


ILLUSTRATION 1.4 Insurance as both a direct and indirect cost

Test Your Knowledge

Susan Evans paid a $5,000 nonrefundable fee to attend a five-day management seminar on leadership, hosted by the Bradford College of Business. After registering for the course, her boss asked Susan to be the lead consultant on a project with a major client and, unfortunately, the start of the engagement conflicted with the seminar. Her boss, however, said that she'd be happy to ask another coworker to be the lead if Susan still wanted to attend the seminar. With respect to the decision Susan faces (go to the seminar or take the lead position on a consulting engagement), the $5,000 cost of the seminar is:

a. A variable cost. **b.** A fixed cost.

c. A sunk cost. **d.** An opportunity cost.

Correct answer is c.

LEARNING OBJECTIVE 3

Explain the two key ideas in managerial accounting.

Two Key Ideas in Managerial Accounting

The subject of managerial accounting has many concepts. However, two ideas are fundamental to understanding the use of managerial accounting information in planning, control, and decision making. Keep these two ideas in mind as you progress through your business career—you'll find them to be invaluable! Because the ideas are so important, one or both will be emphasized in each chapter of the book and identified with an icon.

1. Decision making relies on incremental analysis—an analysis of the revenues that increase (decrease) and the costs that increase (decrease) if a decision alternative is selected.
2. You get what you measure!

Decision Making Relies on Incremental Analysis

Decision Making/Incremental Analysis Incremental analysis is the appropriate way to approach the solution to all business problems. Essentially, **incremental analysis** involves the calculation of the difference in revenue and the difference in cost between decision alternatives. The difference in revenue is the **incremental revenue** of one alternative over another, whereas the difference in cost is the **incremental cost** of one alternative over another. If an alternative yields an incremental profit (the difference between incremental revenue and incremental cost), it is the preferred alternative. In the simplified example that follows, decision alternative 1 should be selected because, compared with alternative 2, it yields an incremental profit of $3,000.

Comparison of Decision Alternatives

	Alternative 1		Alternative 2			
Revenue	$15,000	–	$10,000	=	$5,000	Incremental Revenue
Cost	8,000	–	6,000	=	2,000	Incremental Cost
Profit	$ 7,000	–	$ 4,000	=	$3,000	Incremental Profit

Although the idea is simple, implementing it in practice can be difficult—that's why we devote all of Chapters 7, 8, and 9 to decision making. For now, let's look at a decision facing Surge Performance Beverage Company to gain a better understanding of incremental analysis.

Recall that at Surge Performance Beverage Company, the budgeted annual production costs for 5,000,000 bottles was $2,590,000:

Production	5,000,000 bottles
Cost of bottles	$1,500,000
Ingredient cost	400,000
Water	150,000
Labor cost	300,000
Rent	60,000
Depreciation	80,000
Other	100,000
Total production cost	$2,590,000
Cost per unit	$ 0.518

Currently, Surge sells its product only to grocery and health food stores, at $1 per bottle. Now assume that Surge is approached by Costless, a company that sells products in no-frills, self-service warehouse facilities. Costless offers to buy 200,000 bottles in the coming year, but only if the price is reduced to $0.75 per bottle. In this case there are two decision alternatives: (1) stick with the status quo and decline the offer, or (2) accept the offer.

If the offer is accepted, incremental revenue (the increase in revenue due to accepting the offer versus declining the offer) will be $150,000 and incremental cost (the increase in cost due to accepting the offer versus declining the offer) will be $94,000. Thus, the incremental profit of accepting the offer is $56,000. Assuming that the company has the capacity to produce the additional 200,000 bottles and that other orders will not have to be turned down if this large order is accepted (i.e., assuming that there are no opportunity costs), Surge Performance Beverage Company should accept this order.

Incremental revenue ($.75 × 200,000 bottles)		$150,000
Less incremental costs:		
Increase in cost of bottles ($.30 × 200,000)	$60,000	
Increase in cost of ingredients ($.08 × 200,000)	16,000	
Increase in cost of water ($.03 × 200,000)	6,000	
Increase in cost of labor ($.06 × 200,000)	12,000	94,000
Incremental profit		$ 56,000

Note that in the analysis, we use only four of the production cost items (cost of bottles, cost of ingredients, cost of water, and cost of labor). These are the only costs that increase with the new order, because all other costs (rent, depreciation, and other) are fixed and will not increase with an increase in production. Therefore, they are not incremental costs and are not relevant to the decision at hand. Think about rent expense. If the special order is rejected, rent expense will be $60,000. If the special order is accepted, rent expense will still be $60,000. Since rent expense does not change, it is not incremental, and it is not relevant in analyzing the decision.

You Get What You Measure The second key idea in managerial accounting is "You get what you measure!" In other words, performance measures greatly influence the behavior of managers.

You Get What You Measure!

Performance Measures Drive Behavior

Performance Measures	Potential Actions of Managers
Customer satisfaction at auto repair shop	Give customers a loaner car while auto is being repaired
Injuries on the job at home construction site	Develop training program for new employees at construction site
Sales to new customers of office supply company	More sales calls on potential versus current customers

Companies can select from a vast number of performance measures when deciding how they want to assess performance. Profit, market share, sales to new customers, product development time, number of defective units produced, and number of late deliveries are examples of measures in common use. Because rewards often depend on how well an employee performs on a particular measure, employees direct their attention to what is measured and may neglect what isn't measured.

For example, suppose that at Surge Performance Beverage Company, sales to new customers is introduced as a primary measure of the performance of the sales manager. How would this influence the behavior of the sales manager? Most likely, this measure will lead the manager to spend more time developing business with new customers. Although that may be just what senior management desires from the performance measure, it could lead to problems. Suppose a sales manager greatly reduces the time spent attending to the needs of existing customers, and the company loses the business of several key accounts. To avoid this and other unintended consequences, companies need to develop a balanced set of performance measures and avoid placing too much emphasis on any single measure.

Test Your Knowledge

Jason Deen is the owner of Deen's Custom Motorcycles. Recently, his cousin, Jake, crashed his bike and brought it in for repairs. Jason offered to fix the bike and charge his cousin for just the incremental costs.

Which of the following is an incremental cost associated with the repair job?

a. Depreciation on tools.
b. Salary paid to the accountant at Deen's.
c. Required parts.
d. Utilities (e.g., heat and electricity).

Correct answer is c.

Link to Practice

Problems Related to the Wrong Performance Measures

As documented by Dean Spitzer, a performance measurement thought leader, in his book *Transforming Performance Measurement,* bad things can happen when the wrong performance measure is used to evaluate employees. For example, he notes that at an insurance company known for its customer focus, digital scoreboards were mounted at a call center and reported on the average wait time for teams to respond to customer calls. The idea was to motivate employees to respond quickly to incoming calls. But to do this, employees quickly and incompletely answered customer calls so they could get off the line and pick up the next incoming call. The result was that customers frequently had to call back to get additional information, and that certainly didn't lead to customer satisfaction.

When the CEO of the company realized the problem, the "wait time" measure was replaced with "percentage of callers who complete their business on the first call with no need for additional follow-up."

LEARNING OBJECTIVE 4

Discuss the impact of information technology on business processes and the interactions companies have with suppliers and customers.

The Information Age and Managerial Accounting

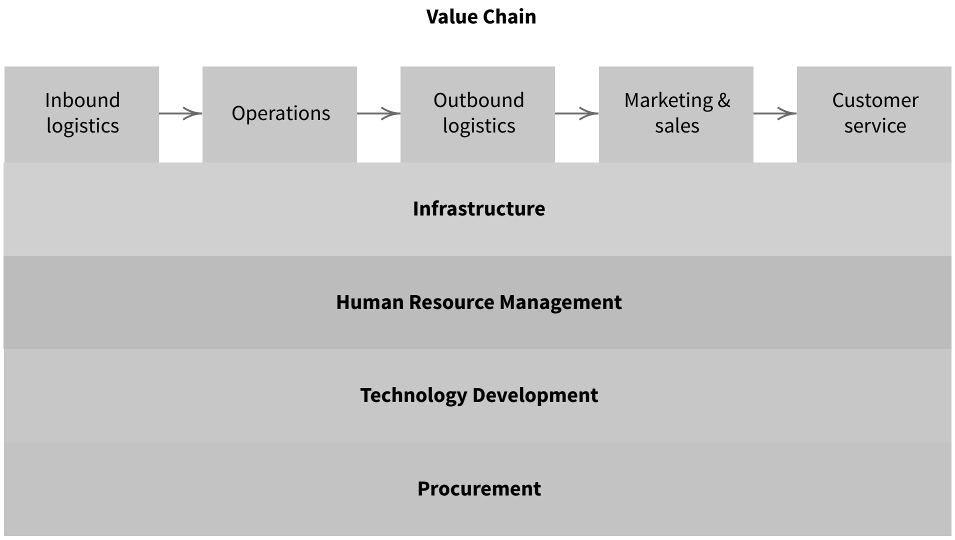
In recent years, advances in information technology have radically changed access to information and, as a consequence, the business landscape—so much so that the current business era is frequently referred to as the *information age*. Since managerial accounting is about *providing information* in order to plan and control operations and to make decisions, part and parcel of an understanding of managerial accounting is an understanding of the impact of information technology on business processes and the interactions companies have with suppliers and customers. These topics are discussed in this section.

Impact of Information Technology on Management of the Value Chain

The **value chain** comprises the fundamental activities a firm engages in to create value. The idea was developed by Michael Porter in his groundbreaking book, *Competitive Advantage*. According to Porter, firms engage in a series of primary and secondary activities. The primary activities are inbound logistics (receiving and storing goods and materials), operations to transform materials into finished products, outbound logistics (storing and shipping products to customers), marketing and sales, and after-sale customer service. (See **Illustration 1.5**.) The secondary activities include firm infrastructure (e.g., accounting, finance, and legal affairs), human resource management (e.g., hiring, training, benefits administration), technology development, and procurement of goods and services. When the value to the customer of receiving products and services exceeds the cost of these activities, firm value is created.

Information flows up and down a company's value chain and also between the company and its suppliers and between the company and its customers. **Illustration 1.6** shows this for Milano Clothiers. Milano has 35 stores throughout the United States and annual sales of over $800 million. For Milano to be successful, its suppliers must provide high-quality items, on time, to the right location, at a reasonable price. Also, Milano's own operations must be efficient. It must be able to market effectively and offer products that customers want. How can Milano ensure that this happens? The key is to take advantage of information flows up and down the value chain and between Milano and its suppliers and between Milano and

ILLUSTRATION 1.5 The value chain



its customers. This is where advances in information technology are having an impact. Note that in **Illustration 1.6**, the lines between suppliers and Milano and between customers and Milano are dashed lines. These represent the fact that the organizational boundaries are somewhat permeable because a lot of information is being transmitted both ways. Let's see some examples of how this works.

Information Flows between Milano and Customers

When customers make purchases, a Milano employee scans a bar code attached to the sale item, thereby automatically transferring the sale information into a database. This information can be used to update inventory records and ensure the company does not run out of "hot" items. The database also provides information on slow-moving merchandise that Milano can sell to a discount department store so that it doesn't take up valuable floor space. Further analysis of the sales data can reveal regional tastes in clothes, helping Milano to buy the right styles for stores in different parts of the country. Milano may also track the buying patterns of customers who identify themselves by using Milano's credit card or a special customer discount card. This information can help Milano direct targeted selling messages to different customer types via direct-mail advertising.

Information Flows between Milano and Suppliers

With several key suppliers, Milano has set up processes whereby the suppliers monitor Milano's sales of their merchandise using information from Milano's internal database. Milano shares this information because the suppliers use it to improve their production scheduling, gain efficiencies, and pass along some of the related cost savings to Milano in the form of lower prices. Milano also tracks the status of its orders using its suppliers' websites. Thus, Milano knows the exact time merchandise will be arriving at each of its locations, and this information is available any time of the day. Milano uses this information, in part, to time its advertising campaigns.

Using Information Technology to Gain Internal Efficiencies

Internally, Milano uses information technology to automate purchasing and accounts payable, sales and customer billing, as well as other accounting and finance functions. While in

ILLUSTRATION 1.6 Information flows within Milano and between Milano and its suppliers and Milano and its customers

the past the company could not close its books until one month after year-end, it can now close in a week. This provides senior managers with timely information on the company's profitability and allows the company to provide timely financial reports to shareholders and creditors. The company has over 2,000 employees. Each employee has access to a company human resources (HR) website that provides comprehensive information on company policies and allows employees to select from a menu of alternative health and retirement plans. The launch of the website has eliminated the need for five full-time HR staff who previously responded to employee questions and processed paperwork.

Software Systems That Impact Value Chain Management

Companies use a variety of software systems to process information and improve the operation of the value chain. Here, we briefly discuss three systems: **enterprise resource planning (ERP) systems**, **supply chain management (SCM) systems**, and **customer relationship management (CRM) systems**.

Enterprise Resource Planning Systems

ERP systems grew out of material requirements planning (MRP) systems that have been used since the 1960s. MRP systems computerized inventory control and production planning. Key features included an ability to prepare a master production schedule and a bill of materials and generate purchase orders. ERP systems update MRP systems with better integration, relational databases, and graphical user interfaces. ERP components now include accounting and finance, human resources, and other applications including SCM and CRM, which are discussed next.

Supply Chain Management Systems

Supply chain management (SCM) is the organization of activities between a company and its suppliers in an effort to provide for the profitable development, production, and delivery of goods to customers. By sharing information, production lead times and inventory holding costs have been reduced, while on-time deliveries to customers have been improved. SCM software systems support the planning of the best way to fill orders and help tracking of products and components among companies in the supply chain. Walmart and Procter & Gamble (P&G) are two companies that have become well known for their cooperation in the use of SCM. When P&G products are scanned at a Walmart store, P&G receives information on the sale via satellite and, thus, knows when to make more product and the specific Walmart stores to which the product should be shipped. Related cost savings are passed on, at least in part, to Walmart customers.

Customer Relationship Management Systems

CRM systems are used to manage information related to a variety of customer interactions. At their heart is a database of many, if not all, customer interactions. Company employees (and, in some cases, customers) can access this database for many purposes, including these:

- Salespeople can examine the history of all sales calls made to customers and customers' responses. This allows them to personalize their messages so they match a specific customer's needs.
- Analysis of data in the CRM system can support targeted direct-mail advertising, taking into account customers' past purchases.
- A CRM system can be used to suggest future purchases to customers based on their past purchases. This is a well-known feature of the CRM system at Amazon.com.
- A CRM system can allow customers to track the status of their orders. For example, the CRM system used by FedEx allows customers to track their shipments.

- A CRM system can allow customers to access information on product updates. For example, Canon has a CRM system that allows customers to update printer drivers.

Big Data, Data Analytics and Artificial Intelligence

In recent years, due in part to advances in cloud storage, use of sensors, the availability of data from social media, and improvements in search techniques, there has been an explosion in the amount of information that is available to companies. According to an article *Forbes* published in 2018, over 90 percent of the data in the world has been generated in the last two years.[1] **Big data** is the term used to define the extremely large data sets that are now available to businesses.

The ability to utilize big data to manage the value chain has been facilitated by **data analytics** which are quantitative techniques that can abstract insights from big data that inform business decisions. Two important types of data analytics are ***descriptive analytics*** and ***predictive analytics***. Descriptive analytics summarize characteristics of past data. As an example, a company may know that it had $2 billion in sales in the prior year. Using descriptive analytics, they discover that 60 percent of all sales came from only seven large customers. An obvious implication of this information is that the company must pay careful attention to these very important customers or work on ways to diversity their customer base.

Predictive analytics use past data to make predictions about the future. A well known example is the use of credit scores by financial institutions. By analyzing past data on payment history, amounts owed and other factors, a model is developed that predicts the risk associated with granting credit to an individual. In Chapter 4 of this textbook, we cover regression analysis, which is just one of many statistical models that can be used in predictive analytics.

Artificial intelligence (AI) is an approach to data analysis that seeks to mimic human intelligence. With AI, specific decisions are recommended or even initiated. And some AI models can learn to perform better without additional human intervention. Autonomous driving features on cars are examples of AI at work. Or, consider Amazon. The company utilizes vast amounts of customer data, obtained by monitoring customers' search and purchase activities, to identify additional products customers may wish to purchase.

The impacts of big data, data analytics and artificial intelligence are rapidly changing and companies that understand the potential are likely to achieve a significant competitive advantage related to a better understanding of customers, suppliers and internal processes.

Link to Practice

Casinos Manage with Data from CRM Systems

Casinos have been leaders in using data collected from their CRM systems in marketing decisions. Some give customers a card that they can use as they bet, buy meals, buy spa services, and pay for golf outings. Information from applying for and using the card includes patron age and home location, e-mail address, number and length of visits, retail purchase data, food and beverage data, table game preference, and slot machine denomination preference.

Casinos can use this information to determine which customers are most profitable and then target them with promotions that encourage repeat visits. These promotions can be sent via e-mail since the customer's e-mail address is available. As another example, if a casino learns that a customer plays golf, then the casino can offer a discount on this activity. This would be especially profitable if a golf outing caused a customer to stay two or three days longer at the casino and gamble.

Customers who are especially profitable, such as those who play higher-denomination slot machines, would also be offered incentives and advertising stressing the excitement and glamour of playing slots. Individuals who avoided playing slot machines but loved playing blackjack might be sent ads stressing the excitement and glamour of playing this game. And individuals like me won't be sent any incentives since I don't find gambling to be either exciting or glamorous!

[1]Source: Bernard Marr, "How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read," *Forbes*, May 21,2018. https://www.forbes.com/sites/bernardmarr/2018/05/21/how-much-data-do-we-create-every-day-the-mind-blowing-stats-everyone-should-read/#3229a07060ba

Test Your Knowledge

Which of the following is **false**?

a. Companies use CRM systems to manage information related to customers.

b. Supply chain management systems may be used to share information with suppliers.

c. Enterprise resource planning systems may include CRM and SCM applications.

d. CRM systems are primarily used to manage information generated by suppliers.

Correct answer is d.

LEARNING OBJECTIVE 5

Describe a framework for ethical decision making and discuss the duties of the controller.

Ethical Considerations in Managerial Decision Making

Remember that when we discuss decision making throughout this book, we will focus on incremental analysis as the approach to making good decisions. However, in addition to performing incremental analysis, it is equally important that managers consider the ethical aspects of their decisions. Why focus on ethics? First and foremost, ethical decision making is simply the right thing to do. But additionally, when managers behave ethically, they gain the confidence of their customers, suppliers, subordinates, and company stockholders, and that confidence is likely to translate into gains to the bottom line and to their company's stock price.

Ethical and Unethical Behavior

Ethical behavior requires that managers recognize the difference between what's right and what's wrong and then make decisions consistent with what's right. In recent years, we've witnessed a plethora of disclosures, indictments, and convictions, indicating that key managers in major companies either can't tell right from wrong or don't care to make decisions consistent with what's right. Some examples:

> Enron managers misled investors by hiding debt in so-called special-purpose entities. Kenneth Lay, Enron's CEO, touted Enron's stock to employees just weeks before the energy company imploded, leaving many with worthless 401(k) retirement accounts. Lay was found guilty of securities fraud and related charges. He faced a sentence of more than 20 years but died of a heart attack in 2006, prior to sentencing.
>
> WorldCom, America's number two long-distance company, disclosed the biggest case of fraudulent accounting in U.S. history, with profits overstated by billions. The result—the company declared bankruptcy and laid off 17,000 employees. Bernard Ebbers, CEO of WorldCom, received a 25-year prison sentence in 2005.
>
> Dennis Kozlowski, who made more than $300 million as head of Tyco, was charged with conspiring with art dealers to avoid sales tax on art he bought for $13.2 million. Tyco's share price took a nosedive following the disclosure. In 2005, Kozlowski was convicted for misappropriations of corporate funds including granting himself unauthorized bonuses and having millions of dollars of personal expenses paid by Tyco, including a $15,000 umbrella stand and a $6,000 shower curtain. He was sentenced to a jail term of 8 to 20 years.

Sarbanes-Oxley Act

The abuses just cited, along with others, led Congress to enact the Sarbanes-Oxley Act in July 2002. This law, named after Senator Paul Sarbanes and Representative Michael Oxley, has changed the financial reporting landscape for public companies and their auditors. Some of the act's most important provisions are:

- A requirement that chief executive officers and chief financial officers of a company certify that, based on their knowledge, their financial statements do not contain any untrue statements or omissions of material facts that would make the statements misleading.
- A ban on certain types of work by the company's auditors to ensure their independence. For example, the act bans auditors from performing bookkeeping services and designing or implementing financial information systems for clients.
- Longer jail sentences and larger fines for corporate executives who knowingly and willfully misstate financial statements. Fines now run up to $5 million and jail terms up to 20 years.
- A requirement that companies report on the existence and reliability of their internal controls as they relate to financial reports.

The cost of complying with Sarbanes-Oxley has been substantial. According to a survey conducted by Charles River Associates of 90 companies with average annual gross revenue of $8.1 billion, the average cost to comply with the act in the first year was $7.8 million. This amount should be contrasted with the $63 billion lost by shareholders in Enron. Will the net benefits of Sarbanes-Oxley outweigh the costs? Time will tell. There is no doubt, however, that the act has reminded corporate leaders that they have a clear obligation to ensure that financial statements do not mislead investors. And the act has put needed distance between senior managers and auditors of publicly traded companies.

In addition to conspicuous and rather clear-cut examples of unethical behavior, some companies and individuals have been accused of paying unconscionably low wages to workers in undeveloped countries, using child labor, endangering the environment with toxic chemicals, and bribing officials to promote sales abroad. But are these accusations clearly indicative of ethical lapses? Low wages are better than no wages, and, while child labor is reprehensible, the additional income earned by a child may save a family from starvation. The point is that ethical dilemmas are often complex and the situations managers face are often gray rather than black and white. When this is the case, a framework for ethical decision making may help understanding of "what's right."

Link to Practice

Feds Investigating Walmart Over Bribery in Mexico

Wouldn't it have been wonderful if corporate wrongdoing had ceased after the events at Enron, WorldCom, and Tyco? Unfortunately, that hasn't been the case. Here's an example of more recent alleged wrongdoing:

In 2012, the Justice Department began a criminal investigation of Walmart related to allegations the company paid more than $24 million in bribes to Mexican officials for construction permits. Such bribes would be a violation of the U.S. Foreign Corrupt Practices Act (FCPA). The probe expanded to China, India, and Brazil. As of August 2018, Walmart has spent more than $900 million on legal fees, internal investigation costs and improvements in its compliance systems. And it set aside $300 million to settle with the U.S. government. But, as of February 2019, both sides were deadlocked leaving one of the largest foreign corruption probes in U.S. history unresolved.

Sources: Asri Horwithz and Jia Lynn Yang, "Wal-Mart Faces Criminal Probe into Bribery Allegations," *Washington Post*, April 24, 2012; *Reuters Business News*, "Walmart is Reportedly Getting Ready to Settle a Bribery Probe for $300 Million," May 9, 2017; Tom Schoenberg, "Walmart Deadlocked With U.S. Over Bribery Probe," *Bloomberg*, August 2, 2018.

A Framework for Ethical Decision Making

The following framework for ethical decision making consists of seven questions.[1] Hopefully, answering these questions will serve as an aid in identifying "what's right." But, certainly, answering them doesn't guarantee ethical decision making.

A Seven-Question Framework for Ethical Decision Making

When evaluating a decision, ask:

1. What decision alternatives are available?
2. What individuals or organizations have a stake in the outcome of my decision?
3. Will an individual or an organization be harmed by any of the alternatives?
4. Which alternative will do the most good with the least harm?
5. Would someone I respect find any of the alternatives objectionable?

After deciding on a course of action, but before taking action, ask:

6. At a gut level, am I comfortable with the decision I am about to make?
7. Will I be comfortable telling my friends and family about this decision?

Any Questions?

Q: Why focus on the seven-question framework for ethical decision making? Many, if not most, companies have written codes of ethics, so when managers make decisions, they just need to consult their company's code to determine whether their decision stacks up to what's right in their company's environment.

A: Managers should definitely be familiar with their company's code of ethics. However, codes of ethics aren't always good guides to ethical behavior. Part of the problem is that codes often specify what can't be done rather than what should be done. And some codes focus more on ensuring that decisions are legal rather than right!

A number of exercises, problems, and cases in the end-of-chapter material present ethical dilemmas, and you should refer to this framework when preparing your answers to them. Alternatively, you may wish to consider other ethical perspectives. A large amount of material is available on the web to help your understanding of ethical decision making.

IMA Statement of Ethical Professional Practice

The Institute of Management Accounting (IMA) is a professional organization that focuses, as its name indicates, on management accounting. One of the contributions of the IMA is the development of a Statement of Ethical Professional Practice, which is presented in the appendix to this chapter. The IMA has also developed an ethics helpline that members can call to discuss ethical dilemmas they face at their companies. Callers are assigned a code number to preserve anonymity and are then referred to a counselor who explains how the dilemma relates to the provisions of the standards of ethical professional practice.

[1]Developing these questions was aided by three resources located on the web. The first is *A Guide to Moral Decision Making* by Chris MacDonald in the Department of Bioethics at Dalhousie University. The second is material developed by the W. Maurice Young Centre for Applied Ethics at the University of British Columbia, and the third is *Complete Guide to Ethics Management: An Ethics Toolkit for Managers*, by Carter MacNamera.

Link to Practice

Are the Procurement Practices of the Hershey Company Ethical?

The Hershey Company is the largest producer of chocolates in North America. Like most other producers of chocolate, Hershey relies on cocoa sourced from West Africa, which accounts for approximately 80 percent of the world's cocoa. This is controversial, however, because West Africa's cocoa production involves widespread use of child labor. And, in many cases, the children are exposed to dangerous pesticides used because of the extent of crop infestations.

What should Hershey do about this? Some critics are calling on Hershey to purchase fair-trade cocoa. In a fair-trade system, Hershey would pay a higher price, enabling small producers to afford adult workers, make important improvements in their farming practices, and support development of schools and hospitals.

In 2010, Hershey issued a corporate social responsibility report in which it said, "As the largest chocolate producer in the United States and one of the largest in the world, the well-being of the global cocoa supply chain is of vital importance to us. Even as we seek to assure a continuing supply of high-quality cocoa, we embrace our responsibility to ensure that the cocoa we buy is grown and harvested in a sustainable manner." In 2013, amid growing protests (including removal of Hershey's high-end Scharffen Berger brand from Whole Foods), Hershey vowed to use only fair-trade cocoa by 2020.

The IMA also publishes *Strategic Finance Magazine* and *Management Accounting Quarterly*, and since 1973 it has conducted a comprehensive examination to test what knowledge a management accountant must have in order to be successful in a complex and fast-changing business world. More than 3,000 individuals take the exam each year. Those who pass the exam are issued a Certificate in Management Accounting and are proud to indicate the designation Certified Management Accountant (CMA) on resumes and business cards. For details on student and professional memberships in the IMA and information on the CMA examination, visit the IMA website (www.imanet.org).

Test Your Knowledge

Which of the following is **false**?

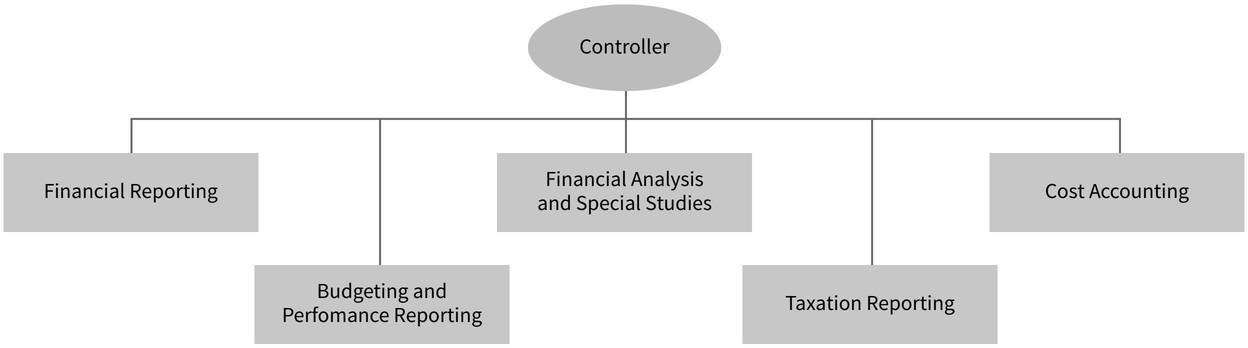
- **a.** Ethical behavior requires an assessment of what's right and what's wrong.
- **b.** The seven-question framework for ethical decision making requires asking if you are comfortable with your decision at a "gut level."
- **c.** Ethical dilemmas are often complex without answers that are clearly right.
- **d.** The Sarbanes-Oxley Act insured that business leaders would behave ethically.

Correct answer is d.

The Controller as the Top Management Accountant

Who is responsible for preparing the information needed for planning, control, and decision making? In most organizations, the top managerial accounting position is held by the controller. The **controller** prepares reports for planning and evaluating company activities (e.g., budgets and performance reports) and provides the information needed to make management decisions (e.g., decisions related to purchasing office equipment or decisions related to adding or dropping a product). The controller also has responsibility for all financial accounting reports and tax filings with the Internal Revenue Service and other taxing agencies, as well as coordinating the activities of the firm's external auditors.

ILLUSTRATION 1.7 Organization chart for the controller's office



A simplified example of the organization chart for the controller's office is shown in **Illustration 1.7**. Note that one of the areas reporting to the controller is cost accounting. Most medium-size and large manufacturing companies have such a department. Cost accountants estimate costs to facilitate management decisions and develop cost information for purposes of valuing inventory.

Many companies seeking to fill the position of controller send a clear message to applicants: "Bean counters need not apply!" This means that they want a managerial accountant who does more than concentrate on tracking costs ("counting beans"). They want an individual who will be an integral part of the top management team.

It is obvious that if you want a high-level career in managerial accounting, you will need strong accounting skills. But this is not enough. To be an important player on the management team, you will need the skills required of all high-level executives: excellent written and oral communication skills, solid interpersonal skills, and a deep knowledge of the industry in which your firm competes.

In addition to the position of controller, many companies have positions called treasurer and chief information officer (CIO). The **treasurer** has custody of cash and funds invested in various marketable securities. In addition to money management duties, the treasurer generally is responsible for maintaining relationships with investors, banks, and other creditors. Thus, the treasurer plays a major role in managing cash and marketable securities, preparing cash forecasts, and obtaining financing from banks and other lenders. The **chief information officer (CIO)** is the person responsible for a company's information technology and computer systems. Both the controller and the treasurer report to the **chief financial officer (CFO)**, who is the senior executive responsible for both accounting and financial operations. At some companies, the CIO also reports to the CFO. However, as we saw earlier, information technology is playing a critical role in managing the value chain. Therefore, it's not surprising that the CIO is frequently part of the senior management team reporting directly to the chief executive officer (CEO).

Test Your Knowledge

The top managerial accountant is typically the:

a. Controller. **b.** Chief financial officer.
c. Chief information officer. **d.** Treasurer.

Correct answer is a.

Decision-Making Insight

As discussed in this chapter, decisions are made to reward or punish managers and to change operations or revise plans. Should a company add a new product? Should it drop an existing product? Should a company outsource a business process or perform it internally? What price should a company charge for a new product? Appropriate answers to these types of questions are critical to firm profitability, and much of this book will focus on how to address them. While gut feeling will always play a role in decision making, so too will careful analysis. The type of analysis we focus on is called incremental analysis, which is an analysis of the costs and revenues that change when one decision alternative is selected over another.

Chapter Review

Summary of Learning Objectives

LEARNING OBJECTIVE 1 Explain the primary goal of managerial accounting and distinguish between financial and managerial accounting.

The primary goal of managerial accounting is to provide information that helps managers plan and control company activities and make business decisions.

The financial plans prepared by managerial accountants are referred to as budgets. These plans help employees understand company goals and what resources are needed to achieve them.

Control of organizations is achieved by evaluating the performance of managers and the operations for which they are responsible. The reports used to evaluate the performance of managers and the operations they control are referred to as performance reports. Often the reports compare current period performance with performance in a prior period or to planned (budgeted) performance. Since evaluations affect the rewards and punishments managers receive, the evaluation process causes them to work hard to receive good evaluations. Evaluations may also lead to modifications in operations, as needed.

Managerial accounting differs from financial accounting in many ways. A key difference is that managerial accounting stresses information that is useful to firm managers, whereas financial accounting stresses information that is useful to external parties. In addition, financial accounting information must be prepared in accordance with GAAP, but managerial accounting information need not be.

LEARNING OBJECTIVE 2 Define cost terms used in planning, control, and decision making.

A number of cost terms are used in discussing planning, control, and decision making. The terms include *variable cost* (a cost that changes in proportion to a change in business activity), *fixed cost* (a cost that does not change in response to a change in business activity), *sunk cost* (a cost incurred in the past), *opportunity cost* (a benefit forgone by selecting one decision alternative over another), *direct cost* (a cost that is directly traceable to a product, activity, or department), *indirect cost* (a cost that is not directly traceable to a product, activity, or department or is not worth tracing), *controllable cost* (a cost that a manager can influence), and *noncontrollable cost* (a cost that a manager cannot influence).

LEARNING OBJECTIVE 3 Explain the two key ideas in managerial accounting.

The first key idea is "Decision making relies on incremental analysis." This means that the solution to business problems involves the calculation of the difference in revenue (incremental revenue) and the difference in costs (incremental costs) between decision alternatives. The second key idea is "You get what you measure!" In other words, how companies measure performance affects how managers behave. This can create problems if managers spend too much time focused on any single performance measure.

LEARNING OBJECTIVE 4 Discuss the impact of information technology on business processes and the interactions companies have with suppliers and customers.

Information technology is having a profound effect on the value chain and on company interactions with suppliers and customers. Companies use IT to coordinate activities with suppliers and to gain information on customers. IT is also being used to improve the internal processes of companies.

LEARNING OBJECTIVE 5 Describe a framework for ethical decision making and discuss the duties of the controller.

The framework for ethical decision making consists of seven questions. See page 1–19.

The controller is the top management accountant in most organizations. The controller is responsible for preparing reports for planning and evaluating company activities and for preparing information and reports needed to make management decisions. In contrast to the controller, the treasurer is responsible for maintaining relationships with investors, banks, and other creditors. The treasurer also has custody of cash and funds invested in various marketable securities. The chief information officer (CIO) is responsible for information technology. The controller and the treasurer report to the chief financial officer (CFO), who is the senior executive responsible for accounting and financial operations. The CIO has historically reported to the CFO, but the trend today is for the CIO to report to the chief executive officer (CEO).

Review Problems

Review Problem 1 Sterling Auto Detail is currently open Monday through Friday. In the past year, income before taxes was as follows:

Numbers of cars detailed		**2,080**
Revenue		$ 468,000
Less operating expenses:		
Supplies (polish, wax, etc.)	$ 5,824	
Salaries of detailers	104,000	
Water and other variable costs	12,480	
Supervisor's salary	65,000	
Rent	36,000	
Depreciation	5,000	
Other fixed costs	1,050	229,354
Income before taxes		$ 238,646

Quincy Davis, the owner of Sterling, is considering extending the workweek through Saturday. If he takes this action, he'll hire a part-time employee for $300 per day to act as the Saturday manager so the supervisor still can have Saturday off. Quincy estimates that his company will detail an additional 10 cars per Saturday, 52 weeks per year.

Required

a. Calculate the annual incremental revenue associated with being open on Saturday.

b. Calculate the incremental cost associated with being open on Saturday.

c. Ignoring taxes, what is the incremental profit? Should Quincy open the business on Saturdays?

Answer

a. The price of a detail is $225 ($468,000 ÷ 2,080). In total, 520 (10 × 52) additional cars will be detailed. Thus, annual incremental revenue is $117,000 ($225 × 520).

b. The incremental cost per detail job is as follows:

Supplies (polish, wax, etc.) ($5,824 ÷ 2,080)	$ 2.80
Salaries of detailers ($104,000 ÷ 2,080)	50.00
Water and other variable costs (12,480 ÷ 2,080)	6.00
	$ 58.80

Thus, the incremental cost per year is:

520 details × $58.80	$30,576
Incremental cost of Saturday manager ($300 × 52 days)	15,600
Total incremental cost per year	$46,176

c. The incremental profit is $70,824 ($117,000 − $46,176), suggesting that Quincy should stay open on Saturdays.

Review Problem 2 Brennan Wealth Planning offers financial advice to high-net-worth individuals. Services include tax advice, estate planning, and advice regarding the allocation of investments so that they are consistent with customers' risk profiles. Financial advisors at the firm also sell investments and insurance products to customers. All advisors are paid a base salary plus a bonus based on the total revenue they generate.

Hampton Financial Services is very similar to Brennan. However, at this firm, financial advisors are paid a base salary plus a bonus based solely on customer satisfaction.

Required

Discuss the concept of "You get what you measure!" and comment on how this may affect customers at the two companies.

Answer

The idea behind "You get what you measure!" is that performance measures drive the behavior of managers. At Brennan, financial advisors have a clear incentive to sell as many services and products as possible—even if customers don't need the services. At Hampton, financial advisors have a strong incentive to make customers happy with the advice and the services they receive. Thus, it is quite possible that their customers will receive less biased recommendations and have higher levels of satisfaction.

Key Terms

Big data (1-16)
Budgets (1-2)
Chief financial officer (CFO) (1-21)
Chief information officer (CIO) (1-21)
Controllable cost (1-9)
Controller (1-20)
Customer relationship management (CRM) systems (1-15)
Data analytics (1-16)
Direct costs (1-9)
Enterprise resource planning (ERP) systems (1-15)
Fixed costs (1-8)
Incremental analysis (1-11)
Incremental cost (1-11)
Incremental revenue (1-11)
Indirect costs (1-9)
Management by exception (1-4)
Managerial accounting (1-2)
Noncontrollable cost (1-9)
Opportunity cost (1-9)
Performance reports (1-3)
Sunk costs (1-8)
Supply chain management (SCM) systems (1-15)
Treasurer (1-21)
Value chain (1-13)
Variable costs (1-7)

Self-Assessment

(Answers follow)

1. The primary goal of managerial accounting is to:

a. Provide information to current and potential investors in the company.

b. Provide information to creditors as well as current and prospective investors.

c. Provide information to creditors, taxing authorities, and current and prospective investors.

d. Provide information for planning, control, and decision making.

2. Match the following terms with the management activities described below:

a. Planning

b. Control

c. Decision making

(1) This management activity involves changing operations, revising plans, or rewarding/ punishing managers.

(2) This management activity compares actual results with planned outcomes as a basis for corrective action.

(3) This management activity formulates goals, communicates them to employees, and specifies the resources needed to achieve them.

3. Which of the following statements about budgets is false?

a. Budgets may be expressed in dollars, quantities, or both.

b. Budgets may reflect projected revenues, projected expenses, projected cash flows, or projected quantities of inputs or outputs.

c. Budgets must be prepared in accordance with GAAP.

d. Budgets are useful both for planning and control.

4. Which of the following statements is **false**?

- **a.** Managerial accounting statements do not necessarily comply with GAAP.
- **b.** Financial accounting statements normally reflect more detail than would be found in managerial accounting reports.
- **c.** Managerial accounting reports emphasize future activities and future costs.
- **d.** Financial accounting data are directed primarily at external users rather than internal users.

5. Which of the following is most likely to be a variable cost?

- **a.** Depreciation.
- **b.** The cost of material used in production.
- **c.** Rent.
- **d.** Advertising.

6. Which of the following is most likely to be a fixed cost?

- **a.** The cost of material used in production.
- **b.** Rent.
- **c.** Assembly labor cost.
- **d.** Commissions.

7. Costs incurred in the past are:

- **a.** Opportunity costs.
- **b.** Direct costs.
- **c.** Sunk costs.
- **d.** Variable costs.

8. _______________ costs are directly traceable to a product, activity, or department, whereas ______________ costs are not.

9. The salary a student forgoes while in college is an example of:

- **a.** Opportunity cost.
- **b.** Direct cost.
- **c.** Sunk cost.
- **d.** Variable cost.

10. Which of the following is not one of the seven questions in the framework for ethical decision making?

- **a.** Will an individual or an organization be harmed by any of the decision alternatives?
- **b.** Would someone I respect find any of the alternatives objectionable?
- **c.** At a gut level, am I comfortable with the decision I am about to make?
- **d.** Are any of the alternatives illegal?

Answers to Self-Assessment

1. d **2.** (1)-c, (2)-b, (3)-a **3.** c **4.** b **5.** b
6. b **7.** c **8.** direct, indirect **9.** a **10.** d

End-of-Chapter Homework

Questions

1. What is the goal of managerial accounting?

2. In a performance report, current-period performance is compared with some benchmark. What might be a useful benchmark?

3. List three differences between financial and managerial accounting.

4. List three examples of nonmonetary information that might appear in a managerial accounting report.

5. Explain the difference between fixed and variable costs.

6. Consider the manager of the groceries department at a Walmart store location. For this manager, list a cost that is controllable and a cost that is noncontrollable

7. What is incremental analysis? How is the concept used in decision making?

8. What is meant by the statement "You get what you measure!"?

9. How have changes in information technology impacted management of the value chain?

10. If an action is legal, is it necessarily ethical? Explain.

Exercises

Exercise 1.1 (LO3) Groupwork **You Get What You Measure** A key idea in this book is that "You get what you measure!" Essentially, this means that performance measures have a great influence on the behavior of managers.

Required

Select a company with which you are familiar. Identify three performance measures that the company might use. For each measure, identify a favorable outcome and an unfavorable outcome that might occur because the measure is used to evaluate manager performance.

Exercise 1.2 (LO2) Writing **Sunk Cost** Rachel Cook owns Campus Copies, a copy business with several high-speed copy machines. One is a color copier that was purchased just last year at a cost of $25,000. Recently a salesperson got Rachel to witness a demo of a new $23,000 color copier that promises higher speed and more accurate color representation. Rachel is interested but she can't get herself to trade in a perfectly good copier for which she paid $25,000 and replace it with one that will cost $23,000.

Required

Write a paragraph explaining why the cost of the old copier is irrelevant to Rachel's decision.

Exercise 1.3 (LO4) Ethics Guthrie Wilson is an accountant at Bellwether Systems, a company that sells and installs customer relationship management (CRM) systems. The company sells third-party software at cost plus 25 percent and charges a fee of $300 per hour of installation/integration time spent on each engagement. Recently Guthrie's boss asked him to charge 60 hours of time to the Bradley account when the time was actually worked servicing the IMG account. The rationale: "Look, IMG is a struggling start-up and they can barely afford our service. We ran over our time estimate due to some unforeseen problems, and they'll balk if we charge them for all of our time. Bradley, on the other hand, is a highly profitable company, and we're providing services that are going to make them even more profitable. They'll have no problem with their bill."

Required

Review the IMA's ethical standards in the appendix. What do the standards suggest that Guthrie should do to resolve the issue he's facing?

Exercise 1.4 (LO4) Information Age The Wellington Hotel is a posh hotel in Manhattan that uses a customer relationship management (CRM) system to track customer preferences and purchases. Provide two examples of specific information the CRM system might capture and how the hotel could use the information to enhance revenue and/or the customer experience.

Exercise 1.5 (LO1) Budgets Megan Kelly is the chief financial officer of a chain of 25 drugstores. Explain how she can use budgets in both planning profit and controlling operations.

Exercise 1.6 (LO1) Performance Reports Which of the following statements related to performance reports is false?

a. Performance reports may provide a comparison of actual performance with planned performance.

b. Performance reports may provide a comparison of actual performance with performance in a prior period.

c. If actual costs exceed planned costs in a performance report, this clearly indicates managerial incompetence.

d. Performance reports are used to evaluate managers and the operations they control.

Exercise 1.7 (LO1) Performance Reports At Designs by Deirdre, the budgeted income statement for the past year indicated sales of $600,000 and cost of sales of $400,000. Actual sales and cost of sales were $700,000 and $425,000, respectively. Should Deirdre Nelson, owner of the company, be concerned that cost of sales is $25,000 greater than planned? Explain the basis for your answer.

Exercise 1.8 (LO1) Financial versus Managerial Accounting Bob Stevens is taking Managerial Accounting at State University next term and asked his friend, Summer Adams, who has already taken the course, to explain its focus. "Are we going to learn more about balance sheets and income statements? Is it just an extension of the financial accounting course I had last year?"

Required

Assume the role of Summer and explain the focus of managerial accounting and some of the ways it differs from financial accounting.

Exercise 1.9 (LO1) Financial versus Managerial Accounting Consider a large manufacturing company like Boeing that rewards its salesforce with bonuses based on sales. For this purpose, should the company record sales when orders are placed or, to be consistent with GAAP, wait until orders are delivered?

Exercise 1.10 (LO2) Cost Terms Identify each of the following statements with fixed costs or variable costs by writing "fixed" or "variable" in the space provided.

______ **a.** A cost that varies in total with changes in the activity level.

______ **b.** A cost that varies on a per-unit basis with changes in the activity level.

______ **c.** A cost that remains fixed per unit with changes in the activity level.

______ **d.** A cost that remains fixed in total with changes in the activity level.

Exercise 1.11 (LO2) Cost Terms Indicate whether each of the following costs is most likely a fixed cost or a variable cost by writing "fixed" or "variable" in the space provided.

______ **a.** Assembly labor.

______ **b.** The cost of material used in production.

______ **c.** Rent.

______ **d.** Depreciation.

______ **e.** Fuel cost at an airline.

Exercise 1.12 (LO2) Cost Terms Explain how a cost can be controllable at one administrative level and noncontrollable at another administrative level.

Exercise 1.13 (LO2, 3) Sunk Cost Peter Takesha, the manager of testing services at a medical diagnostics firm, purchased a new lab testing machine last year for $30,000. This year a new machine, which is faster and more reliable than Peter's current model, is on the market. In deciding whether to purchase the new machine, should Peter consider how much he paid for the old machine? Should he consider the value of the old machine in the used equipment market?

Exercise 1.14 (LO2) Opportunity Costs Parrish Plumbing provides plumbing services to residential customers from Monday through Friday. Ken Parrish, the owner, believes that it is important for his employees to have Saturday and Sunday off to spend with their families. However, he also recognizes that this policy has implications for profitability, and he is considering staying open on Saturday.

Ken estimates that if his company stays open on Saturday, it can generate $2,500 of daily revenue each day for 52 days per year. The incremental daily costs will be $700 for labor, $500 for parts, $100 for transportation, and $200 for office staff. These costs do not include a share of monthly rent or a share of depreciation related to office equipment.

Ken is determined not to have employees work on Sunday, but he would like to know the opportunity cost of not working on Saturday. Provide Ken with an estimate of the opportunity cost, and explain why you do not have to consider rent or depreciation of office equipment in your estimate.

Exercise 1.15 (LO2) Opportunity Cost Zachary made plans to visit a friend in New York during the Memorial Day weekend. However, before the trip, his employer asked him if he would work overtime for 16 hours at $35 per hour during the weekend. What will be the opportunity cost if Zachary decides to visit his friend in New York?

Exercise 1.16 (LO2, 3) Incremental Analysis Wilmington Chemicals produces a chemical, PX44, which is used to retard fading in exterior house paint. In the past year, the company produced 200,000 gallons at a total cost of $1,200,000 ($6 per gallon). The company is currently considering an order for 15,000 gallons from a paint company in Canada. (To date, Wilmington has not sold the product in markets outside the United States.) Explain why the incremental cost associated with this order is likely to be less than $90,000.

Exercise 1.17 (LO3) Incremental Analysis In the past year, Williams Mold & Machine had sales of $7,000,000 and total production costs of $5,000,000. In the coming year, the company believes that sales and production can be increased by 25 percent, but this will require adding a second production shift to work from 4:00 P.M. to 1:00 A.M.

Required

a. Indicate three production costs that are likely to increase because of the addition of a second production shift.

b. Suggest a production cost that most likely will not increase when the second shift is added.

Exercise 1.18 (LO3) You Get What You Measure! At LA Porsche, customers receive an online survey asking them to rate their satisfaction after every car service. How is this measure likely to affect the financial welfare of Hulmut Schmidt, manager of the service department? List three actions that Hulmut can take to ensure the ratings indicate that customers are very satisfied.

Exercise 1.19 (LO5) Ethics Shauna Miller is an accountant at Western Building Supplies. Recently, in the course of her normal processing of transactions and related documents, she noticed that two of her company's top sales executives were taking the purchasing agents of important customers on lavish golf vacations to Hawaii. The average cost was over $6,000 per person per trip.

Review the Institute of Management Accountant's Statement of Ethical Professional Practice in the appendix to this chapter. As a member of the IMA, does Shauna have any specific obligations related to her discovery? What steps should she consider?

Exercise 1.20 (LO5) Duties and Skills of Controller Search the Web for a company seeking to hire a controller. What duties does it specify, and what skills does it want the controller to have?

Exercise 1.21 Career Connection Select one or two concepts from this chapter and describe how you might use those concepts in your future career. Briefly describe the career or job you will be performing. Then specifically describe the type of situation for which the concept could be applied. Also include a discussion of how use of the concept would allow you to make informed decisions or improve your job performance. Envision specific instances where these concepts would be useful to you.

Problems

Problem 1.1 (LO1, 2) Excel **Budgets in Managerial Accounting** Santiago's Salsa is in the process of preparing a production cost budget for May. Actual costs in April were:

Santiago's Salsa
Production Costs
April 2020

Production	25,000 Jars of Salsa
Ingredient cost (variable)	$20,000
Labor cost (variable)	12,000
Rent (fixed)	5,000
Depreciation (fixed)	6,000
Other (fixed)	1,000
Total	$44,000

Required

a. Using this information, prepare a budget for May. Assume that production will increase to 30,000 jars of salsa, reflecting an anticipated sales increase related to a new marketing campaign.

b. Does the budget suggest that additional workers are needed? Suppose the wage rate is $20 per hour. How many additional labor hours are needed in May? What would happen if management did not anticipate the need for additional labor in May?

c. Calculate the actual cost per unit in April and the budgeted cost per unit in May. Explain why the cost per unit is expected to decrease.

Problem 1.2 (LO2, 3) Excel **Incremental Analysis** Consider the production cost information for Santiago's Salsa in Problem 1.1. The company is currently producing and selling 325,000 jars of salsa annually. The jars sell for $5.00 each. The company is considering lowering the price to $4.60. Suppose this action will increase sales to 375,000 jars.

Required

a. What is the incremental cost associated with producing an extra 50,000 jars of salsa?

b. What is the incremental revenue associated with the price reduction of $0.40 per jar?

c. Should Santiago's lower the price of its salsa?

Problem 1.3 (LO1, 2) Budgets in Managerial Accounting Matthew Gabon, the sales manager of Office Furniture Solutions, prepared the following budget for 2020:

Sales Department
Budgeted Costs, 2020
(Assuming Sales of $10,000,000)

Salaries (fixed)	$400,000
Commissions (variable)	150,000
Advertising (fixed)	75,000
Charge for office space (fixed)	3,000
Office supplies & forms (variable)	2,000
Total	$630,000

After he submitted his budget, the president of Office Furniture Solutions reviewed it and recommended that advertising be increased to $100,000. Further, she wanted Matthew to assume a sales level of $11,000,000. This level of sales is to be achieved without adding to the salesforce.

Matthew's sales group occupies approximately 250 square feet of office space out of total administrative office space of 20,000 square feet. The $3,000 space charge in Matthew's budget is his share (allocated based on relative square feet) of the company's total cost of rent, utilities, and janitorial costs for the administrative office building.

Required

Prepare a revised budget consistent with the president's recommendation.

Problem 1.4 (LO1) Performance Reports A performance report that compares budgeted and actual profit in the sporting goods department of Maxwell's Department Store for the month of December follows:

Maxwell's Department Store
Sporting Goods
Performance Report December 2020

	Budget	Actual	Difference
Sales	$700,000	$775,000	$75,000
Less:			
Cost of merchandise	350,000	430,000	80,000
Salaries of sales staff	70,000	78,000	8,000
Controllable profit	$280,000	$267,000	($13,000)

Required

a. Evaluate the department in terms of its increases in sales and expenses. Do you believe it would be useful to investigate either or both of the increases in expenses?

b. Consider storewide electricity cost. Would this cost be a controllable or a noncontrollable cost for the manager of sporting goods? Would it be useful to include a share of storewide electricity cost on the performance report for sporting goods?

Problem 1.5 (LO1, 2) Performance Reports At the end of 2020, Cyril Fedako, CFO for Central Products, received a report comparing budgeted and actual production costs for the company's plant in Forest Lake, Minnesota:

Manufacturing Costs
Forest Lake Plant
Budget versus Actual 2020

	Budget	Actual	Difference (Actual Minus Budget)
Materials	$3,200,000	$3,500,000	$300,000
Direct labor	2,300,000	2,500,000	200,000
Supervisory salaries	475,000	500,000	25,000
Utilities	125,000	135,000	10,000
Machine maintenance	350,000	380,000	30,000
Depreciation of building	90,000	90,000	-0-
Depreciation of equipment	250,000	255,000	5,000
Janitorial	220,000	235,000	15,000
Total	$7,010,000	$7,595,000	$585,000

His first thought was that costs must be out of control since actual costs exceed the budget by $585,000. However, he quickly recalled that the budget was set assuming a production level of 60,000 units. The Forest Lake plant actually produced 65,000 units in 2020.

Required

Given that production was greater than planned, should Cyril expect that all actual costs will be greater than budgeted? Which costs would you expect to increase, and which costs would you expect to remain relatively constant?

Problem 1.6 (LO1, 2, 3) Financial versus Managerial Accounting Linda Vendetto is the manager of contact lenses and related products sold online by a large retail chain (think Walmart.com). In this capacity, she is responsible for approximately 250 different products.

Required

a. Explain why the level of detail in the company's income statement, balance sheet, and statement of cash flows is not sufficient for Linda to manage her operation.

b. List three nonfinancial measures that Linda may find useful to manage her operation.

c. Linda's own performance is evaluated, in part, based on customer satisfaction ratings. What can Linda do to improve performance on this measure?

d. List three likely costs in Linda's operation and indicate whether they are fixed or variable.

Problem 1.7 (LO3) You Get What You Measure! Each year the president of Smart-Toys Manufacturing selects a single performance measure and offers significant financial bonuses to all key employees if the company achieves a 10 percent improvement on the measure in comparison to the prior year. She recently said, "This focuses my managers on a single, specific target and gets them all working together to achieve a major objective that will increase shareholder value."

Sarabeth Robbins is a new member of the company's board of directors, and she has begun to question the president's approach to rewarding performance. In particular, she is concerned that placing too much emphasis on a single performance measure may lead managers to take actions that increase performance in terms of the measure but decrease the value of the firm.

Required

a. What negative consequence might occur if the performance measure is sales to new customers ÷ total sales in the current year versus the prior year? (*Note:* To receive a bonus, managers would need to increase this ratio compared with the prior year.)

b. What negative consequence might occur if the performance measure is cost of goods sold ÷ sales in the current year versus the prior year? (*Note:* To receive a bonus, managers would need to decrease this ratio compared with the prior year.)

c. What negative consequence might occur if the performance measure is selling and administrative expenses ÷ sales in the current year versus the prior year? (*Note:* To receive a bonus, managers would need to decrease this ratio compared with the prior year.)

Problem 1.8 (LO2, 3) Incremental Analysis The Riverview Hotel is a deluxe four-star establishment. Late on Friday, it had 20 of its 300 rooms available when the desk clerk received a call from the Pines

Hotel. The Pines Hotel made a booking error and did not have room for four guests (each of whom had a "confirmed" room). The Pines wants to send its customers to the Riverview but pay the rate the guests would have been charged at the Pines ($160 per room) rather than paying the normal rate of $260 per room at the Riverview.

Required

a. If the Riverview accepts the guests, what will be the incremental revenue?

b. Provide examples of incremental costs that the Riverview will incur if it accepts the guests.

c. In your opinion, will the incremental revenue be greater than the incremental cost?

Problem 1.9 (LO5) Ethics **Ethics and Code of Conduct** Search the web for the Code of Conduct for Sears Holdings Corporation (the parent company for Sears and Kmart). For each of the following cases, indicate whether it is allowable under the Code of Conduct. In your answer, cite specific language in the code.

a. A purchasing agent is negotiating with two suppliers, A and B. The agent tells supplier B the bid price offered by supplier A in an effort to get B to lower its bid.

b. An employee is running for city council and distributes materials supporting his campaign via company email.

c. A purchasing agent accepts samples of various clothing items.

d. An employee writes an anonymous blog on her experience at Sears that provides insights into the company's strategy for success.

Cases

Case 1.1 Local 635 (LO2, 5)

Local 635 represents kitchen workers at hotels in several southern cities. Part of their labor agreement states that workers "shall receive one free meal per shift up to a cost of $15, with any cost over $15 being deducted from wages paid to said employee."

A labor dispute arose at the Riverside Hotel shortly after it was opened in June. Kitchen workers who ate dinner on the late shift found that their wages were reduced by $10 for each meal they consumed at the hotel during their dinner break. Josh Parker, a line cook, stated the widely held belief of the workers. "There's no way these dinners cost the Riverside Hotel $15 to make, let alone $25. This is just another case of management trying to rip us off. Take last night. I had the prime rib dinner. The piece of meat cost about $7 and the salad less than $1. That's only $8 in total. Really, there aren't any other costs to speak of. The cook, well, he's going to be working in the kitchen and getting paid for eight hours whether he makes my meal or not. This claim that my meal cost $25 is baloney!"

Management of the Riverside Hotel sees the situation differently. Take the case of Josh's dinner. In presenting the hotel's case to a labor arbitration board, Sandy Ross, manager of the hotel, explained, "Look, that dinner goes for $40 on the menu so assigning a cost of $25 represents a very good value to the kitchen workers. The contention that the meal only costs $8 is nonsense. True, the meat costs $7 and the salad ingredients cost $1, but there's also the labor costs related to preparing the meal and the numerous overhead costs, like the cost of the oven that the prime rib is cooked in. That oven cost more than $20,000. And there's heat, light, power, etc. Each meal we prepare should be assigned part of these overhead costs. And don't forget that when the worker finishes his or her meal, someone has to clean up. That costs money too. When you add up all of these items, a prime rib dinner easily adds up to $25!"

Required

a. List examples of costs at the Riverside Hotel that are variable, fixed, and sunk. Provide an example of an opportunity cost.

b. What is the source of conflict between labor and management? What changes would you recommend in the wording of the labor agreement?

Case 1.2 Boswell Plumbing Products (LO 3)

Boswell Plumbing Products produces a variety of valves, connectors, and fixtures used in commercial and residential plumbing applications. Recently a senior manager walked into the cost accounting department and asked Nick Somner to tell her the cost of the D45 valve. Nick quickly replied, "Why do you want to know?" Noticing that the manager appeared somewhat startled by this question, he explained, "The cost information you need depends on the decision you're going to make. You might be thinking of increasing a scheduled production run of 3,000 D45s by 100 units or scheduling an additional production run, or you might even be thinking of dropping the product. For each of these decisions, the cost information that you need is different."

Required

Using the concept of incremental analysis, expand on Nick's response of, "Why do you want to know?" What cost information would be relevant to a decision to drop the product that would not be relevant to a decision to increase a production run by 100 units?

APPENDIX

IMA Statement of Ethical Professional Practice

Effective July 1, 2077

Members of IMA shall behave ethically. A commitment to ethical professional practice includes overarching principles that express our values and standards that guide member conduct.

Principles

IMA's overarching ethical principles include: Honesty, Fairness, Objectivity, and Responsibility. Members shall act in accordance with these principles and shall encourage others within their organizations to adhere to them.

Standards

IMA members have a responsibility to comply with and uphold the standards of Competence, Confidentiality, Integrity, and Credibility. Failure to comply may result in disciplinary action.

I. Competence

1. Maintain an appropriate level of professional leadership and expertise by enhancing knowledge and skills.
2. Perform professional duties in accordance with relevant laws, regulations, and technical standards.
3. Provide decision support information and recommendations that are accurate, clear, concise, and timely. Recognize and help manage risk.

II. Confidentiality

1. Keep information confidential except when disclosure is authorized or legally required.
2. Inform all relevant parties regarding appropriate use of confidential information. Monitor to ensure compliance.
3. Refrain from using confidential information for unethical or illegal advantage.

III. Integrity

1. Mitigate actual conflicts of interest. Regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts of interest.

2. Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
3. Abstain from engaging in or supporting any activity that might discredit the profession.
4. Contribute to a positive ethical culture and place integrity of the profession above personal interests.

IV. Credibility

1. Communicate information fairly and objectively.
2. Provide all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
3. Report any delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.
4. Communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.

Resolving Ethical Issues

In applying the Standards of Ethical Professional Practice, the member may encounter unethical issues or behavior. In these situations, the member should not ignore them, but rather should actively seek resolution of the issue. In determining which steps to follow, the member should consider all risks involved and whether protections exist against retaliation.

When faced with unethical issues, the member should follow the established policies of his or her organization, including use of an anonymous reporting system if available.

If the organization does not have established policies, the member should consider the following courses of action:

- The resolution process could include a discussion with the member's immediate supervisor. If the supervisor appears to be involved, the issue could be presented to the next level of management.
- IMA offers an anonymous helpline that the member may call to request how key elements of the *IMA Statement of Ethical Professional Practice* could be applied to the ethical issue.
- The member should consider consulting his or her own attorney to learn of any legal obligations, rights, and risks concerning the issue.

If resolution efforts are not successful, the member may wish to consider disassociating from the organization.