

# Chapter 1

## Accounting: Information for Decision Making

**TOM AND LYNDA OWN AND OPERATE Hercules Health Club. Hercules maintains a top-notch reputation because of Tom and Lynda's attention to detail. The club is neat and clean, and offers the small conveniences and personalized services that many people appreciate. As a result, Hercules is a profitable business, even though it does not provide the latest in physical training equipment.**

**Well, as often happens in business, when the going gets good, the competition moves in. Tempted by the market potential, a national health-club chain, Apex Health & Fitness, recently opened a branch in the community. Compared to Hercules, Apex's larger facility provides a wider choice of equipment, a bigger swimming pool, and more classes in aerobics, karate, strength training, and yoga.**

**Tom and Lynda did not expect Apex to affect their business significantly, as many of Hercules' members have been loyal to the club for years. Imagine Tom and Lynda's surprise when they lost nearly 10 percent of their members to Apex within the first three**

### **APPLYING THE DECISION FRAMEWORK**

<b>What Is the Problem?</b>	Tom and Lynda's primary goal is to restore Hercules' profits to the level earned before Apex arrived on the scene.
<b>What Are the Options?</b>	There are many options. Should Tom and Lynda reduce the membership fee to keep current members? Is there room for Hercules to cut costs without bringing down the quality of services offered? Can offering new programs, such as yoga, control the tide of defections? Should Tom and Lynda invest money to renovate the spa and steam rooms to help differentiate Hercules from Apex?
<b>What Are the Costs and Benefits?</b>	Each of these options triggers many costs and generates many benefits.
<b>Make the Decision!</b>	You can only make an effective decision after systematically considering all of the costs and benefits of the various options in the context of Tom and Lynda's goals.

**months! Concerned by this development, they ask you to recommend options for regaining the lost membership and improving profits.**



Darryl Leniuk/Getty Images

*Tom and Lynda are proud owners of a popular gym. They are wondering how best to respond to emerging competition.*

## LEARNING OBJECTIVES

*After studying this chapter, you will be able to:*

- 1 Describe the four-step framework for making decisions.
- 2 Explain how decision making in organizations differs from decision making by individuals.
- 3 Understand how planning and control decisions relate to each other.
- 4 Differentiate between financial accounting and managerial accounting.
- 5 Discuss the role of ethics in decision making.

As you can see in the *Applying the Decision Framework* box on the opposing page, there are many possible strategies for you to consider. With all these questions and options available, how should you sort through them to determine Hercules' best course of action? You know other businesses routinely face similar decisions. How do they manage?

*In this book, we provide you with a foundation in managerial accounting—a branch of accounting that helps you make business decisions. We begin in this chapter by describing a four-step framework that you could use to systematically structure and analyze any personal or business decision. Next, we explain how decision making in organizations differs from the decisions that we, as individuals, make in our daily lives. We then introduce you to two important kinds of organizational decisions—planning decisions and control decisions—and we discuss how organizations use managerial accounting information to make these decisions.*



## CHAPTER CONNECTIONS

*In Chapters 2–4, we apply the four-step decision framework to Hercules' problem.*

We end the chapter by examining how ethics, as well as societal and professional standards, influence decisions.

## The Four-Step Framework for Decision Making

### LEARNING OBJECTIVE 1

**Describe the four step framework for making decisions.**

We make decisions all the time. Do I have enough time for breakfast this morning before rushing off to school or work? What should I wear today? Should I major in accounting, finance, management, or marketing? Which car should I buy? Where should I live next year? When making decisions, most of us follow a process: we think about what we want out of the decision, identify available options, evaluate each one, and then select the option that best meets our goals. A **decision**, therefore, is simply choosing one option from a set of options to achieve a goal.

As such, we can describe decision making as consisting of the following four steps:

Step 1: Specify the decision problem, including the decision maker's goals.

Step 2: Identify options.

Step 3: Measure *benefits* (advantages) and *costs* (disadvantages) to determine the *value* (benefits reaped less costs incurred) of each option.

Step 4: Make the decision, choosing the option with the highest value.

This four-step process, the **Decision Framework**, applies equally to *all* decisions, whether personal or business-related. Only the context differs. As the book unfolds, you will see the general applicability of this framework. For now, let us look closer at each step.

### STEP 1: SPECIFY THE DECISION PROBLEM, INCLUDING THE DECISION MAKER'S GOALS

*Decisions help us accomplish goals.* We all have **goals**, or objectives, that we strive to achieve. Tom and Lynda's primary goal is to restore Hercules' profits to the level earned before Apex arrived on the scene. Thus, their decisions should help them achieve this objective. Because of the intertwining of their personal lives and the club, however, Tom and Lynda's personal goals might influence their decisions. For example, reducing the membership fee carries the risk of permanently lowering income, if the lower fee does not lead to an increase in membership. An unwillingness to bear this risk may steer Tom and Lynda away from this option. Similarly, Tom and Lynda may not be willing to put in an extra 15 hours per week, even if doing so increases profits by \$1,000 a month. Ultimately, Tom and Lynda's decisions also will depend on the relative importance they attach to other factors, such as money, risk, and leisure.

When determining their goals, individuals frequently differ in the factors they consider and the importance they attach to these factors. For example, one musician may wish to become a pop diva, while another may wish to play only for personal enjoyment. Some students attach primary importance to their grade point average (GPA), while others accept lower grades for greater involvement in extracurricular activities. As you might expect, these differences in goals often lead individuals to make different choices, even when confronted with the same options. Given an

hour of free time, one person may prefer to watch television while another might exercise. While at the food court in the mall, one person might choose pizza and another might choose tacos.

As you can see, these examples illustrate the importance of clearly identifying goals before making decisions. Understanding the factors that influence the decision maker's goals and their relative importance is the first step in making effective decisions.

## STEP 2: IDENTIFY OPTIONS

The second step is to identify options. Some decisions involve a small number of options. For example, consider a contestant's decision on the popular TV game show, *Let's Make a Deal!* In this show, one of three doors hides a valuable prize such as a car, while the other two doors conceal less desirable items. The contestant first chooses one of the three doors. Let's assume the contestant picks Door 1. At this point, the game-show host opens one of the other doors (say Door 2) to reveal a less desired prize. The contestant can now switch between the door initially chosen (Door 1) and the remaining door (Door 3). The host then opens the final door chosen to reveal the contestant's prize.

In this game, the contestant has two decisions: the initial choice and the follow-up choice. For both decisions, the contestant has a clear set of options; the first decision has three options (see Exhibit 1.1), and the second decision has two options.

In contrast, many decisions have a large number of options. Think about deciding where to go on vacation. Identifying all potential destinations is practically impossible. In such cases, we narrow the options to a manageable number in any number of ways, such as by placing a budget limit of \$1,000 or by only considering areas in Washington.

Business decisions frequently have numerous options. For example, recall that some of Tom and Lynda's many options include reducing the membership fee, offering new programs such as yoga, and renovating the spa and steam rooms. For most businesses, identifying the set of options is one of the more important tasks of management. Managers frequently distinguish themselves by their ability to identify the most promising options. *Throughout the book, we help you sharpen these skills by considering many different types of business decisions, each with numerous options.*

### Exhibit 1.1

*The Three Doors on Let's Make a Deal! Represent a Clear Set of Options for the Decision Maker*



(NBCU Photo Bank/©AP/Wide World Photos)

### STEP 3: MEASURE BENEFITS (ADVANTAGES) AND COSTS (DISADVANTAGES) TO DETERMINE THE VALUE (BENEFITS REAPED LESS COSTS INCURRED) OF EACH OPTION

Every option presents a unique trade-off between benefits and costs. Suppose you seek to increase profit by increasing a product's sales, and you have identified two options to accomplish this goal: a price cut or an advertising campaign. A price cut will increase sales, but each unit sold will bring in less money. An advertising campaign also will increase sales, but it costs money to execute. Which of these two options should you choose? Naturally, you will choose the option that maximizes *value*, which in this case is the increase in profit.

The **value** of an option equals its benefits less its costs. Because value is the contribution of an option to the decision maker's goals, *we measure value relative to the status quo, which is not doing anything at all*. Even though most businesses measure value in terms of money, or profit, value need not be a monetary amount. We could measure value in terms of leisure time, convenience, or simply feeling good about ourselves. As such, the value of the same option might differ among decision makers.

Suppose you need to travel from Orlando, Florida, to Atlanta, Georgia, for the wedding of a family friend. You need to choose between flying and driving. As Exhibit 1.2 shows, these two options differ in terms of their costs and time required. Their value to your decision will rely on your goals for the trip, such as maximizing your time in Atlanta or minimizing your traveling costs.

#### Opportunity Cost

Whenever we make a decision and choose an option, we give something up. For example, if you decide to drive from Orlando to Atlanta for a wedding, you will lose the time saved by flying. If you fly, you will spend money that you would have saved by driving. Opportunity cost is the value of what you give up by making your decision.

In the Atlanta wedding example, you had only two choices, making it easy to measure value and opportunity lost. Now consider an example with many options. Suppose Megan, a college student, can make \$50 running experiments for her biology professor this Saturday. Suppose Megan also has two other options this

**Exhibit 1.2**

*Decision Makers Might Evaluate the Costs and Benefits of the Same Two Options (e.g., Flying versus Driving) Differently If Their Goals Differ*

	Estimated Costs	Estimated Time
	\$300	2 hours
	\$100	8 hours

Saturday—working as an usher at her school’s football game and earning \$75, and working at the library and making \$60. Considering only money, what is her opportunity cost for running experiments—\$60 or \$75? It is \$75. Why is this? Because \$75 is the *most* she stands to lose by running experiments. The **opportunity cost** of any decision option is the value to the decision maker of the *next best* option.

*Businesses typically measure value and opportunity cost in terms of money, or profit.* Suppose Tom and Lynda consider offering either yoga or karate classes at Hercules. In this case, they have three options—offering a yoga class, a karate class, or neither class (the status quo of doing nothing). The value of offering the yoga class is the added profit from the yoga class relative to doing nothing. Likewise, the value of the karate class is the change in profit compared to doing nothing. If both classes are profitable, then the opportunity cost of offering the yoga class is the profit from the karate class. Similarly, the opportunity cost of offering the karate class is the profit from the yoga class.



## Check It! Exercise #1

Suppose Tom and Lynda believe that offering yoga will increase Hercules’ profits by \$2,500, while offering karate will *decrease* Hercules’ profits by \$500. Compute the value and the opportunity cost of Tom and Lynda’s three options.

	Value	Opportunity Cost
Yoga class	\$2,500	_____
Karate class	(\$500)	_____
No new classes (status quo)	_____	_____

Solution at end of chapter.

Effective decision makers ensure that the value of the chosen decision option exceeds its opportunity cost. This comparison makes sure that they are putting their resources to the best possible use and are maximizing their value. In essence, the concepts of value and opportunity cost emphasize that every decision involves trading off what we get with what we give up.

## STEP 4: MAKE THE DECISION (CHOOSING THE OPTION WITH THE HIGHEST VALUE)

*The best choice is the option with the highest value to the decision maker.* This also is the only option whose value exceeds its opportunity cost. If your goal is to maximize time with family and friends, flying from Orlando to Atlanta is your best option. Similarly, if Megan’s goal is to make the most money this Saturday, then working as an usher at the football game is her best option.

Throughout the book, we use these four steps to frame and describe decisions. To underscore the process, we use a box titled *Applying the Decision Framework* to



### CHAPTER CONNECTIONS

*In Chapter 2, we discuss the concepts associated with identifying and measuring costs and benefits to determine value and opportunity cost.*

## APPLYING THE DECISION FRAMEWORK

<b>What Is the Problem?</b>	You need to travel from Orlando to Atlanta for a wedding, where you want to spend as much time as possible with family and friends.
<b>What Are the Options?</b>	The two options are to drive or to fly.
<b>What Are the Costs and Benefits?</b>	Driving is cheaper but results in less time with family and friends. Flying costs more but requires less travel time.
<b>Make the Decision!</b>	After considering all of the costs and benefits, you decide to fly so that you can maximize your time in Atlanta.

show how it applies to the decision at hand. For example, you can use the framework to guide your decision regarding whether to drive or fly from Orlando to Atlanta.

Thus far, we have examined how the four-step framework applies to individual decision making. In the next section, we discuss how the framework applies to decision making in organizations.

## Decision Making in Organizations

### LEARNING OBJECTIVE 2

Explain how decision making in organizations differs from decision making by individuals.

The four-step decision-making framework applies equally well to *both* individual and organizational decisions. However, there are two important differences. First, unlike individuals whose goals might have several factors, organizations tend to have focused goals. For example, profit is the dominant goal of commercial organizations. As such, these organizations primarily evaluate decisions by their impact on the bottom line.

Second, because an organization is a collection of individuals, we need to think about how individual goals relate to organizational goals. Organizations don't make decisions; the people that comprise the organization do. Individual goals might differ from organizational goals, leading to actions that are not in the firm's best interests. To see this, consider a sports team. The team's goal is to win the game. However, seeking individual recognition, some players might take actions that put them in the best light even if doing so is not in the team's best interests. The lack of alignment in goals is even more of an issue when organizational goals are unclear. For an example, think back to your last team project. Some members may have wanted to work hard and receive a high grade, while others may have simply wanted to pass the class.

## ORGANIZATIONAL GOALS

An **organization** is a group of individuals engaged in a collectively beneficial mission. Organizations form for many reasons. Nonprofit organizations and charities such as the **Red Cross** and **Habitat for Humanity** seek to help individuals in need and improve people's lives. Professional organizations, such as the **American Bar Association**, serve the public and the legal profession by promoting justice, education, and professional integrity.

A for-profit business usually specifies organizational goals according to ownership. For a family-owned venture such as Hercules, the goal is to increase family wealth, which means maximizing Hercules' profits. The goal for a publicly held business such as **General Motors** or **IBM**, collectively owned by shareholders, is to maximize **shareholder value**—that is, to maximize the returns (stream of profits or, equivalently, stream of cash flows) to shareholders investing in the company.



## Connecting to Practice

### MISSION STATEMENTS

Corporate mission statements often specify elements of an organization's strategy for achieving its goals and its core values. **Google**'s mission statement is to "organize the world's information and make it universally accessible and useful." Their informal corporate motto is "Don't be evil." Likewise, **Microsoft**'s Web site says, "At **Microsoft**, we work to help people and businesses throughout the world realize their full potential. This is our mission. Everything we do reflects this mission and the values that make it possible."

**COMMENTARY:** While corporate mission statements often do not make explicit reference to maximizing profit, such statements are a means to an end. That is, a focus on pleasing customers is simply good business and leads to increased profits.

### ALIGNING INDIVIDUAL GOALS WITH ORGANIZATIONAL GOALS

As we mentioned earlier, organizational goals rarely coincide with the goals of *all* individual participants. Hercules' employees care more about their own compensation, job security, and well-being than about how much money Tom and Lynda make. These employees want the gym to do well financially primarily because it ensures their continued employment, and not because of its profit potential for Tom and Lynda. Similarly, professional managers, who run large firms such as **General Electric**, also are employees with their own goals. While companies hire managers to act in the best interests of shareholders, these individuals wish to maximize their own compensation and happiness.

What are the implications of this divergence in goals for the four-step decision-making framework? In Step 1 of the decision process, a firm's owners would like to frame decision problems in terms of maximizing profit. However, owners do not make all of the decisions in an organization. They delegate many decisions to employees. But, as you know, employees come to the organization with their own goals. Thus, these employees will look at the *same* decision in terms of maximizing their own goals and might attach lower importance to the firm's profit. As a result, the decisions that best attain individual goals may not necessarily maximize profit, the organization's goal.

What can owners do to align individual and organizational goals? To influence employees to achieve organizational goals, firms use the following methods:

- *Policies and procedures* to define acceptable behavior. Tom and Lynda keep detailed attendance records to discourage employees from claiming payment for time not worked. **Bank of America** requires tellers to balance their drawers at the end of their shifts, and **UPS** expects its drivers to follow safe driving practices.

- *Monitoring* to enforce policies and procedures. Tom and Lynda routinely walk around the gym to make sure that their employees are doing their jobs and providing helpful and courteous service. Pilots at **Delta** are subject to random drug and alcohol tests at the end of every flight, and **McDonald's** uses a mystery shopper program to ensure quality and consistency among its restaurants.
- *Incentive schemes and performance evaluation* to motivate employees to consider organizational goals. Tom and Lynda solicit feedback from class patrons and link instructor bonuses to satisfaction ratings. Realtors at **Century 21** earn commissions based on their sales, and the **United States Marine Corps** requires its soldiers to go through annual performance evaluations.

As these examples illustrate, firms promote goal congruence by tailoring policies and procedures, monitoring, incentives, and performance evaluation to fit their specific needs. In Chapters 8, 12, and 13 we discuss extensively the choice of specific systems to increase goal congruence.



## Connecting to Practice

### ENRON

**Enron** began operations in 1985 as a producer and seller of energy. By 2000, **Enron** was the seventh-largest company in the United States, employing more than 21,000 people in 40 countries. Unfortunately, **Enron's** success turned out to be artificial—key personnel misrepresented company profits and concealed debts from the company's records.

**Enron's** mission statement noted that the company prided itself on four key values: respect, integrity, communication, and excellence. Among other things, all business dealings at **Enron** were supposed to be “open and fair.” As **Enron's** story unfolded in Congress and the courts, it became obvious that employees were not following the company's mission statement.

**COMMENTARY:** Such debacles can occur when there is a mismatch between an organization's stated goals and its actual monitoring, performance evaluation, and incentives. As some would say, “you get what you measure.”

In essence, the key difference between individual and business decisions relates to Step 1 of the four-step framework—that is, organizations need to ensure that the goals of individual employees mesh with the focused goals of the organization. To accomplish their goals, then, organizations need to not only allocate resources effectively but also to motivate employees to focus on organizational goals. As we see next, these two kinds of decisions, planning and control, form part of a larger cycle.

## The Planning and Control Cycle

### LEARNING OBJECTIVE 3

Understand how planning and control decisions relate to each other.

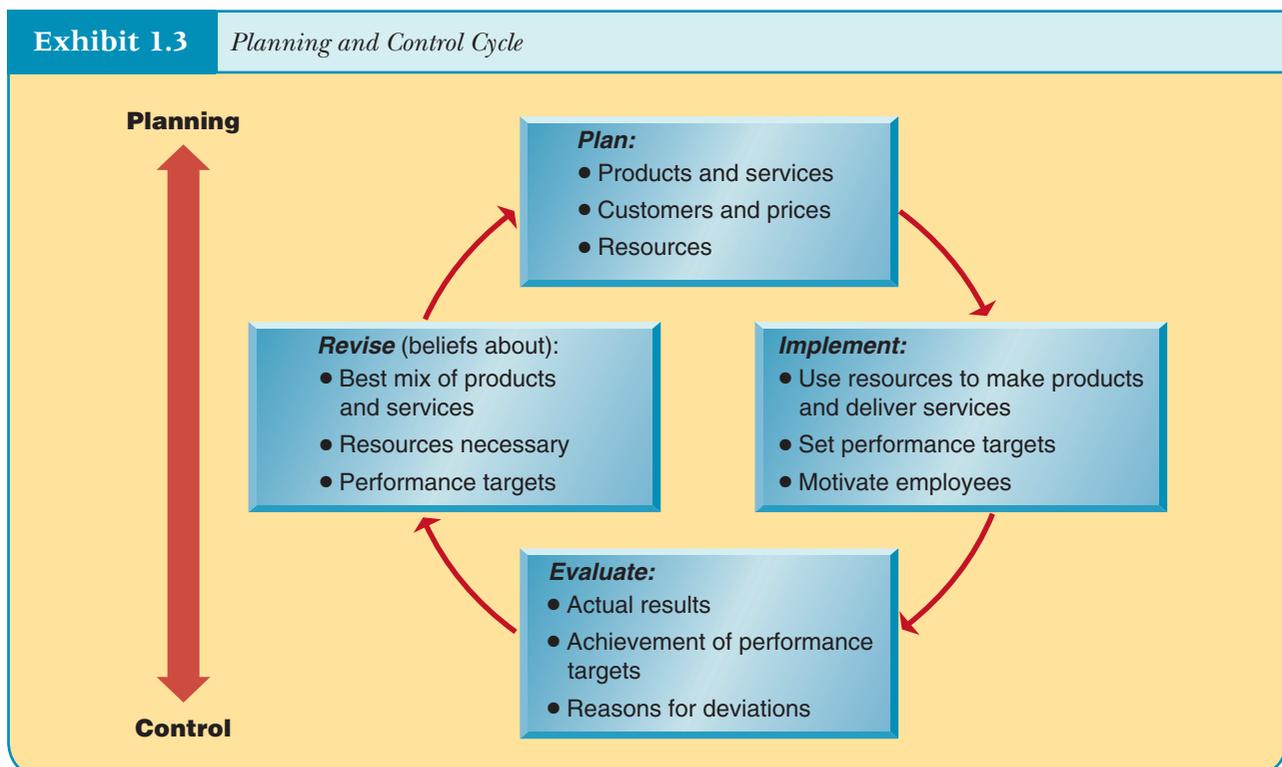
**Planning decisions** relate to choices about acquiring and using resources to deliver products and services to customers. Planning includes deciding which products and services to offer, their prices, and the resources needed, such as materials, labor, and equipment. In a broad sense, a plan is like a blueprint that specifies the actions required to achieve a goal.

It makes little sense to plan, though, unless we intend to keep a watchful eye on how well our plans are meeting our goals. This is the purpose of **control decisions**, which relate to motivating, monitoring, and evaluating performance. As such, many control decisions involve examining *past* performance, with the purpose of improving subsequent plans. For example, at the end of last semester, you probably compared your actual GPA with what you planned to achieve. You then might have made a control decision, such as changing the amount of time you spend on extracurricular activities. Likewise, by comparing actual sales with budgeted sales, organizations can learn more about market conditions and the effectiveness of a new advertising campaign. In addition, this comparison helps management gauge the efforts of its sales force as a whole and to identify its top performers.

Planning and control are two sides of the same coin, with one following the other. Exhibit 1.3 illustrates the planning and control cycle. You can think of these four stages as the PIER cycle: **P**lan, **I**mplement, **E**valuate, and **R**evise.

The cycle begins with *Planning* which products and services to offer, what resources to acquire, how much of each resource to acquire, and where to sell products and services. The next stage involves *Implementing* these choices, which includes determining how and when to use resources, as well as setting performance standards to motivate employees to achieve the formulated plan. Note that the Implement stage has elements of both planning and control. We typically consider the use of resources to be part of planning, and motivating employees to be part of control. This overlap underscores how it is sometimes difficult to know where planning and control start and stop.

The *Evaluate* stage deals with measuring actual performance and understanding the reasons for any deviations between actual and planned results. Which deviations should we spend time investigating? Which deviations should we chalk up as normal? Answers to these questions lead to the final stage, *Revise*, where we correct, as



necessary, beliefs about the best products and services to offer, the appropriate types and amounts of resources, the feasibility of performance targets, and the effectiveness of incentive schemes. This updated information then feeds into future planning and control decisions.

The planning and control cycle could happen within moments or it could take months. A ship's captain might bark at the crew to trim the sails and check to see if the correction is enough. Here, the entire planning and control cycle takes place in a few moments, and the captain might not consciously distinguish between planning and control. In contrast, a multimillion dollar building project, which might last years, would involve discrete steps for planning and control.

In responding to Apex, Tom and Lynda would also follow the planning and control cycle. Suppose that Tom and Lynda decide to offer yoga classes (Plan). They then need to hire appropriate instructors, get needed equipment, as well as schedule and promote the class (Implement). Tom and Lynda would then closely monitor class attendance, satisfaction ratings, and overall membership levels (Evaluate). If necessary, they would make changes, such as switching instructors or the type of yoga offered, to ensure that the program is successful and that the class is meeting their goals (Revise).

Now that you understand the kinds of decisions in organizations, let us turn to where organizations might obtain the information needed to make planning and control decisions. Not surprisingly, accounting plays an important role in this context.

## Accounting and Decision Making

### LEARNING OBJECTIVE 4

**Differentiate between financial accounting and managerial accounting.**

Courses in business address different aspects of the Decision Framework. Marketing concepts help managers understand consumers' goals and preferences, helping them to sell products more successfully. Management theories help in selecting, training, organizing, and motivating employees. Understanding finance is crucial when identifying the costs and benefits of funding operations in different ways.

How does accounting fit into the Decision Framework? Accounting plays a fundamental role in Step 3. *The primary role of accounting is to help measure the costs and benefits of decision options.* Broadly, we can think of two classes of decision makers who rely on accounting information—decision makers outside the firm who rely on financial accounting information, and decision makers inside the firm who use managerial accounting information. In Appendix A, we provide an overview of the key financial players in organizations and some professional accounting bodies in the United States.

## CHARACTERISTICS OF FINANCIAL ACCOUNTING INFORMATION

**Financial accounting** aims to satisfy the information needs of decision makers *outside* the firm, such as shareholders, creditors, and taxing authorities. Shareholders and potential investors use accounting data to determine whether they should buy or sell shares of a company's stock. Similarly, banks use accounting data to determine whether they should lend money to a firm and at what terms. Boards of directors, acting on behalf of shareholders, use accounting data to determine the amount of dividends to pay out. The **Internal Revenue Service (IRS)** uses accounting data to determine the amount of taxes due.

Because the context and goals differ across the many external decision makers, their information needs also differ. Furthermore, it is not cost effective for

an organization to produce individually tailored, decision-specific financial accounting information. Typically, firms satisfy the information needs of external decision makers by issuing a comprehensive set of financial statements at regular intervals (e.g., quarterly and annual reports) that relate to the firm as a whole.

Investors also have many options about where to put their money. As such, investors need to be able to compare the financial prospects of different firms using a common frame of reference. Such need for comparability of information across companies has led to standardization in the way firms prepare financial statements. In the United States, firms follow Generally Accepted Accounting Principles (GAAP) as defined by the **Financial Accounting Standards Board (FASB)** when preparing their financial statements. Many European and Asian firms follow standards issued by the **International Accounting Standards Board**. These standards reflect compromises that consider the views of the many uses for financial accounting information. For instance, the need to verify information means that the standards place greater emphasis on the reliability of the data over its relevance for any given decision.

While financial accounting information is useful for assessing an organization's overall current state and future prospects, it does not provide enough detail to address most decision needs within the firm. Managers grappling with whether to run a promotion, introduce a new product, change prices, or outsource a business process will often find financial accounting information inadequate. Instead, managers need information tailored to their specific decision problems. That is, they need managerial accounting information.

## CHARACTERISTICS OF MANAGERIAL ACCOUNTING INFORMATION

**Managerial accounting** aims to satisfy the information needs of decision makers *inside* the firm. An organization's employees use managerial accounting data to determine, among other things, which products and services to offer, the prices of products and services, what equipment to purchase, who to hire, and how to pay them. That is, managerial accounting information is useful for both planning and control decisions.

Because organizations' policies and procedures usually prohibit sharing sensitive and detailed information with outsiders, employees have greater access to information. Moreover, they need this greater access. To make the best decisions on behalf of the organization, employees require the most relevant data, be it financial or nonfinancial, when and as needed.

To understand the differences between financial and managerial accounting, notice that Tom and Lynda will prepare financial accounting statements even though Hercules is a small, closely held organization that is not listed on any stock exchange. One use for such statements is to determine the profit for the year, so that Tom and Lynda can determine how much money they can withdraw from the business. Their bank, which has given Hercules a line of credit, also demands an audited income statement each year.

Such statements, however, are not useful for Tom and Lynda to make their decision about whether to offer yoga. This decision concerns only some costs and benefits, leaving others unchanged. Tom and Lynda cannot rely on financial reports for this decision because these reports aggregate revenues and costs. Instead, they will look to their managerial accounting system to obtain specific information for the decision at hand. In general, like all managers, Tom and Lynda will use managerial accounting information both for recurring (Are we under budget for staffing costs?) and for one-time decisions (Should we renovate the spa and steam rooms?). Exhibit 1.4 summarizes the key differences between managerial accounting and financial accounting.

<b>Exhibit 1.4</b>		<i>Financial and Managerial Accounting Information Differ on Many Dimensions</i>	
<b>Characteristic</b>	<b>Financial Accounting</b>	<b>Managerial Accounting</b>	
<i>Primary users</i>	Persons external to the organization.	Persons internal to the organization.	
<i>Governing Principles</i>	Generally Accepted Accounting Principles (GAAP), as established by bodies such as the <b>Financial Accounting Standards Board (FASB)</b> and enforced by bodies such as the <b>U.S. Securities and Exchange Commission (SEC)</b> .	Evaluating the costs and benefits of decision options. In most situations, data are collected, reported, and analyzed as needed and do not conform to specified standards.	
<i>Unit of analysis</i>	Usually, the entire organization, with limited disclosures about individual lines of business.	Varies, with the decision context dictating the relevant unit of analysis.	
<i>Emphasis</i>	Information reliability, sometimes at the expense of relevance.	Information relevance valued most.	
<i>Periodicity</i>	Fixed periodicity, with external reports usually released at the end of each quarter.	Often generated on an as-needed basis.	
<i>Types of data considered</i>	Focus is on <i>past</i> financial data.	Collects, reports, and uses all available data, <i>including estimates on future performance</i> , whether financial or nonfinancial.	

In essence, *managerial accounting information supports decisions related to the acquisition and use of organizational resources as well as decisions related to motivating, monitoring, and evaluating performance.* That is, managerial accounting supports planning and control decisions.

So far, we have discussed several aspects of decision making. We have reviewed the four-step framework of decision making, as well as how managerial accounting



## Connecting to Practice

### BLURRED BOUNDARIES IN MODERN ORGANIZATIONS

We have drawn a clear distinction between decision makers inside the firm and decision makers outside the firm. Modern management practices frequently blur these organizational boundaries. Today, many firms share extensive information with suppliers and customers. For example, at **Bose Electronics** suppliers' employees have access to **Bose's** production data and information systems. These persons place sales orders on behalf of **Bose** for the products their employers sell. Such "open-book management" is like a grocery store anticipating your food needs, stocking your pantry, and debiting your bank account for the cost.

**COMMENTARY:** As the example illustrates, the distinction between external and internal decision makers is becoming less sharp. Consequently, firms are broadening the scope of their managerial accounting systems.

information supports the two main types of decisions, planning and control. However, our discussion of decision making would be incomplete if we did not address the role of ethics.

## Ethics and Decision Making

Ethics relates to every aspect of the Decision Framework. Consider Step 3, which involves measuring the costs and benefits of decision options. Some decision makers might approve an unethical act if it provides monetary benefits in excess of the costs. For example, a business might condone the use of child labor if it reduces manufacturing costs. And if a business makes that decision, who or what will stop it?

The issue of ethics goes beyond ensuring that decision makers do not choose an option based solely on monetary costs and benefits. In fact, as Exhibit 1.5 shows, we also could view ethics as an integral part of Steps 1 and 2, shaping decision makers' goals and influencing the set of options to consider. For example, should an organization's goal be to maximize wealth at all costs? What about its responsibility to contribute to its community? That is, we could view an organization's goal as not just one of profit maximization, but profit maximization *in an ethical manner*. Ethics could also stop decision makers from including questionable options in their choice set.

So, what stops an individual from engaging in unethical decision making? Organizations and societies play a significant role in shaping goals and motivating decision makers to act ethically. Through laws, rules, and regulations, organizations and governments specify the behaviors that cross ethical boundaries and the resulting penalties for engaging in unethical behavior.

For example, managers in the United States are subject to the Foreign Corrupt Practices Act of 1977. This act requires that firms maintain internal control systems to properly execute and record all transactions. It further prohibits managers from giving or taking bribes, even if such acts are part of the normal business practices in

### LEARNING OBJECTIVE 5

Discuss the role of ethics in decision making.

#### Exhibit 1.5

#### *Ethical Considerations Influence Every Step of the Four-Step Decision Framework*

Step in Decision Framework	How Ethical Considerations Might Influence This Step
What Is the Problem?	Acting in an ethical manner is an important factor in the goals of most individuals and is the stated policy for numerous organizations. Thus, ethics influence how we frame decision problems.
What Are the Options?	Many decision makers will not consider unethical actions in their choice set. For instance, cadets at <b>West Point</b> would rather receive a failing grade than cheat on an exam.
What Are the Costs and Benefits?	Breaching ethical standards might trigger some gains but also might impose significant costs. Indeed, it is possible to view adherence to ethical standards as the outcome of a cost-benefit analysis.
Make the Decision!	Personal standards might prevent some decision makers from choosing an option that they consider unethical, even if the option satisfies prevailing legal standards.



## Connecting to Practice

### CHANGING THE CULTURE AT CITIGROUP

**Citigroup** is a world-renowned organization that operates in over 100 countries and employs over 300,000 people. Until 2003, **Citigroup** focused on rapid growth, acquisitions, and year-over-year gains in earnings. Perhaps because of this focus, **Citigroup** became embroiled in several situations that hurt its reputation. In the United States, regulators penalized the firm for blurring the line between investment bankers and analysts; in Japan, the firm lost its license for private banking; and, in the UK, the firm's bond-trading unit was chastised for dubious trading strategies. In all, the firm faced billions of dollars in fines and penalties.

**COMMENTARY:** Responding to these pressures, the new management of **Citigroup** has focused on ramping up internal controls and restoring ethics to a “center of the plate” issue. While the new focus has resulted in some high-profile turnover and some loss of earnings momentum, the approach has restored some of the firm's luster. It also might prove shrewd business: **Citigroup's** early settlement for transgressions related to failed firms such as **Enron** and **WorldCom** were smaller than fines levied on other banks that dragged their feet.

another country. The Sarbanes-Oxley Act of 2002 (SOX) mandates that senior executives of publicly traded companies take individual responsibility for the accuracy and completeness of financial reports. Executive and financial officers must now certify, in writing, the truthfulness of quarterly and annual reports filed with the **U.S. Securities and Exchange Commission (SEC)**. Executives who knowingly alter, destroy, mutilate, conceal, or falsify records are subject to stiff penalties, including fines and jail time.

Individual company policies provide additional guidance regarding ethical standards. Employee handbooks usually include statements of ethical standards, as do employee rights and responsibilities documents. Some firms even impose ethical standards on their suppliers.

Finally, most professional associations expect their members to do the “right thing” even if it involves personal sacrifice. The Code of Ethics established by the **Institute of Management Accountants** (see Appendix B) stipulates that accountants should resign rather than participate in a questionable practice. This statement also spells out expected behaviors such as competence, confidentiality, integrity, and objectivity, and provides a road map of procedures to follow when resolving an ethical conflict. Other professional bodies, such as the **American Institute of Certified Public Accountants (AICPA)** and the **Institute of Internal Auditors (IIA)**, prescribe similar standards for their members.

Laws, rules, and regulations help define expected behaviors and penalties for violations, but do we really expect that all people will voluntarily abide by these guidelines? Probably not. Thus it is that societies have a justice system, including the police and courts, to enforce the laws of the land. Organizations use monitoring mechanisms to encourage desired behavior. For instance, many firms conduct surprise audits to increase the odds of detecting unethical behavior. Coupled with severe penalties, such audits make unethical actions unattractive to employees. Similarly, the threat of expulsion and the loss of certification induce individuals to abide by the norms set forth by professional bodies.

In summary, organizations, professional bodies, and the government define ethical standards. They also expend resources to enforce the laws, rules, and

regulations. Yet, in the final analysis, the main responsibility for ethical behavior rests on all of us, the individuals involved. It is up to us, whether as an accountant helping out Tom and Lynda or in some other position, to help maintain ethical standards.

## SUMMARY

In this chapter, we described a four-step framework for making decisions, distinguishing how differences in individual and organizational goals can affect business decisions. We then explained the differences between financial and managerial accounting, as well as how managerial accounting assists organizations in making planning and control decisions. Finally, we discussed the role of ethics in decision making.

Our discussion in Chapter 1 highlights that managerial accounting plays a fundamental role in Step 3 of the four-step decision-making framework. To complete this step successfully, we need to *identify* and *measure* the costs and benefits of decision options. We take up this task in Chapter 2.

## RAPID REVIEW

### LEARNING OBJECTIVE 1

#### Describe the four-step framework for making decisions.

- A decision involves choosing one option from a set of options to achieve a goal. Every decision consists of four steps: (1) specify the decision problem, including the decision maker's goals; (2) identify options; (3) measure costs and benefits to determine the value of each option; and, (4) make the decision, choosing the option with the highest value.
- We all have goals, or objectives, that we try to achieve. However, individuals differ in their goals, which lead them to make different choices even when faced with the same options.
- Business decisions frequently have numerous options. Good managers distinguish themselves in their ability to both identify good opportunities and to prune the many possible choices to the most promising few.
- The value of a decision option equals its benefits less its costs. We measure value relative to the status quo, which is not doing anything at all. The opportunity cost of any decision option is the value to the decision maker of the next best option.
- The best option has the highest value and is the only option whose value exceeds its opportunity cost.

### LEARNING OBJECTIVE 2

#### Explain how decision making in organizations differs from decision making by individuals.

- The four-step framework for making decisions applies equally to individual and organizational decisions. The key difference between individual and business decisions relates to Step 1—that is, organizations need to ensure that the goals of individual employees mesh with the goals of the organization. Furthermore, unlike individuals whose goals might have several factors, organizations tend to have focused goals.
- An organization is a group of individuals engaged in a collectively beneficial mission. In business settings, we usually specify organizational goals in relation to ownership.
- Organizations use policies and procedures, monitoring systems, performance evaluation, and incentives to align individual goals with organizational goals.

### LEARNING OBJECTIVE 3

#### Understand how planning and control decisions relate to each other.

- Decision making is dynamic—we make decisions, implement them, receive feedback about the quality of our decisions, and then start the process again, hoping to make better decisions the next time. That is, decisions follow a cycle of planning and control. The four stages of a planning and control cycle are Plan, Implement, Evaluate, and Revise (PIER).

- Planning decisions relate to choices about which products and services to offer, and about the resources, such as materials, labor, and equipment, necessary to make these products or deliver these services. In a broad sense, a plan is like a blueprint that specifies the actions needed to achieve an objective.
- Control decisions examine past planning decisions, with the purpose of improving future planning decisions. Control decisions also include setting performance targets and motivating employees. Control decisions naturally lead back to planning decisions.
- Managerial accounting information aims to satisfy the information needs of decision makers within the firm. These decision makers use managerial accounting information to support decisions related to the acquisition and use of organizational resources as well as decisions related to motivating, monitoring, and rewarding performance.
- Managerial accounting information relates to specific decision problems, emphasizes information relevance, is prepared on an as-needed basis, and contains both financial and nonfinancial data.

LEARNING OBJECTIVE 4

**Differentiate between financial accounting and managerial accounting.**

- The primary role of accounting is to help measure the costs and benefits of decision options.
- Financial accounting information aims to satisfy the information needs of decision makers outside the firm, such as shareholders, creditors, and taxing authorities. These decision makers use financial accounting data to assess an organization's current state and future prospects. Decision makers also use financial accounting information to decide on the distribution of organizational resources.
- Generally Accepted Accounting Principles (GAAP) govern financial accounting data. This information is aggregate, issued with fixed periodicity, and focuses on verifiable (audited), monetary values.

LEARNING OBJECTIVE 5

**Discuss the role of ethics in decision making.**

- Ethics relates to every step of the Decision Framework. One approach is to view ethics as affecting Step 3, when decision makers measure the costs and benefits of decision options. Another approach is to view ethics as affecting Steps 1 and 2, in shaping decision makers' goals and considered options. Under this approach, we could view organizations as maximizing profit but in an ethical manner.
- Societies, organizations, and professional bodies provide guidelines for expected behavior. The legal system also helps to ensure ethical behavior, by enforcing the laws of the land. Organizations use monitoring mechanisms, and professional associations use the threat of expulsion to encourage desired behavior. However, in the final analysis it is up to you, the individual, to behave in an ethical manner even if it involves personal sacrifice.

# Appendix A

## THE PROFESSIONAL ACCOUNTING ENVIRONMENT

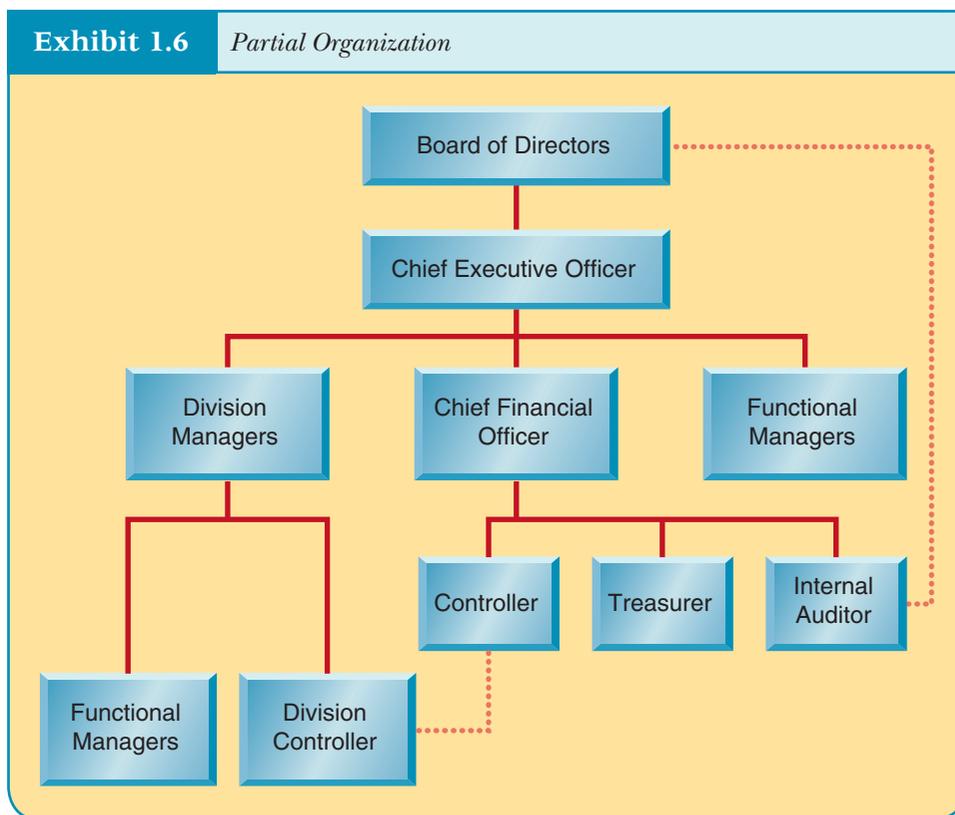
In this appendix, we provide an overview of the key financial players in organizations and some of the professional accounting bodies in the United States.

### Key Financial Players

Exhibit 1.6 presents a partial organization chart for a typical corporation. An **organization chart** shows the hierarchical relations among positions in an organization. This exhibit shows that a board of directors, representing shareholders, is ultimately responsible for overseeing the firm's operations. The board usually delegates



*Many persons have to coordinate their efforts to run an effective and efficient organization.*  
(Robert Daly/Getty Images)



most decisions to a **chief executive officer** (CEO), the highest-ranking executive in an organization. The CEO is like the captain of a ship, steering the firm's operations in the right direction.

A number of individuals assist the CEO in managing the organization. The **chief financial officer** (CFO) reports to the CEO and is responsible for all accounting and finance functions. In turn, the CFO often hires a controller to direct the accounting function and a treasurer to oversee the finance function. Many firms also have a **chief internal auditor** (CIA), who manages the internal audit function. Internal auditors frequently report directly to the audit committee of the board of directors, which helps to maintain the auditor's objectivity in presenting a full and fair picture of the firm's operations.

The **controller** manages the day-to-day accounting for the firm and oversees corporate accounting policies. The controller's staff assists in planning the firm's operations, designing and operating information systems, and fostering effective decision making. The controller is a key player in ensuring that the firm has appropriate monitoring, performance evaluation, and incentive systems in place to motivate employees to achieve organizational goals.

The **treasurer** manages the firm's cash flow and serves as the contact point for banks, bondholders, and other creditors of the firm. The treasurer ensures that the firm raises the required capital at the lowest cost and uses the capital wisely to maximize shareholder returns. The treasurer's office usually employs many finance professionals, most of whom have a strong background in accounting as well.

Other functional managers, such as the vice presidents of marketing and human resources oversee operations in key business areas. Division managers direct the day-to-day operations of product lines and markets. In turn, division managers appoint their own functional managers and a divisional controller. While divisional controllers report to division managers, they also have a "dotted line" relationship with the corporate controller. That is, the division controller must implement the corporate accounting guidelines at the divisional level.

The modern accountant is a valued and trusted member of the overall business team. The accountant gains this stature by helping division and corporate managers understand the financial and nonfinancial costs and benefits of decision options. This, in turn, helps the firm to improve the quality of its decisions.

## Professional Accounting Bodies

Most countries have several professional organizations dedicated to improving the practice of accountancy. We highlight three prominent organizations in the United States.

The **Institute of Management Accountants** (IMA) "provides personal and professional development opportunities in management accounting, financial management, and information management." The IMA offers educational programs and supports research to further the practice of management accounting. The IMA offers certifications that designate the accounting professional as a Certified Management Accountant (CMA) or a Certified Financial Manager (CFM). For more information about the IMA, visit [www.imanet.org](http://www.imanet.org).

The **American Institute of Certified Public Accountants** (AICPA) is the "national, professional organization for all Certified Public Accountants. Its mission is to provide members with the resources, information and leadership that enable them to provide valuable services in the highest professional manner to benefit

the public as well as employers and clients.” Among other activities, the AICPA advocates on behalf of its members before the government and standard setters. It also promotes public awareness and confidence in the integrity, objectivity, and competence of Certified Public Accountants (CPAs).

For more information, visit [www.aicpa.org](http://www.aicpa.org).

The **Institute of Internal Auditors (IIA)** “provides dynamic leadership for the global profession of internal auditing.” The IIA advocates the value of internal auditing and provides education on best practices in internal auditing. The IIA offers certification that designates a person as a Certified Internal Auditor (CIA). For more information, visit [www.theiia.org](http://www.theiia.org).

## Appendix B

# THE IMA CODE OF ETHICS

We reproduce below, with permission, the code of ethics established by the **Institute of Management Accountants**.

### ETHICAL STANDARDS

In today's modern world of business, individuals in management accounting and financial management constantly face ethical dilemmas. For example, if the accountant's immediate superior instructs the accountant to record the physical inventory at its original costs when it is obvious that the inventory has a reduced value due to obsolescence, what should the accountant do? To help make such a decision, here is a brief general discussion of ethics and the "Standards of Ethical Conduct for Members."

Ethics, in its broader sense, deals with human conduct in relation to what is morally good and bad, right and wrong. To determine whether a decision is good or bad, the decision-maker must compare his/her options with some standard of perfection. This standard of perfection is not a statement of static position but requires the decision-maker to assess the situation and the values of the parties affected by the decision. The decision-maker must then estimate the outcome of the decision and be responsible for its results. Two good questions to ask when faced with an ethical dilemma are, "Will my actions be fair and just to all parties affected?" and "Would I be pleased to have my closest friends learn of my actions?"

Individuals in management accounting and financial management have a unique set of circumstances relating to their employment. To help them assess their situation, the **Institute of Management Accountants (IMA)** has developed the following "Standards of Ethical Conduct for Members."

### STANDARDS OF ETHICAL CONDUCT FOR MEMBERS

Members of **IMA** have an obligation to the public, their profession, the organizations they serve, and themselves, to maintain the highest standards of ethical conduct. In recognition of this obligation, the **IMA** has promulgated the following standards of ethical conduct for its members. Members shall not commit acts contrary to these standards nor shall they condone the commission of such acts by others within their organizations.

Members shall abide by the more stringent code of ethical conduct, whether that is the standards widely practiced in their country or **IMA's** Standards of Ethical Conduct. In no case will a member conduct herself or himself by any standard that is not at least equivalent to the standards identified for members in **IMA's** Standards of Ethical Conduct.

The standards of ethical conduct for IMA members are published in SMA 1C (Statement on Management Accounting).

### Competence

Members have a responsibility to:

- Maintain an appropriate level of professional competence by ongoing development of their knowledge and skills.
- Perform their professional duties in accordance with relevant laws, regulations, and technical standards.
- Prepare complete and clear reports and recommendations after appropriate analyses of relevant and reliable information.

### Confidentiality

Members have a responsibility to:

- Refrain from disclosing confidential information acquired in the course of their work except when authorized, unless legally obligated to do so.
- Inform subordinates as appropriate regarding the confidentiality of information acquired in the course of their work and monitor their activities to assure the maintenance of that confidentiality.
- Refrain from using or appearing to use confidential information acquired in the course of their work for unethical or illegal advantage either personally or through third parties.

### Integrity

Members have a responsibility to:

- Avoid actual or apparent conflicts of interest and advise all appropriate parties of any potential conflict.
- Refrain from engaging in any activity that would prejudice their ability to carry out their duties ethically.
- Refuse any gift, favor, or hospitality that would influence or would appear to influence their actions.
- Refrain from either actively or passively subverting the attainment of the organization's legitimate and ethical objectives.
- Recognize and communicate professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.
- Communicate unfavorable as well as favorable information and professional judgments or opinions.
- Refrain from engaging in or supporting any activity that would discredit the profession.

### Objectivity

Members have a responsibility to:

- Communicate information fairly and objectively.
- Disclose fully all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, comments, and recommendations presented.

### Resolution of Ethical Conflict

In applying the standards of ethical conduct, members may encounter problems in identifying unethical behavior or in resolving an ethical conflict. When faced with significant ethical issues, members should follow the established

policies of the organization bearing on the resolution of such conflict. If these policies do not resolve the ethical conflict, such members should consider the following courses of action.

- Discuss such problems with the immediate superior except when it appears that the superior is involved, in which case the problem should be presented initially to the next higher managerial level. If a satisfactory resolution cannot be achieved when the problem is initially presented, submit the issues to the next higher managerial level. If the immediate superior is the chief executive officer, or equivalent, the acceptable reviewing authority may be a group such as the audit committee, executive committee, board of directors, board of trustees, or owners. Contact with levels above the immediate superior should be initiated only with the superior's knowledge, assuming the superior is not involved. Except where legally prescribed, communication of such problems to authorities or individuals not employed or engaged by the organization is not considered appropriate.
- Clarify relevant ethical issues by confidential discussion with an objective advisor (e.g., IMA Ethics Counseling service) to obtain a better understanding of possible courses of action. Consult your own attorney as to legal obligations and rights concerning the ethical conflict.
- If the ethical conflict still exists after exhausting all levels of internal review, there may be no other recourse on significant matters than to resign from the organization and to submit an informative memorandum to an appropriate representative of the organization. After resignation, depending on the nature of the ethical conflict, it may also be appropriate to notify other parties.

Source: Institute of Management Accountants ([www.imanet.org](http://www.imanet.org)). Adapted with permission.

## ANSWERS TO CHECK IT! EXERCISE

**Exercise #1:** Value and opportunity cost of the: (a) yoga class = \$2,500 and \$0; (b) karate class = (\$500) and \$2,500; and, (c) no new classes = \$0 and \$2,500.

## SELF-STUDY PROBLEMS

Splashin' Safari Water Park is a favorite family destination on hot summer days. From the thrilling Slidewinder to the carefree Lazy River and the family-oriented Paradise Lagoon, Splashin' Safari offers over 50 water-based fun activities for people of all ages. During the summer, Splashin' Safari draws an average of 10,000 patrons per week—40% of the park's patrons are adults and the remaining 60% are children.

The price of admission to Splashin' Safari is \$15 for adults and \$10 for children. Once inside the park, the average adult spends \$8 on food and drinks, and the average child spends \$5 on food and drinks. Management of Splashin' Safari further estimates that it costs \$60,000 per week to operate the park (for staff, water, and advertising) if there are 12,500 or fewer patrons, and \$65,000 per week if there are more than 12,500 patrons. The park can accommodate a

maximum of 17,500 patrons a week. Finally, management estimates that for every \$1.00 patrons spend on food and drinks, it costs the park \$0.50 to buy the food and drinks.

Management is considering whether to offer a special for the coming week. Splashin' Safari has run two kinds of specials. The first is a "kids free" week. Under this option, each paying adult can take a child, free of charge, into the park. The special will cost nothing to advertise as management knows that word will get out quickly. Management also expects the following:

- Park attendance will increase by 6,000 patrons, to 16,000 patrons, for the coming week
- 50 percent, or 8,000, of the patrons will be adults and the remaining 50% will be children
- A paying adult will accompany each child

Management calculates that this option will lead to weekly profit of \$107,000, an increase of \$16,000 over the current weekly profit of \$91,000.

The second option is to run additional radio advertising. Under this option, management would run the "usual" one-minute ad six more times per day on a local FM station. The extra spots will cost \$16,800. Management expects attendance to increase by 1,000 patrons (to 11,000 patrons) for the week. Similar to the average week, management expects 40% of these patrons to be adults. Under this option, management calculates that weekly profit would decrease from \$91,000 to \$89,300.

**a.** *What is Splashin' Safari's decision problem, including its goals?*

As is true of most for-profit businesses, it is likely that *the goal of Splashin' Safari is to maximize profits*. In turn, *Splashin' Safari's decision problem centers on what option generates the highest profit*.

**b.** *What are Splashin' Safari's options for the coming week?*

Splashin' Safari's opportunity set consists of three options:

1. Maintain the status quo. That is, conduct business as usual in the coming week—do not offer the "kids free" special or run additional radio advertising.
2. Offer the "kids free" special.
3. Run additional radio advertising.

**c.** *What are the costs and benefits of each option? What is the value and opportunity cost of each option?*

As briefly mentioned in the text and discussed in more detail in Chapter 2, we measure costs and benefits relative to the status quo. Thus, the value of a decision option equals the change in profit relative to the profit in the status quo. Accordingly, for the status quo (option 1), there are no costs and benefits. For option 2, the benefits equal the additional admission revenues and food and drink revenues. The costs include the additional food and drink costs and park operating costs. For option 3, the benefits equal the additional admission revenues and food and drink revenues. The costs include the additional food and drink costs and advertising costs.

Using the given data, we have the following value for each option. (You can verify the specific benefits, costs, and values using the detailed problem data).

1. Status Quo: **\$0** = \$91,000 – \$91,000 (i.e., if Splashin' Safari chooses this option, then the change in profit = \$0)
2. Kids free special: **\$16,000** = \$107,000 – \$91,000
3. Additional radio advertising: **(\$1,700)** = \$89,300 – \$91,000

The opportunity cost of an option is the value of the next best option. Thus, the opportunity cost of each option is:

1. Status Quo: **\$16,000**
2. Kids free special: **\$0**
3. Additional radio advertising: **\$16,000**

**d.** *What should Splashin' Safari do this coming week?*

Splashin' Safari should choose option 2 and offer the "kids free" special this coming week. This option leads to the largest weekly profit, or \$107,000, increasing Splashin' Safari's profit by \$16,000. Option 2 is the only one in which value, or \$16,000, exceeds opportunity cost, or \$0.

## GLOSSARY

- Chief executive officer (CEO)** The highest ranking executive in an organization. The CEO is responsible for carrying out the policies of the board of directors on a day-to-day basis.
- Chief financial officer (CFO)** The person in an organization who oversees all accounting and finance functions.
- Chief internal auditor (CIA)** The person in an organization who oversees the internal audit function.
- Control decisions** Decisions related to motivating, monitoring, and evaluating performance.
- Controller** The person in an organization who manages the day-to-day accounting and issues guidance concerning corporate accounting policies.
- Decision** Choosing an option from a set of options to achieve a goal.
- Decision framework** A four-step process that consists of specifying the decision goals, identifying available options, evaluating these options, and then selecting the option that best meets the decision maker's goals.
- Financial accounting** Accounting information system that aims to meet the needs of decision makers outside the organization.
- Goals** Objectives that decision makers try to achieve.
- Managerial accounting** Accounting information system that aims to meet the needs of decision makers inside an organization.
- Opportunity cost** The value of the next-best option.
- Organization** A group of individuals engaged in a collectively beneficial mission.
- Organization chart** A graphical representation of the hierarchical relations among positions in an organization.
- Planning decisions** Decisions about acquiring and using resources to deliver products and services to customers.
- Shareholder value** The long-run expected wealth potential of an organization to its shareholders.
- Treasurer** The person in an organization who manages cash flows and serves as the contact point for banks, bondholders, and other creditors.
- Value** The benefits less the costs of a decision option.

## REVIEW QUESTIONS

- 1.1 LO1. What are the four steps in decision making?
- 1.2 LO1. Why do individuals' goals differ?
- 1.3 LO1. What is the value of a decision option?
- 1.4 LO1. What is the opportunity cost of a decision option?
- 1.5 LO2. What is an organization? What is the key difference between decision making in organizations and decision making by individuals?
- 1.6 LO2. What three methods do organizations use to motivate employees to achieve firm goals?
- 1.7 LO3. What are planning decisions? What are control decisions?
- 1.8 LO3. What are the stages of the planning and control cycle?
- 1.9 LO4. What is the primary role of accounting?
- 1.10 LO4. Who are the primary users of financial accounting information? What types of decisions do these people make?
- 1.11 LO4. Who are the primary users of managerial accounting information? What types of decisions do these people make?
- 1.12 LO4. What are the key differences between financial and managerial accounting?
- 1.13 LO5. How does ethics fit into the Decision Framework?
- 1.14 LO5. What law prohibits managers in the United States from giving or taking bribes, even if it is the customary business practice in another country?
- 1.15 Appendix A. Who are the key financial players in organizations? What are their roles?
- 1.16 Appendix B. The code of ethical conduct prescribed for members of the **Institute of Management Accountants** divides expected behavior into four areas. What are these four areas?

## DISCUSSION QUESTIONS

- 1.17 LO1. You are about to graduate from college, and you have been fortunate to receive three job offers. How will you make your decision? Briefly discuss your goals and how you would rank your options.
- 1.18 LO1. Enlarging the number of options available can never reduce opportunity cost. Is this statement true?
- 1.19 LO1. You have a final exam in managerial accounting tomorrow. What is the opportunity cost of watching television tonight?

- 1.20 LO1.** Jessica Wilde works for a leading consulting company. She wishes to leave her job and pursue a full-time MBA program. What is Jessica's opportunity cost of joining an MBA program?
- 1.21 LO1 (Advanced).** List three sources for differences in individuals' goals. Discuss one business that relies on variations in individuals tastes for risk.
- 1.22 LO1 (Advanced).** In the *Let's Make A Deal!* problem described in the text, the best strategy is a random initial choice followed by a switch on the second choice. Why is this the best strategy?
- 1.23 LO2.** What do you believe are the organizational goals of a nonprofit hospital, a university, and an honor society?
- 1.24 LO2.** Think of the class you are attending as an organization. Assume your instructor is the "owner." What are the goals of this organization? What are your individual goals in relation to this class? Do you see a divergence between your goals and your instructor's goals? How does your instructor motivate you to perform in a way that advances course goals?
- 1.25 LO2.** Why do organizations pay commissions to salespeople? What are the advantages and disadvantages of paying sales commissions from an organization's point of view?
- 1.26 LO2 (Advanced).** Special Forces such as the **Navy SEALs** and the **Army Rangers** represent group settings in which there is almost perfect alignment between team and individual goals, and where individuals often put team goals ahead of their personal well being. What unique features give rise to the difference between these organizations and the "typical" profit-making organization?
- 1.27 LO3.** Referring to an experience that we are sometimes forced to endure, we often find ourselves saying things like, "That wasn't too bad." What is the implicit plan in this statement? What is the control aspect? What implications does the assessment have for subsequent plans?
- 1.28 LO3 (Advanced).** Control can apply both to situations in which you are assessing a process ("Did I get 30 miles to the gallon?") and to situations in which you are evaluating another person's performance ("Don't slouch!"). How, if at all, does the introduction of another person change the nature of the control problem?
- 1.29 LO4.** Examine the financial statements of a Fortune 500 company such as **ExxonMobil**, **Sears**, or **General Electric**. How useful are these data for day-to-day decision making?
- 1.30 LO4.** Some argue that accounting systems only measure costs and not opportunity costs. Do you agree?
- 1.31 LO4 (Advanced).** Would firms engage auditors to certify their financial statements even if they are not required to do so? (*Hint:* Think about the credibility of unaudited statements). Also discuss why reputation is an auditor's primary asset.
- 1.32 LO5.** Suppose that you are a journalist who has obtained a video copy of a particularly violent crime. You know that a broadcast would likely cause some emotional harm to the victim's family. However, you also know that airing the tape will increase your TV station's viewership significantly. Should you air the tape, even if there are no legal restrictions against doing so?

## EXERCISES

- 1.33 Specifying goals (LO1).** Browse the Web site at <http://www.microsoft.com/mscorp/mission/> to read about **Microsoft's** goals (corporate mission). For an additional sample of a for-profit firm's goals, browse the Web sites of **General Foods**, **Boeing**, **FedEx**, or **Unilever**. Look through these sites to identify each company's goals. Many firms list their goals in a mission statement. (Search the site using the keywords "mission statement.") Some firms label their mission statement as the vision statement; others simply include a section entitled "corporate goals."

*Required:*

- According to its Web site, what is **Microsoft's** mission? Why do you believe that **Microsoft** makes no explicit reference to profit maximization in its corporate mission statement?
  - Browse the Web site [http://www.metmuseum.org/visitor/faq\\_hist.htm](http://www.metmuseum.org/visitor/faq_hist.htm) and read about the **Metropolitan Museum of Art's** mission statement. For an additional sample of a not-for-profit organization's objectives, browse the Web sites of the **National Geographic Society** or **Doctors without Borders**.
- 1.34 Goals (LO1).** Browse the Web site for Johnson & Johnson (<http://www.jnj.com>) and read about its credo. What conclusions do you draw about the firm's priorities? How does this square with the goal of maximizing shareholder value?

**1.35 Implementing the four-step framework (LO1).** Desiring to stay in shape this semester, you are debating between joining the fitness center at your university versus paying on a “per-use” basis. Joining the fitness center costs \$80 for the semester, but you can use the facilities as often as you like at no additional cost. Alternatively, you can pay on a per-use basis, with each visit costing \$4. You believe that you will use the fitness center once a week, or 16 times for the semester.

*Required:*

- a. What is your goal for this decision problem?
- b. What are the options available to you?
- c. What is the cash outflow for the semester for each option?
- d. Based on your answer to part (c), what should you do?

**1.36 Calculating value, value can be negative (LO1).** Toys Ahoy! has 1,000 action figures in inventory that cost \$6.25 per unit to produce. Due to changing consumer preferences, the sales department is having great difficulty selling the action figures, and Toys Ahoy! must choose between two options. *Option 1*—scrap (dispose of) the action figures at a total cost of \$1,000 (for transportation and landfill fees); *Option 2*—rework all of the action figures, at a total cost of \$1,200 in labor and materials, and sell them to a local toy store for a total of \$750.

*Required:*

- a. What is the value of scrapping the action figures?
- b. What is the value of reworking the action figures and selling them to the toy store?
- c. Is the fact that Toys Ahoy! spent \$6.25 to produce each action figure relevant to your value computations?

**1.37 Opportunity cost (LO1).** Jon Tyler is a handyman who does odd jobs such as painting, fixing leaky faucets, installing ceiling fans, and minor electrical work. Jill Safford recently contracted with Jon to paint the outside of her home, and chose a unique color that few persons would consider.

The day before he planned to paint, Jon purchased an initial batch of 20 gallons of the paint. The local hardware store, which mixed the paint to order, charged Jon \$325; the store also noted its policy of “no refunds or exchanges on custom colors.” Unfortunately, Jon threw his back out that evening. By the time he recovered a month later, Jill had sold her home.

*Required:*

- a. What is Jon’s opportunity cost of using the paint for a new job?
- b. Suppose Jon decides to throw the paint out because no one else wants the color that Jill had picked out. As a hazardous substance, paint has to be properly disposed. The landfill will charge Jon \$40 to dispose of the paint (\$2 per can). In light of this new information, what is Jon’s opportunity cost of using the paint for a new job?
- c. Suppose Jill had paid a nonrefundable advance of \$350 to Jon. How, if at all, does this information affect Jon’s opportunity cost of using the paint for another job?

**1.38 Implementing the four-step framework (LO1).** Zap, Inc., manufactures and sells a broad-leaf herbicide that kills unwanted grasses and weeds. Via their television infomercials, Zap encourages homeowners to “take control of their yards” by purchasing one of their “ZAP” kits. Each ZAP kit includes a 32-ounce bottle of weed and grass killer concentrate and a 16-ounce bottle of poison ivy and tough brush killer concentrate. Anticipating high sales, Zap produced 50,000 ZAP kits at a cost of \$7.50 per kit. Unfortunately, Zap overestimated the demand for their product. After a year of infomercials, the company had only sold 25,000 units at a price of \$19.95 per unit.

The company is in a quandary about what to do with the remaining 25,000 units. Zap could sell the remaining 25,000 units to a national home-improvement store for \$7.00 a unit. Alternatively, the company could sell the product via its Web site—under this option, Zap believes they could sell 60% of the remaining units if they reduced the price to \$9.95. (Any remaining units would be thrown away). Finally, Zap has ruled out running additional infomercials due to the high cost of TV advertising.

*Required:*

- a. What is Zap’s decision problem, including its goals?
- b. What are Zap’s options with respect to the 25,000 unsold ZAP kits?

- c. What is the increase in cash flow associated with each of Zap's options?
- d. What should Zap do with the remaining ZAP kits?

**1.39 Individual goals versus organizational goals (LO2).** Consider a professional sports team such as the **Miami Heat**, the **Chicago Cubs**, or the **Colorado Avalanche**. The team comprises many individuals, each of whom is a gifted athlete and is well paid. As a multimillion dollar business, the team also has several layers of management staff in addition to the usual complement of coaches and trainers. Professional sports teams are often owned by partnerships and corporations, with a wealthy individual having controlling interest.

*Required:*

- a. What are the goals of a team's owners? Do these goals mesh with the goals of the coaching staff and the individual players?
- b. What methods do owners use to align the goals of individual players with the goals of the team?

**1.40 Individual goals versus organizational goals (LO2).** Many firms in the retail industry use "mystery shoppers" to evaluate the quality of their stores and employees. In addition, audit staff for fast-food restaurants such as **McDonald's** and **Burger King** use extensive checklists to evaluate the degree to which their franchisees are complying with company policies. On these unannounced audits, representatives of the company may check the freshness of the food, the average wait time for the drive through, and the cleanliness of the facilities.

*Required:*

Why do companies invest resources in such monitoring programs? Why is it not enough to instruct employees to follow prescribed company policies?

**1.41 Planning and control cycle (LO3).** Dr. Sam "Smiley" Shapiro, DDS, has just graduated from a prestigious dental school in the Western United States. He has asked for your assistance in classifying the following actions/decisions within the context of the planning and control cycle: Plan, Implement, Evaluate, and Revise.

Item #	Description
1	Whether to hire two or three dental hygienists? Dr. Shapiro has narrowed his choices to two or three hygienists based on expected patient volume.
2	Prepare a staffing schedule so that at least one hygienist is available during all times the office is open.
3	Track the number of patients seen by each hygienist per week.
4	Reevaluate the adequacy of current staffing levels.

*Required:*

Classify each decision according to its stage in the planning and control cycle. Provide a brief rationale for each classification.

**1.42 Planning and control (LO3).** After years of working for others, Gina Matheson has decided to open her own florist shop. Over time, Gina has gained considerable experience in the nuances of selling flowers and flower arrangements in the retail market. She also has developed good contacts with flower wholesalers. She currently is contemplating the pricing of bouquets for Mother's Day. This is an important decision because, as per the Society of American Florists, sales on this day account for 15 to 20% of the annual sales of flowers in the United States. (The other critical sales day is Valentine's Day, which falls on February 14).

*Required:*

Identify at least one decision/action for each of the four stages of the planning and control cycle: Plan, Implement, Evaluate, and Revise.

**1.43 Financial accounting and investment decisions (LO4).** Suppose an individual is considering investing \$50,000 in a pharmaceutical company that has been listed on a major stock exchange for several years. The pharmaceutical company currently makes six drugs and is seeking approval for selling four additional drugs.

*Required:*

- a. How could the company's financial statements help this decision maker?
- b. Other than the financial statements, what types of data would help the potential investor make a good decision? Classify these data as being financial/nonfinancial and discuss where an investor might obtain such information.

**1.44 Managerial accounting (LO4).** “I was trained as an engineer, I work as an engineer, and I intend to retire as an engineer. Why on earth would I want to learn accounting?” Linda Payton, a senior production engineer at a Fortune 500 firm, clearly is unhappy that her boss asked her to attend a one-week seminar on managerial accounting before taking on her new position. Linda’s new duties deal with managing tools. She has overall authority for when to replace tools, whether to buy them or make them, and what quantities to purchase or produce.

*Required:*

The following list presents five decisions that Linda might face in her job. How can managerial accounting information help with these decisions? For each decision, list at least one information item that Linda might use and whether the item is financial or nonfinancial in nature.

1. Whether actual costs are in line with expectations?
2. Whether to make a tool in-house or buy it from a supplier?
3. How many tools to purchase for making 100,000 units of a product?
4. What is the right inventory level for a given tool?
5. Whether to make a new tool or to refurbish an existing tool?



**1.45 Ethics and decision making, travel expenses (LO5).** You have spent the last two days in San Diego, California, on company business. You flew in on Wednesday morning and took the red-eye flight out on Thursday evening. During this trip, you stayed with your friend, Darren. As Darren lives in the suburbs, you rented a car and paid \$80 for the rental and gas. Finally, as a courtesy, you treated Darren and his wife to dinner on Wednesday night (cost: \$90). You also spent \$45 toward other meals, even though you had breakfast with Darren on Thursday.

Usually, your firm puts up its employees in a downtown hotel. The average cost for San Diego is \$140 per night (this is the discounted corporate rate). The firm also pays a per-diem meal allowance of \$50 (no receipt required). However, if you were with clients, the firm would reimburse the actual cost for the meal (receipt required).

*Required:*

Prepare an expense report for your trip (excluding airfare). Assume that if you stayed at the hotel, no car would have been needed as you can walk from the hotel to your firm’s office.



**1.46 Ethics and decision making, billing (LO5).** Jay Kincaid is a highly sought-after tax attorney, who bills clients at \$250 per hour. He has just spent 20 hours researching a unique tax shelter for one of his wealthy clients and has billed the client \$5,000.

Jay just received a call from another client asking about a similar tax shelter. He realizes that he can complete the work in 5 hours or so, leveraging his earlier work. Any other similarly skilled professional would take 20 hours to do the work (and would bill \$5,000). Jay is wondering about the amount to bill the second client. He knows that the two clients are good friends. There is a chance that any difference in the amount billed to the two clients would be discovered, potentially triggering the loss of one or both clients.

*Required:*

Discuss at least two billing options and their relative advantages. Advise Jay as to his best course of action.

## PROBLEMS

**1.47 Value depends on goals (LO1).** You wish to work this summer to save money for college. Your goal is to maximize the amount of money you earn working. After spending a week looking for the right job, you have narrowed your prospects to two choices. Your first option is to wait tables at a local restaurant. The manager at the restaurant has guaranteed you 40 hours per week for 12 weeks. Your pay will be \$4 per hour plus tips. Naturally, the amount of tips you earn depends on how busy the restaurant is and on your people skills. Not having waited tables in the past, you believe that you have a 50% chance of earning \$3 per hour in tips and a 50% chance of earning \$6 per hour in tips. Your second option is to work as a checkout clerk at the local supermarket for \$8.25 per

hour. Similar to the restaurant, the manager of the local supermarket has guaranteed you 40 hours per week for 12 weeks.

*Required:*

- a. How much money would you earn working as a checkout clerk this summer?
- b. How much money would you expect to earn waiting tables this summer?
- c. Based on your calculations in parts (a) and (b), what summer job would you take? Can you see where someone else might make a different choice?

**1.48 Opportunity cost, qualitative (LO1).** Wynter Turner and her husband live in rural Nebraska, where Wynter has a well-paying job with the city's only major employer. Wynter and her husband purchased their home three years ago for \$225,000. Because she is an avid gardener, Wynter spends much of her free time on landscaping and gardening projects around the house. Wynter estimates the cost of the improvements to her home at \$40,000, which includes the imputed value of her time and the out-of-pocket cost of the trees, shrubs, flowers, and hardscape materials. The yard now looks fabulous and has been featured in the local newspaper.

Unfortunately, Wynter's employer recently decided to close the plant where she works. Wynter has been offered a comparable job in the firm's Ohio plant. Wynter has accepted the offer and put her beloved home up for sale. At Wynter's insistence, the home was listed for \$275,000, even though the local real estate market has taken a big hit because of the plant closing. While numerous prospective buyers loved Wynter's yard and home, no offers were forthcoming. After a month, the realtor did manage to procure an offer but only for \$200,000. The realtor also indicates that this is a "take it or leave it" offer, because the buyer is considering other properties.

*Required:*

- a. What is the opportunity cost of accepting the \$200,000 offer? (*Note:* There is not enough information to arrive at an exact number—simply discuss the factors that Wynter should consider.)
- b. How would Wynter's options expand if the \$200,000 offer were not a take it or leave it offer?

**1.49 Appropriate compensation (LO2, LO5).** In addition to a base salary that can be several hundred thousand dollars, Chief Executive Officers (CEOs) of major charities enjoy generous perquisites. Some argue that such salaries and perquisites are needed to attract and retain top-notch executive talent. Others argue that such salaries are unseemly in charitable organizations, particularly when their stated goal is to cater to the poor and the downtrodden.

*Required:*

- a. Browse to the Web site of a charity such as the **United Way** ([www.national.unitedway.org](http://www.national.unitedway.org)) and identify its goals.
- b. Do you think a charity's CEO and other top executives believe in the charity's goals? If so, how can the CEO and top executives justify receiving "excessive" compensation, as is often alleged?

**1.50 Value depends on goals, airline overbooking (LO1, Advanced).** Airlines routinely overbook flights. For example, an airline may sell "confirmed" seats to 225 passengers even when the plane has only 210 seats. Airlines do this anticipating that some confirmed passengers will not show up because their incoming flight is late, their plans change at the last minute, or they are too sick to travel.

Of course, the airline has a problem if its expectations are wrong and more than 210 passengers with confirmed tickets show up. In this case, the airline usually solicits volunteers to be "bumped" from the flight and take the next flight to their destination. The airlines induce passengers with monetary rewards (e.g., a \$200 travel certificate). It is common for the reward to increase every few minutes until such time enough people volunteer. If the flight is overbooked even after the maximum reward, then the airline takes the next step of involuntarily bumping confirmed passengers. Confidential airline policies govern who gets to fly.

*Required:*

- a. Discuss the factors the airline considers when it decides to sell 225 confirmed seats, knowing that only 210 seats are available?
- b. Why do some passengers volunteer to be "bumped" while other passengers show no interest in the airline's offers?

- c. Some passengers play a wait and see game in an overbooked situation. What is the cost of waiting until the reward reaches a “satisfactory,” or high, level?
- d. What cost does the airline incur when it involuntarily bumps a passenger with a confirmed ticket? Does this cost differ across passengers? Will the airlines’ ranking of passengers consider these differences, if any?

**1.51 Characteristics of value (LO1).** Terry Hogan is a technology buff, with a particular interest in video and audio. Terry is contemplating replacing his 55-inch regular-definition projection TV with a 55-inch high-definition projection TV (HDTV). Terry has done extensive research and has identified the specific model that he wishes to purchase. Terry purchased his “old” TV for \$1,500 one year ago. The new HDTV costs \$1,699 plus 6% in sales tax. Finally, Terry’s neighbor has offered to purchase Terry’s old TV for \$600.

*Required:*

- a. List the costs and benefits, both quantitative and qualitative, that Terry should consider in his decision.
- b. Suppose Terry still owes \$300 on his old TV set. How, if at all, does this information affect Terry’s decision?
- c. Suppose a flood in Terry’s basement destroys his current (i.e., “old”) TV. Terry receives \$600 from his insurance provider to cover the associated loss. Terry can replace the old TV with an identical model for \$600. How, if at all, does this information change the value of purchasing the HDTV?

**1.52 Measuring the costs and benefits of decision options, qualitative (LO1, Advanced).** Barbara Maxton, the dean of a leading business school, is wrestling with a problem created by the surge in enrollment for a course entitled “Strategic Cost Management.” This course currently is offered in a 20-seat classroom because the instructor uses a seminar format that relies heavily on student involvement. Projects and exams test students’ critical faculties, requiring students to integrate material from several prerequisite classes. Strategic Cost Management has become a very popular course. This semester, enrollment exploded—the course hit its enrollment cap on the first day, and another 15 students have e-mailed Dean Maxton expressing their desire to take the course. Dean Maxton is considering the following three options after considering and discarding several others:

- 1. Cap enrollment at 20 students. Students can always take the class the following semester or register for an alternative class. Strategic Cost Management is not required for any degree program (i.e., it is an elective course).
- 2. Cancel another class with low (six students currently) enrollment to free up another 20-seat classroom. Hire an instructor for \$20,000 to teach the second section. Opening a new section requires Dean Maxton to cancel an existing class because all available classrooms are fully scheduled.
- 3. A class that currently is scheduled in a 45-seat classroom has only 19 enrolled students. The dean can switch the room assignments, thereby opening up the Strategic Cost Management course to more students. The current instructor for the course, however, has indicated that she cannot follow the same teaching style with 35 or more students—the format has to become more lecture-oriented. Moreover, the examinations will have more multiple-choice and fewer open-ended questions that challenge students’ critical faculties.

Dean Maxton knows that most, if not all, of the students who take Strategic Cost Management carry a full course load (15 credit hours per semester). She also knows that tuition does not increase once a student enrolls for nine credit hours (e.g., a student taking 15 credit hours pays the same tuition as a student taking nine credit hours).

*Required:*

What costs and benefits should Dean Maxton consider in making her decision?

**1.53 Implementing the four steps in decision making, qualitative (LO1).** Suppose you have decided to purchase a Wintel (Windows-Intel) personal computer to assist you with your coursework. However, you have yet to decide between a laptop and a desktop. You would like to use the four-step framework to assist you in this decision.

*Required:*

- a. What is your decision problem, including your goals?
- b. What are your options?

- c. What are the costs and benefits of each option?
- d. How will you make your decision?

**1.54 Implementing the four steps in decision making, qualitative (LO1, LO2).** You and your best friend have just graduated from college. Before starting your jobs in the fall, the two of you wish to go on a 14-day vacation together. However, you have yet to decide where you will vacation. You and your friend would like to use the four-step decision framework to assist you in this decision.

*Required:*

- a. What are your goals? Are both your and your friend's goals likely to be perfectly aligned?
- b. What are your options?
- c. What are some of the costs and benefits that you are likely to consider in evaluating your options?
- d. How will you make your decision?

**1.55 Implementing the four-step framework (LO1).** Natalie's Knick Knacks is a boutique store that sells seasonal merchandise. For this Christmas season, Natalie paid \$50,000 for an order of figurines, tree ornaments, candles, and wreaths. Natalie marks up each piece of merchandise by 100% to arrive at the selling price. Thus, if Natalie pays \$20 for a figurine, she will price it at \$40.



Unfortunately, sales were well below expectations, and Natalie's revenues were only \$65,000 (far less than the \$100,000, or  $\$50,000 \times 2$ , that she had hoped for). This presents a quandary for Natalie, who is contemplating what to do with the unsold merchandise. One option is for Natalie's to store the unsold merchandise for the next 10 months and attempt to sell it the next Christmas season. Natalie estimates that it would cost her \$4,000 to properly pack, store, and then unpack all of the unsold merchandise. In addition, because the merchandise would be somewhat dated, Natalie believes that she will only be able to sell 30% of the remaining merchandise the following year (at the current year's retail price). Any unsold items will have negligible resale value, and Natalie plans to donate them to a local charity.

Alternatively, Natalie could hold a January after-Christmas sale. Specifically, Natalie believes that she can sell 100% of the unsold merchandise if she holds an "80% off sale," 80% of the unsold merchandise if she holds a "70% off sale," 55% of the unsold merchandise if she holds a "60% off" sale, and 40% of the unsold merchandise if she holds a "50% off" sale. (The % off is the reduction in the selling price; thus, under a 60% off sale, a figurine priced at \$40 would sell for \$16, or  $\$40 - [.60 \times \$40]$ ). Natalie would donate any unsold merchandise to a local charity.

*Required:*

- a. What is Natalie's decision problem, including her goals?
- b. What options does Natalie face with respect to the unsold merchandise?
- c. What is the increase in cash flow associated with each of Natalie's options?
- d. Based on your answer to part (c), what is the opportunity cost associated with each option?
- e. What sales strategy would you recommend to Natalie?

**1.56 Opportunity cost, pricing (LO2, LO3, CIMA adapted, Advanced).** Wood Guardians, located in Manchester, England, manufactures a chemical used to protect fences, boardwalks, picnic tables, and other wooden structures. Manchester city officials have asked Wood Guardians for a price quote on a special job that must be completed within one week.



Completing the special job will require 100 hours of skilled labor and 50 hours of unskilled labor. Wood Guardians pays their skilled and unskilled employees £525 and £280, respectively, for 35 hours of work per week. (£ = British Pound, the official currency of the United Kingdom). Because it is the peak of the slow season, Wood Guardians anticipates having excess capacity of 75 skilled and 100 unskilled labor hours in the coming week. Wood Guardians can also hire additional skilled and unskilled labor on an hourly basis; these part-time employees are paid an hourly wage based on the wages paid to current employees.

Wood Guardians has in stock the primary raw material, chromic acid, needed to complete the city's special job. Wood Guardians purchased the chromic acid two months ago for £1,000; however, due to recent price declines the same amount of chromic acid could be purchased today for £800. Finally, Wood Guardians estimates that it would *cost*

them £500 to dispose of the chromic acid (chromic acid is highly toxic, and strict regulations govern the disposal process).

*Required:*

- a. What is Wood Guardians' opportunity cost of labor for completing the city's special job?
- b. What is Wood Guardians' opportunity cost of materials for completing the city's special job? Assume that Wood Guardians had planned to use the chromic acid on a job to be completed in two weeks. Thus, if Wood Guardians uses the chromic acid on the city's special job, it will need to purchase additional chromic acid.
- c. Suppose Wood Guardians purchased the chromic acid for a job that recently was completed. The chromic acid currently in stock is the excess from that job, and Wood Guardians had been planning to dispose of it. Under this scenario, what is Wood Guardians' opportunity cost of materials for completing the city's special job?
- d. Continue with the scenario in part (c) above. Suppose that materials and labor comprise Wood Guardians' only costs for completing the city's special job. What is the minimum price that Wood Guardians should bid on this job? Do you recommend that Wood Guardians submit a higher bid? Why?

**1.57 Differences in individuals' goals (LO1).** Assume you have narrowed your choice of a wireless carrier down to the following three plans:

<i>Carrier</i>	<i>Description of Calling Plan</i>	<i>Cost</i>
A	400 anytime minutes. Unlimited nights and weekends. Nationwide calling on the carrier's network. Service is often busy and sometimes leads to dropped calls.	\$39.99 per month; Two-year contract. Free phone and activation.
B	Unlimited local calling within the "calling zone" (which includes your hometown). Calls outside the zone cost \$0.40 per minute. Good service and coverage.	\$29.99 per month. Two-year contract. Phone and activation cost is \$100.
C	500 anytime minutes within the "calling zone." Calls over the time limit and outside the zone cost \$0.40 per minute. Excellent service and coverage.	\$29.99 per month. No contract. Unused minutes rollover to next month. Phone and activation are free if you stay for 6 months. Otherwise, the fee is \$100.

*Required:*

- a. Discuss at least two factors that are important to you when choosing a wireless carrier.
- b. What might lead one person to prefer calling plan A over calling plan B? What kind of a usage pattern would lead to a preference for calling plan C?

**1.58 Monitoring in casinos (LO2).** Casinos and other gambling establishments use sophisticated systems to monitor their employees. Employees, particularly dealers, are subject to stringent background checks. In addition, the entire casino is under extensive video surveillance, with security personnel monitoring the gaming operations 24 hours a day, seven days a week. (Any table with "higher than normal" losses is specially monitored). Finally, both uniformed and undercover security personnel prowl the casino looking for suspicious behavior on the part of both casino employees and patrons.

*Required:*

- a. Why do casinos monitor their employees?
- b. Identify two costs and two benefits of installing video monitors, relative to physical monitoring by stationing people on the casino floor.
- c. Most casinos have *both* video monitoring and physical monitoring on the floor. In addition, they have physical controls for safeguarding chips and money. How do you explain the use of *multiple* monitoring and control measures?

**1.59 Monitoring, performance measures (LO2).** Felix Uribe takes pride in doing things well. Even as a child, he was neat and organized; as an adult, Felix is fastidious and pays great attention to details. Currently, Felix is considering repainting the bedrooms in his

house. While he would love to do it himself, Felix's wife has been complaining about the long hours he has been putting in at work and on projects, and how little time he has for her. Felix is planning to surprise her with a romantic getaway at a bed and breakfast inn; he simply cannot seem to find a spare weekend, though.

Felix could cut the time needed for painting the bedrooms if he enlisted the help of his close friend, Oscar Monroe. With Oscar's help, Felix can get the rooms done by Friday and take the weekend off. There is one problem, however. Although high on enthusiasm, Oscar is a newcomer to painting and home maintenance. As such, his workmanship is not quite at the same level as Felix's workmanship. Another option is to contract the job out. Felix has obtained a bid for \$500 from a local contractor to paint all three rooms. Felix estimates that he would spend less than \$100 on paint if he did the job himself or with Oscar.

*Required:*

- a. What are Felix's options with respect to painting the bedrooms in his house?
- b. Is there a conflict between Felix's objectives and Oscar's objectives with regard to the quality of the painting job? What is the role for monitoring and control systems in this setting?
- c. Is there a conflict between Felix's objectives and the contractor's objectives with regard to the quality of the painting job? What role do monitoring and control systems have in this setting?

**1.60 Delegation and monitoring (LO2).** The Diamond Jubilee is a floating riverboat casino that operates on the Mississippi River. The casino is open 24 hours daily and features 675 slot machines, 25 blackjack tables, 8 poker tables, 3 craps tables, and 2 roulette tables. For motivational purposes, the Diamond Jubilee links some of its general manager's compensation to the casino's profitability. Specifically, the riverboat's general manager, Sapphire Sally, receives a monthly bonus equal to 5% of the casino's pre-tax profit.

*Required:*

Assume that you are the managing partner in the partnership that owns the Diamond Jubilee. Given Sally's direct financial interest in maximizing casino profit, would you feel comfortable delegating all decisions to Sally and giving her complete control of the casino? In other words, does the bonus contract fully align Sally's interests with the partnership's interests?

**1.61 Perquisite consumption, ethics (LO2, LO5).** The movie *Holes* is based on an award-winning novel by Louis Sachar. The movie deals with troubled youths sent to a juvenile detention camp, Camp Greenlake, in central Texas. The camp's warden (played by Sigourney Weaver) has each of the boys dig a hole 5 feet wide by 5 feet deep (the shovel is the measure!) everyday to "build character." In reality, the warden has the boys dig the holes in an effort to find buried treasure.



*Required:*

- a. To what extent is the performance measure currently in place (whether the boy has dug a 5 feet wide by 5 feet deep hole) consistent with the state's objective, which is to reform delinquent youth?
- b. To what extent is the performance measure consistent with the warden's objective of finding buried treasure?
- c. What could the state of Texas have done to ensure that the warden did not use the camp to further her own purposes?

**1.62 Individual goals and incentives, ethics (LO2, LO5).** Felipe Arrazola is a senior manager for a software consulting firm. Felipe's firm does "turnkey" software projects, with clients paying several hundred thousand to millions of dollars for project completion. The partners of Felipe's firm evaluate his performance based on the revenues he generates. Moreover, the partners expect Felipe to increase his revenues every year.



It is now near the end of the fiscal year. Felipe's current sales volume places him well ahead of last year's sales. This will be the third straight year that Felipe has increased revenues, and he is confident that one or two more years of stellar performance will vault him into the executive suite. Felipe is particularly confident in this projection, as he knows that the firm as a whole is a bit short of meeting its sales budget for the year and that he is one of the few managers who deliver steady sales growth.

One of Felipe’s customers has just called to inform Felipe that he is sure to receive a major contract from her company. The contract, valued at \$2 million, is almost 10% of Felipe’s annual sales volume. The client wants to do the paperwork and issue the formal order after receiving the final specifications and details from Felipe.

*Required:*

- Would the partners of Felipe’s firm prefer that he book the \$2 million contract in the current fiscal year or the next fiscal year?
- Would Felipe prefer to book the \$2 million contract in the current fiscal year or the next fiscal year?
- Suppose Felipe decides to defer the contract until next year. Do you view this act as being unethical? Why or why not?



**1.63 Aligning incentives, nonlinear schemes, ethics (LO2, LO5, Advanced).** Stefan Möeller manages the European operations for a large U.S. firm. All manufacturing is done in the United States, and Stefan’s primary job responsibilities entail generating sales and coordinating delivery of the goods ordered. In line with the firm’s philosophy of “pay for performance,” Stefan receives a base salary of €15,000 per month (€ = euro, or Europe’s common currency) plus a commission, which has the following properties:

<i>Annual Sales</i>	<i>Commission Rate</i>
€0 to €10 million	0%
€10 million to €20 million	2%
Over €20 million	5%

Thus, if Stefan generated €25 million in sales for a year, his commission would be:  $[(€20 \text{ million} - €10 \text{ million}) \times .02] + [(€25 \text{ million} - €20 \text{ million}) \times .05] = €450,000$ .

Stefan’s year-to-date sales are €16 million, and, based on market intelligence, he believes that he can increase sales by €6 million this year if he spends an additional €1 million on an intensive sales campaign. However, €4 million of the increased sales would represent customers pushing next year’s sales forward to this year. This would mean that Stefan would likely only generate €12 million in sales next year rather than his normal volume of €16 million. If Stefan does not undertake the intensive sales campaign, sales are expected to be €16 million this year and next year.

*Required:*

- Should Stefan undertake the intensive sales campaign? Why?
- Assume that Stefan’s parent company earns \$0.40 in profit (pre-bonus) for each dollar of sales. From the parent company’s standpoint, should Stefan undertake the sales campaign? Why?
- Is there a conflict of interest between Stefan and his parent company? If yes, how might the parent company resolve this conflict?

**1.64 Planning and control cycle (LO3).** Vulcan Forge makes components used in automobiles and other machinery. The firm, established in 1892, has forged (!) a stellar reputation in the marketplace, allowing it to command a premium price for its products. Vulcan specializes in forging “difficult” shapes and metals. Its metallurgical department has won national and international acclaim for its innovativeness.

Vulcan’s management is considering purchasing a new press to replace its existing press. With normal use, this machine will last five years and will be used to make a number of products.

*Required:*

- Consider the period from the time of buying the new press until Vulcan scraps it for another press. Describe key decisions that correspond to the four stages of the planning and control cycle.
- During the time it owns the press, Vulcan would make several decisions that relate to the machine but might only affect operations for a few days or weeks. How do these “smaller” decisions fit into the overall scheme that you describe in your answer to part (a)?

**1.65 Planning and control cycle (LO4).** Your friend, Drew, is a strong personality. When you explain the planning control cycle, Drew balks at the entire notion. He says, “I know precisely what I want to do. Only indecisive people look back and revise their

decisions. I only look forward, never back!” Drew also says, “The belief that every decision follows a clean 4-stage cycle is absurd. Every decision worth making will have many sub-decisions. Take for example, our coach’s decision about who plays varsity. By the time Coach revisits this decision at the end of your planning-control cycle, he might have changed the starters several times. In fact, Coach changes the players in the game every few minutes. Each of these actions is a decision as well. How does this fit with the overall planning-control cycle for the decision of which players to have on the varsity team?”

*Required:*

Comment on Drew’s assertions.

- 1.66 Managerial accounting (LO4).** Suppose Tom and Lynda are considering offering a class on yoga. They have sought your help in evaluating the profit impact of this decision.



*Required:*

List five items that Tom and Lynda should consider in this decision. Characterize each item as to whether it is a cost or benefit, financial or nonfinancial in nature, and if it is measured objectively or subjectively. Describe how Tom and Lynda might compute the magnitude (e.g., \$ spent) of each item.

- 1.67 Managerial accounting (LO4).** You have been tasked with evaluating whether your firm should introduce a new product, and if so at what price. If you decide to go forward, the firm wants a three-year profit projection.

*Required:*

List five items that you should consider for the product launch decision. Characterize each item as to whether it is a cost or benefit, financial or nonfinancial in nature, and if it is measured objectively or subjectively. Describe how you might compute the magnitude (e.g., \$ spent) of each item.

## MINI-CASES

- 1.68 Value and opportunity cost, uncertainty, qualitative (LO1).** Professor Steven K. studies large-group decision making. He collects research data by asking students to perform a variety of decision tasks in carefully controlled settings. Professor K varies the decision task across group sessions in a preplanned way so that he can isolate the effect of specific factors, such as the amount of information, on students’ decisions. His current research project calls for a series of six experimental sessions; each session requires exactly 32 students.

Professor K pays students to participate in his experiments. He advertises the experiments in large-enrollment classes, and interested students can sign up for one or more experimental sessions. (While students can sign up for multiple sessions, they can only actually participate in one session.) Using the sign-up sheets, Professor K randomly selects 40 students for participation in a particular experimental session. He then sends an e-mail to the selected students, notifying them of the time and location of the experiment.

Students who receive an e-mail from Professor K and who show up at the appointed time and place receive a \$5 show-up fee. Usually, more than 32 students show up (it is rare, however, that all 40 students do). In this case, Professor K randomly selects the 32 who will stay. He dismisses the students not chosen, after giving them their \$5 show-up fee. While it rarely occurs, Professor K must cancel the session if fewer than 32 students show up (of course, he still pays the \$5 show-up fee to the students who came). Moreover, a student who shows up for the experiment has a 90% chance of participating in the experiment and a 10% chance of not participating in the experiment.

Professor K informs the students selected to stay for the experiment that they can earn an additional \$0 to \$40 over the next hour and that the average student will earn approximately \$20. The amount earned depends on the quality of the student’s decision making. The better the decision, the greater the earnings.

*Required:*

- a. Why does Professor K pay students a \$5 show-up fee?
- b. What is the student's opportunity cost of showing up for the experiment?
- c. Why does Professor K construct the payout scheme so that students' earnings vary in the quality of their decisions? What is the advantage of this payout scheme relative to paying each student a flat fee of \$20 for taking part in the experiment?



**1.69 Health-care practice, ethics (LO1, LO2, LO4, LO5).** Dr. Sarah Cleveland is a pediatrician in San Bernardino, California. Dr. Cleveland became a physician to help sick children; for her, medicine is as much a calling as it is a profession. Dr. Cleveland passionately believes that everyone is entitled to quality medical care and that physicians have an ethical obligation to reach out to the underprivileged. Consequently, Dr. Cleveland currently participates in numerous health-care programs. Her practice caters to patients enrolled in governmental programs such as Medicare and Medicaid; private insurance plans such as Blue Cross and Blue Shield; Health Maintenance Organizations (HMOs) such as Cigna and Kaiser Permanente; and to patients who pay their own way.

Dr. Cleveland sees many benefits and costs from being a part of HMOs. On the one hand, she is reluctant to drop HMOs because several insurance firms and HMOs restrict their members to "approved" physicians only. She wants to be on the approved list in order to expand her availability. On the other hand, insurance firms and HMOs can be difficult paymasters. In a bid to keep costs down, they tightly monitor utilization (e.g., did a given doctor have "excessive" referrals to a specialist?). They also cap doctors' payments at predetermined levels. For example, insurance firms and HMOs pay the same amount per visit or procedure regardless of the actual time spent. Thus, a doctor who takes more time than is "allowed" with a patient is not compensated for the higher time invested.

Increasingly, Dr. Cleveland has become tired of the many restrictions placed by HMOs and insurance firms on the amount of time she can spend with a patient. Currently, Dr. Cleveland is reimbursed at the rate of \$40 for an office visit. The insurance firms and HMOs arrived at this rate by allowing doctors 12 minutes per office visit and considering the prevailing income for physicians (after deducting the cost of operating a clinic). The physical time spent with a patient is lower because the 12-minute standard includes time for reviewing the file and dictating notes. Although Dr. Cleveland has reduced the amount of time she spends with each patient to 15 minutes (including review and follow-up notes), she has found herself not being able to provide the quality of care she believes is appropriate and still earn a reasonable income.

Dr. Cleveland is considering a radical experiment. One of her closest physician friends tried this experiment a year ago and has reported being much happier. The experiment is to resign from all of the insurance and HMO plans. Dr. Cleveland would then tell her patients about her operating philosophy of providing excellent care unconstrained by insurance company requirements. The flip side, however, is that patients would have to pay Dr. Cleveland's billed charge, even if the patient's insurance would only reimburse a smaller amount. The patient, in effect, would be paying out-of-pocket for the extra time that Dr. Cleveland spends relative to the average physician.

Under the new scheme, Dr. Cleveland estimates that she would spend ½ hour with each patient, on average. Each patient would be billed (and pay) \$75 for the office visit (most patients insurance companies would cover \$40 of the \$75 fee). Dr. Cleveland's costs of an office visit are negligible because any tests are billed separately. Based on an informal survey, Dr. Cleveland believes that she will have no shortage of patients if she switches to the "patient pays billed charges" approach.

*Required:*

- a. What are Dr. Cleveland's goals? Are there any trade-offs among these goals?
- b. Compute Dr. Cleveland's annual revenues if she stays with the HMOs and insurance plans. Also compute Dr. Cleveland's annual revenues if she switches to a "patient pays billed charges" approach. In either case, assume that Dr. Cleveland works 225 days per year and averages 8 billable hours per day worked.
- c. Map Dr. Cleveland's decision into the four-step framework. Thus, in addition to Dr. Cleveland's goals, what are her options, what do you perceive to be the costs and benefits of each option, and how do you believe she will make her decision?
- d. Assume that Dr. Cleveland switches to the patient pays approach, She then devotes 3 hours every week to caring for indigent patients, for free. She feels that providing

such care is part of her obligation to society. What is the opportunity cost of this decision (assume that Dr. Cleveland continues to work for 8 hours per day)?

- e. If she cuts down the per-patient time to 25 minutes, Dr. Cleveland can see three more patients per day under the patient pays option. What is Dr. Cleveland's annual revenue if she reduces the time spent with each patient from 30 minutes to 25 minutes? What other factors should Dr. Cleveland consider?

**1.70 Elements of decision making, opportunity cost, not for profit (LO1, LO2).** The directors of the Community Foundation have almost finished selecting the grants they will fund this year. Three partners in the law firm of Reddy, Willing, and Able established the Community Foundation, with the aim of promoting "equal access to justice for all." The Community Foundation disperses small and large grants designed to educate people about their legal rights and encourage voter registration and participation in the legal system. The directors are down to the last \$50,000 in the grants budget for this year and have narrowed the choice to the following three projects:



<i>Project</i>	<i>Description</i>	<i>Amount Requested</i>
A	Help with operating expenses for legal clinics for the indigent.	\$50,000
B	Add self-help law books to the local library system.	\$18,000
C	Fund a team of law students to travel to a country in Eastern Europe to help with setting up their court system.	\$22,000

Assume that a project is either funded at the requested level or not funded at all. Also, the foundation can add any unallocated funds to its endowment. In other words, the directors need not spend the \$50,000 because any remaining money will be put in "savings" to be used for future projects.

*Required:*

- What are the directors' options with regard to the remaining \$50,000 in grant money?
- What is the opportunity cost of funding Project A?
- Suppose the directors decide on projects one at a time. Their decision rule is to fund the project if its perceived value exceeds the requested amount and to deny the project otherwise. What are the costs and benefits of using such a decision rule? Assume that the directors first consider Project C, then Project B, and finally Project A.
- Suppose the directors assess the value of Projects A, B, and C at \$50,500, \$17,500, and \$20,000, respectively. Which projects should they fund?

**1.71 Managerial accounting, organizational goals (LO4).** The last 20 years have seen a dramatic change in the way that hospitals are paid for services provided. Under the cost-plus system that existed in the 1980s, insurance firms and the government (in the form of Medicare and Medicaid payments) reimbursed hospitals for actual costs plus a reasonable profit. The current Prospective Payment System (PPS), however, classifies all diseases into Diagnostic Related Groups (DRGs). The hospital obtains a flat fee for each patient in a given DRG, independent of the hospital's actual costs for treating that patient.

*Required:*

- What are management's incentives under the cost-plus regime? What information does management need to execute its strategy under the cost-plus regime? Assume management's goals are the same as the hospital owners' goals.
- What are management's incentives under the PPS regime? What information does management need to execute its strategy under the PPS regime? Again, assume management's goals are the same as the hospital owners' goals.
- How does the change in the regime affect the change in the type of cost information provided to management?