LEARNING OBJECTIVES

After studying this chapter, you should be able to:

4-1. Discuss the relationship among objectives, problem solving, and decision making and their relationship among the management functions. PAGE 106

4-2. Describe when to use rational (maximizing) versus bounded rational (satisficing) decision making and group versus individual decision making. PAGE 110

4-3. Explain the difference between an objective and “must” and “want” criteria. PAGE 113

4-4. State the difference between creativity and innovation and identify five group techniques used to generate creative alternatives. PAGE 113

4-5. Compare quantitative techniques including big data, cost-benefit analysis, and intuition for analyzing and selecting an alternative. PAGE 119

4-6. Explain the importance of planning, implementing, and controlling decisions. PAGE 124

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Phil Knight ran track for coach Bill Bowerman at the University of Oregon in the 1960s. From that athletic alliance, they went on together to start the Nike corporation in 1972. Initially, the company imported track shoes from Japan, and Knight sold them out of his car at track meets. But the company soon began to design and market its own running shoes, taking market share from the top German brands Adidas and Puma. Today, Under Armour is also a tough competitor.

The NIKE Inc. (with Jordan, Hurley, and Converse brands) mission is to bring inspiration and innovation to every athlete in the world: If you have a body, you are an athlete. The mission reflects a key insight that Bill Bowerman had early in the company’s history—that everyone is an athlete. This idea continues to drive Nike’s business decisions and inform its marketing strategies.

Knight led Nike from a small partnership founded on a handshake to the world’s largest footwear, apparel, and equipment company that is ranked in the top 100 of the Fortune 500 list, with 2016 profits of $3.2 billion, and it is ranked in the top 20 of the Fortune World’s Most Admired Companies. He retired in 2015 with Mark Parker as chief executive officer (CEO) and Jeanne Jackson as president of product and merchandising. In 2016, Chairman Emeritus Knight was ranked in the top 20 on the Forbes 400 Richest People list with a net worth of $25.5 billion.

Knight made a good decision in promoting Parker, an introverted sneaker designer, to CEO, as under his leadership Nike revenues and profits doubled, and its stock price jumped six-fold. In 2015, Mark Parker was the Fortune Business Person of the Year. Profits accelerated on high-margin direct-to-consumer sales and a batch of self-lacing sneakers that cost around $700 a pair.

**IOM 1.** Has Nike made any bad decisions?

**IOM 2.** What type of decision does Nike make to sign large endorsement contracts with young, unproven athletes, such as National Basketball Association (NBA) player LeBron James back in 2003?

**IOM 3.** What objectives does Nike meet through its star athlete endorsements?

**IOM 4.** How does Nike demonstrate creativity and innovation?

**IOM 5.** Does the amount of contracts given to young, unproven athletes pose a serious financial risk to Nike? Which techniques could Nike use to analyze the alternatives in contract decisions?

You’ll find answers to these IOM questions throughout the chapter. To learn more about Nike, visit www.nike.com.

Sources: Case information and answers to questions within the chapter were taken from Nike’s website at www.nike.com, accessed January 9, 2017; “World’s Most Admired Companies,” Fortune (March 1, 2016); Forbes 400, The Top 20, Forbes (October 25, 2016); “Largest U.S. Corporations—Fortune 500,” Fortune (June 15, 2016); FS; Fortune Business Person of the Year, Fortune December 2, 105); 95; K. Stock, “Movers, Nike,” BusinessWeek (December 26–January 8, 2017).
Problem Solving and Decision Making: An Overview

Recall that decision making is one of the three critical management skills. Corporate recruiters want employees that like to solve problems and have decision-making skills. Decisions made by large corporate managers don’t only affect their companies and employees—they have a profound impact on their stakeholders (Chapter 2). Poor decisions cost BP billions of dollars and fishermen their businesses, as well as destroying wildlife and ecosystems. Almost every problem harbors opportunity. Several businesses made profits by helping clean up the mess made by BP. Google has made billions over the years solving the problem of finding and organizing reliable information quickly through its search engine.

Michael Jordan wanted a sponsorship deal with Adidas when he went to the NBA, but executives said he wasn’t tall enough and no one could relate to him. As you most likely know, Nike made the right decision to sign Jordan. Nike also made a good decision leading to taking the NBA sponsorship away from Reebok—owned by Adidas. Nike (IOM 1) has made some poor decisions too, such as buying Umbro for $484 million and selling the subsidiary in 2012 for only $225 million, a 46% loss.

Let’s face it—we are not perfect decision makers, but we can improve our decision-making skills; that is the objective of this chapter. In this section, we discuss problem-solving and decision-making interrelationships, as well as an exploration of your preferred decision-making style, and we end with the decision-making model steps.

Problem-Solving and Decision-Making Interrelationships

Problem solving and decision making are interrelated with each other and with objectives and the management functions. Here’s how.

The Relationship Among Objectives, Problem Solving, and Decision Making. When you do not meet your objectives, you have a problem. The better you can develop plans that prevent problems before they occur, the fewer problems you will have, and the more time you will have to take advantage of opportunities and respond to competitive threats.

A problem exists whenever objectives are not being met. In other words, you have a problem whenever there is a difference between what is actually happening and what you want to happen. If the objective is to produce 1,500 units per day but the department produces only 1,490, a problem exists. Problem solving is the process of taking corrective action to meet objectives. Decision making is the process of selecting a course of action that will solve a problem. Decisions must be made when you are faced with a problem. When something isn’t working, fix it. McDonald’s has a problem with decreasing sales and made decisions to offer all-day breakfast and fresh baked goods.

The first decision you face when confronted with a problem is whether to take corrective action. Some problems cannot be solved, and others do not deserve the time and effort it would take to solve them. However, your job requires you to achieve organizational objectives. Therefore, you will have to attempt to solve most problems—this is what managers and employees get paid to do.

The Relationship Among the Management Functions, Problem Solving, and Decision Making. All managers perform the same four functions of management. While performing these functions, you must make decisions and solve problems. When planning, you first make decisions about objectives and when, where, and how they will be met. When organizing, you must make decisions about what to delegate and how to coordinate the department’s resources. When staffing, you must decide whom to hire and how to train and evaluate employees. To lead, you must decide how to influence employees. To control, you must monitor progress and select methods to ensure that objectives are met and take corrective action when needed.
Decision-Making Styles

How do you approach decisions? Before learning about the three decision-making styles, determine your preferred style by completing Self-Assessment 4-1.

Reflexive Style.
A reflexive decision maker likes to make quick decisions ("shooting from the hip") without taking the time to get the information that may be needed and without considering many alternatives. On the positive side, reflexive decision makers are decisive; they do not procrastinate. On the negative side, making quick decisions can lead to waste and duplication. Samsung rushed conclusions based on incomplete evidence. Rushing resulted in fires and other problems that led to recalls and discounting sales of its Galaxy Note 7 phone, and its mobile division profits plunged 96%. If you use a reflexive style for important decisions, you may want to slow down and spend more time gathering information and analyzing alternatives.

Reflective Style.
A reflective decision maker likes to take plenty of time to make decisions, gathering considerable information and analyzing several alternatives. On the positive side, the reflective type does not make hasty decisions. On the negative side, the reflective type may procrastinate, lose opportunities, and waste valuable time and other resources. The

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SELF ASSESSMENT 4-1

Decision-Making Styles

Individuals differ in the way they approach decisions. To determine whether your decision-making style is reflexive, reflective, or consistent, evaluate each of the following eight statements using the scale below. Place a number between 1 (indicating “This behavior is common for me”) and 5 (indicating “This behavior is not common for me”) on the line preceding each statement.

1.
2.
3.
4.
5.
6.
7.
8.

To determine your style, add up the numbers you assigned to the statements; the total will be between 8 and 40. Note where you fall on the decision-style continuum.

---

WORK APPLICATION 4-1

Describe a situation in which a job objective was not met. Identify the problem created and the decision made in regard to this problem.

WORK APPLICATION 4-2

Give an example of a poor decision made by a manager performing a management function. Explain the management function and the problem created by the poor decision.
reflective decision maker may be viewed as wishy-washy and
indecisive. Even a correct decision is wrong when it is taken too
too late.14 Cisco CEO John Chambers said, “Without exception, all
of my biggest mistakes occurred because I moved too slowly.”15
If you constantly use a reflective style, you may want to speed up
your decision making.

Consistent Style. In the fast-changing environment, making
to better decisions faster is important to success.
However, rushing
decisions like Samsung can be costly. Thus, many organizations
are slowing down decisions and taking the time to analyze data
as consistent decision makers, including speedy, agile companies
Amazon, Facebook, and Google.17 Consistent decision makers
tend to make decisions without either rushing or wasting time. They
know when they have enough information and alternatives to make
a sound decision. Consistent decision makers tend to have the best
record for making good decisions. They tend to follow the steps in
the decision-making model, which we present soon.

However, the consistent decision style can also result in failure. Keurig Green
Mountain slowly developed the countertop Kold Soda Maker using its successful
K-cups single-coffee-serve model, with Coca-Cola investing, but it resulted in insuf-
ficient sales and its discontinuing Kold. About a year after introducing Kold, JAP
Holdings, a major global coffee player, bought the entire Keurig company.18

The Decision-Making Model
Recall the importance of evidence-based management (EBM),
discussed in Chapter 1. So when making decisions, we want to
avoid using bad intuition—a hunch, gut feeling, knowing, suspicion,
or belief arrived at unconsciously without the use of a ration-

al reasoning processes—also called winging it.20 Be careful not
to use this type of intuition, as you can be deceived into making
a bad decision,21 as you can have biases and false beliefs.22 On
the other side, EBM holds great promise for improved decisions
and action, with commensurate benefits for organizations and
stakeholders,23 because EBM provides tools we can use in our
personal and professional lives.24

Through years of research to determine how the most suc-

cessful managers make decisions, a decision-making model has been developed, encom-

passing EBM.25 The question isn’t whether the model works; it’s whether you will use the
model when it is appropriate, which you will learn throughout this chapter. Following the
steps in the model will not guarantee that you will make a good decision every time, like
the Keurig example. However, using models will increase your chances of success in
problem solving and decision making.26

The decision-making model is a six-step process for arriving at a
decision and involves
(1) classifying and defining the
problem or opportunity,
(2) setting objectives and criteria,
(3) generating creative and
innovative alternatives,
(4) analyzing alternatives
and selecting the most
feasible,
(5) planning and
implementing the decision,
and
(6) controlling the decision.

Follow the steps in the decision-
making model can aid in making
better decisions.

A six-step process for arriving at a
decision that involves
(1) classifying and defining the
problem or opportunity,
(2) setting objectives and criteria,
(3) generating creative and
innovative alternatives,
(4) analyzing alternatives
and selecting the most
feasible,
(5) planning and
implementing the decision,
and
(6) controlling the decision.
Steps in Decision Making

Identify the step in the decision-making model represented by each statement.

step 1  step 4
step 2  step 5
step 3  step 6

1. “Tyson, what symptoms have you observed to indicate that a problem even exists?”
2. “That is a good idea, Mary, but how are you going to put it into action?”
3. “Good ideas, Tami and Carlos. Let’s consider the odds of the success of each of your ideas.”
4. “Now that we understand the problem, let’s use the brainstorming technique to solve it.”
5. “Eddie, is the machine still jamming, or has it stopped?”
6. “I don’t understand what we are trying to accomplish here, Raj.”

Classify and Define the Problem or Opportunity

Although it may seem surprising, it’s true: Half the decisions made by managers fail to solve the problems they are aimed at outcomes fall short of their objectives. The first step of the decision-making model is to classify and define the problem, which may sometimes take the form of an opportunity. In this section, we discuss how to classify problems, select the appropriate level of participation, and determine the cause of problems, so we can determine the type of decision to make.

Classify the Problem

Problems may be classified in terms of the decision structure involved, the conditions under which a decision will be made, and the type of decision made using the decision-making model.

Decision-Making Structure. For programmed decisions, those that arise in recurring or routine situations, you should use decision rules or organizational policies and procedures to make the decision. So it is not necessary to follow all the steps of the model. Reordering inventory every time stock reaches a specified level and scheduling employees are examples of programmed decisions.

For nonprogrammed decisions, significant decisions that arise in nonrecurring and nonroutine situations, you should use the decision-making model. To be significant, a decision must be expensive and/or have major consequences for the department or organization. Selecting a new product to sell, entering new products, and opening a new facility are examples of nonprogrammed decisions. Upper-level managers tend to make more nonprogrammed decisions than lower-level managers do. Nonprogrammed decisions usually take longer to make than programmed decisions do. The decision structure continuum is illustrated in Exhibit 4-2.

Decision-Making Conditions. The three decision-making conditions are certainty, risk, and uncertainty. When making a decision...
under the conditions of certainty, you know the outcome of each alternative in advance, so you can usually take quick action. When making a decision under conditions of risk, you do not know the exact outcome of each alternative in advance but can assign probabilities to each outcome. Under conditions of uncertainty, lack of information or knowledge makes the outcome of each alternative unpredictable, so you cannot accurately determine probabilities.

Entrepreneurs and upper-level managers tend to make more risky and uncertain decisions than lower-level managers do. Although risk and uncertainty cannot be eliminated, they can be reduced with information—EBM. Exhibit 4-3 illustrates the continuum of decision-making conditions.

### Select the Appropriate Level of Participation

When a problem exists, you must decide who should participate in solving it. Do you want to make the decision yourself or use a team? Today’s employees want to have a voice in decisions, the trend is using teams, especially when the decision affects them directly, and a group can often solve problems better than individuals. Thus, the major question is not whether managers should allow employees to participate but when and how this should be done. When making decisions, you should use the management style appropriate to the situation. In Skill Builder 4-2, you will be given the opportunity to use the situational decision-making model to help you select the appropriate level of participation in 12 situations.

For now, realize that even though the trend is toward group decision making, it does have disadvantages and is not always better than individual decision making. Exhibit 4-4 lists the potential advantages and disadvantages of involving groups in decision making. The key to success when using groups is to maximize the advantages while minimizing the disadvantages. In general, for a significant nonprogrammed decision with high risk or uncertainty, use group decision making. For a programmed decision with low risk or certainty, use individual decision making.

### Define the Problem

After you have classified the problem, you or the group must define it clearly and accurately, which requires conceptual skills as part of decision making. Because of time pressures, managers often hurry. Rushing to solve a problem that is not correctly defined often leads to a decision that does not solve the problem—haste makes waste. An important part of defining the problem is to distinguish symptoms from cause.

---

**Programmed Decisions**
Decisions that arise in recurring or routine situations, for which the decision maker should use decision rules or organizational policies and procedures.

**Nonprogrammed Decisions**
Significant decisions that arise in nonrecurring and nonroutine situations, for which the decision maker should use the decision-making model.

**Decision-Making Conditions**
Certainty, risk, and uncertainty.

---

**EXHIBIT 4-2**

DECISION STRUCTURE CONTINUUM

- **Nonprogrammed Decision:** significant, nonrecurring, and nonroutine (longer time to make decisions)
- **Programmed Decision:** nonsignificant, recurring, and routine (shorter time to make decisions)
Distinguish Symptoms From the Cause of the Problem. Think of this as a cause-and-effect/symptoms relationship. Begin by asking the right questions and listing the observable and describable occurrences (symptoms) that indicate a problem exists. Only after doing this can you determine the cause of the problem. If you eliminate the cause, the symptoms should disappear. For example, Sam has been an excellent producer. However, in the last month, Sam has been out sick or late more times than he was in the past two years. What is the problem? If you say “absenteeism” or “lateness,” you are confusing symptoms and causes. They are symptoms of the problem, but they don’t tell you “why” the problem has occurred. If you don’t eliminate the cause of the problem, the symptoms will reappear. McDonald’s sales and profits are down. Its not being profitable is a symptom. The real question is “What is the cause of the decline in sales and profits?” Two possible causes are the societal change to healthier food and increased competition from Chick-fil-A and Chipotle and others, which weren’t competitors years ago.

Decision-Making Types—Rational Versus Bounded Rational Decisions

There are two primary types of decisions that can be made using the decision-making model in Exhibit 4-1: rational (or maximizing) decisions and bounded rational (satisficing) decisions. Both tend to be considered consistent styles because the decision is neither so fast as to ignore information nor so slow as to miss opportunities.

Classify the Problem

Classify the problem in each statement according to the structure and condition under which the decision must be made.

A. programmed, certainty
B. programmed, uncertainty
C. programmed, risk
D. nonprogrammed, certainty
E. nonprogrammed, uncertainty
F. nonprogrammed, risk

___ 7. Aden has to decide if he should invest in a new company in a brand-new industry.
___ 8. Tinna, a manager in a department with high turnover, must hire a new employee.
___ 9. When Sean graduates from college, he will buy an existing business rather than work for someone else.
___ 10. Ron is making a routine decision, but being new, he has no idea what the outcome will be.
___ 11. Sam, a small business owner, has had a turnaround in business; it’s now profitable. She wants to keep the excess cash liquid so that she can get it quickly if she needs it. How should she invest it?
___ 12. Erica, a purchasing agent, must select new cars for the business. This is the fifth time in five years she has made this decision.

EXHIBIT 4-3 CONTINUUM OF DECISION-MAKING CONDITIONS

<table>
<thead>
<tr>
<th>Uncertainty</th>
<th>Risk</th>
<th>Certainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Outcome of alternatives unpredictable)</td>
<td>(Outcome of alternatives predictable)</td>
<td>(Lesser chances of making a poor decision)</td>
</tr>
<tr>
<td>(Greater chances of making a poor decision)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Rational Maximizers Versus Bounded Rational Satisficers. Psychologists have identified two types of decision makers. Maximizers tend to make rational decisions, taking their time and weighing a wide range of options before choosing. Satisficers (blending satisfy and suffice) tend to make bounded rational decisions and would rather be fast than thorough; they prefer to quickly choose the option that fills the minimum criteria. They both follow rational procedure analysis; which one best describes you, or are you somewhere in between?

When to Use Each Decision Style. Knowing when to use each decision style can improve your decision making.

- **Maximizing** with the rational decisions. The more complex and nonprogrammed the decision, the higher the degree of risk and uncertainty, and the more significant the decision outcome, the greater the need to spend time as a maximizer conducting research with the aid of the decision-making model to make a rational decision. When Nike (IOM 2) signs young unproven athletes to million-dollar endorsement deals, such as it did with LeBron James, it is making a nonprogrammed decision under the condition of high risk to uncertainty.

- **Satisficing** with the bounded rational decisions. Often due to time pressure, cost and availability of information, and cognitive inability to process too much information, managers make satisficing decisions. The more programmed the decision, the more certain the outcomes of the decision, and the less important the decision outcome, the less research and use of the decision-making model needed to make a satisficing decision.

- **Combining styles** with participation. Nothing suggests that either style results in making bad decisions more often. Also, when making group decisions, it is good to have people using both these styles to balance speed and quality. The difference is more about the speed and alternatives considered in decision making.
Exhibit 4-5 puts together the concepts from this section to help you better understand how to classify problems or opportunities and select the most appropriate decision type to use. Note that each part/box is on a continuum, and most decisions will lie somewhere between the two ends of the continuum.

Set Objectives and Criteria

Generally, with simple programmed decisions, the objectives and the criteria have been set. Therefore, you need not complete steps 2 through 4 of the decision-making model. However, with nonprogrammed decisions, you should follow all the steps in the decision-making model. Therefore, the second step for the individual or group facing such a decision requires setting objectives and developing criteria. Nike's (IOM 3) objective in signing athletes to endorse its products is to make a profit by generating sales revenues that greatly exceed the cost of the endorsement.

Setting Objectives. Setting clear objectives gets you to focus on the final result you want to accomplish. Objectives drive decisions, and they must state what the decisions should accomplish—whether they will solve a problem or take advantage of an opportunity. Teams are good at setting objectives. You'll learn how to set effective objectives in Chapter 5.

Setting Criteria. You should also specify the criteria for choosing an alternative solution to a problem, as they set the level of performance. Criteria are the standards that an alternative must meet to be selected as the decision that will accomplish the objective. Having multiple criteria helps to maximize the decision. You should distinguish “must” and “want” criteria. “Must” criteria have to be met in order for an alternative to be acceptable, whereas “want” criteria are desirable but not necessary for the alternative to be acceptable. With satisficing, you stop with the first acceptable alternative; with maximizing, you seek to select the best possible option.

Suppose a regional manager faces the problem that a Pizza Hut store manager has quit and a new manager must be hired. The objective is to hire a store manager by next month. The “must” criteria are that the person have a college degree and a minimum of five years’ experience as a store manager. The “want” criterion is that the person should be a minority group member. The regional manager wants to hire a minority employee but will not hire one who does not meet the “must” criteria. We will discuss criteria again later in this chapter.

Weighing Criteria. Some criteria are more important than others. But all the “must” criteria are essential, so they each get equal weight at the top rating, say 10 points. However, the “want” criteria can be weighted by importance. For example, in buying a car, a “must” criterion could be a price of under $15,000 or a specific brand—Ford Mustang. “Want” criteria can be weighted, such as low mileage (8), good gas mileage (6), blue (4), and so on. You could get technical and develop a mathematical calculation chart for the “want” criteria—such as using the Kepner-Tregoe method. But if you are not mathematically inclined to do so, it is a good idea to give the want criteria weights to keep in mind when analyzing alternations—step 4 of the decision-making model.

Generate Creative and Innovative Alternatives

After the problem is defined and objectives and criteria are set, you generate possible alternatives for solving the problem or exploiting the opportunity (step 3 of the decision-making model). Usually, many possible ways exist to solve a problem. Without alternatives from

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multiple sources, you don’t have to make a decision, and you should write your alternatives down—visual people like decision trees.

With programmed decision making, the alternative is usually determined by a policy. However, with nonprogrammed decision making, time, effort, and resources are needed to come up with new creative and innovative ideas. So ask others to offer ideas. In this section, you will read about creativity and innovation, as companies such as GE and 3M love to say they innovate. We also discuss five group techniques for generating creative alternatives and viewing the alternatives with decision trees.

### Creativity and Innovation

**Creativity** is a way of thinking that generates new ideas. Creativity is the driver that leads to innovation. It’s about seeing things through a different lens, often called thinking outside the box, and coming up with novel and useful ways to solve problems or come up with opportunities. **Innovation** is the implementation of a new idea. Two important types of innovation are product innovation (new things such as goods/services) and process innovation (new ways of doing things). Creativity is needed,
Avoiding Taxes

Many large corporations have an objective to pay less in taxes and are using corporate tax loopholes to avoid paying taxes. Walmart and Apple are such companies. Apple CEO Tim Cook was quoted in the press as defending Apple’s tax-avoiding practices, which saved $44 billion in offshore income from 2009 to 2012. Apple also has three Irish subsidiaries that claim to have no residence anywhere for tax purposes.1

It is not known just how many corporations are engaging in these kinds of activities. What is known, though, is that as these corporations continue taking advantage of corporate tax laws, the more taxes ordinary families and small businesses pay.

The U.S. federal corporate tax rate is the highest in the world, as high as 35% in early 2017, and most states and some local governments also impose taxes on corporate profits. President Trump said he wants tax cuts, which would give less incentive to move jobs overseas and keep money in America. However, others claim that large, profitable corporations should pay high taxes to help fund social programs, and the tax rate should not be cut.

1. Although it is legal, is it ethical for Apple, Walmart, and other corporations to take advantage of tax loopholes to avoid paying taxes?
2. If you became CEO of one of these corporations, would you continue to take advantage of the tax loopholes? Why or why not?
3. As an individual, do or will you take advantage of tax loopholes or pay more taxes than legally required by law?
4. What is the government’s role and responsibility regarding tax loopholes? What should the government do?
5. Should the corporate tax rate be cut? If so, by how much?

Note


Creativity and Innovation Killers. There are barriers to changing and trying something different. But success only comes from taking some risks and innovating.25 In Chapter 6, you will learn how to overcome these barriers and manage change. For now, while thinking and working with a group to solve problems or take advantage of new opportunities, you’ll want to be on guard against the kinds of responses that can block creativity and stop innovation,26 such as the following:

- “It is impossible.” “It can’t be done.”
- “We’ve never done it.” “Has anyone else tried it?”
- “It won’t work in our department (company/industry).”
- “It costs too much.” “It isn’t in the budget.”
- “Let’s form a committee and have lots of meetings.”

If group members say and think something is impossible, they will not try to be creative. If you think about or anyone makes such statements, your job is to remind yourself and the group to focus on generating ideas, the more offbeat the better. So keep a positive, can-do attitude.
The Creative Process. The image of the creative type, like Steve Jobs of Apple, is over-rated. Everyone has creative capability, and you can become more creative. If not, why do Coca-Cola, OMRON, Pitney Bowes, and Shiseido all have training programs that emphasize creativity for their employees? One thing that helps creativity is to simply give people time and space to think, which they do at Tumblr.60

The three stages in the creative process are (1) preparation, (2) incubation and illumination, and (3) evaluation (see Exhibit 4-6). As with the decision-making model, you may have to return to prior stages as you work through the creative process.

1. Preparation. First, you must define the problem by getting others’ opinions, feelings, and ideas, as well as the facts. Look for new angles, use imagination and invention, and don’t limit yourself to the boundaries of past thinking. Generate as many possible solutions as you can think of without making a judgment.

2. Incubation and illumination. After generating alternatives, take a break; sleep on the problem. Creativity seems to happen outside the “ordinary groves of thought and action.”61 During the incubation stage, as your subconscious works on the problem, you may gain an insight into the solution—illumination.62 Illumination can also happen while working on the problem; it is sometimes referred to as the “Aha, now I get it” phenomenon.

3. Evaluation. Before implementing a solution, you should evaluate the alternative to make sure the idea is practical. A good approach is to become the devil’s advocate. With the devil’s advocate approach, group members focus on defending a solution while others try to come up with reasons the solution will not work. Using the devil’s advocate approach usually leads to more creativity as the idea is improved upon.

Engineer Arthur Fry of 3M developed a new glue that was extremely weak (preparation), so the company called it a failure and decided not to use it. However, Fry sang in a church choir and put little pieces of paper in the hymnal to mark the songs. The problem was the paper often fell out. While listening to a sermon, he had an illumination to use his weak glue to solve the problem. The Post-it note was invented and became a great success, and even today with all the electronic technology, it still sells well.63

Using Information to Generate Alternatives. Successful managers, such as Amazon’s Jeff Bezos and Google’s Sergey Brin, use facts, data, information, and knowledge to make decisions, and they are more creative and innovative.64 However, when generating alternatives, the question for many managers is “How much information and how many alternatives do I need, and where should I get them?” There is no simple answer. The more significant the decision, generally, the more information and/or alternatives you need. However, if you get too much information or have too many alternatives, the decision becomes too complex, and the best alternative may not be selected. So data should be your tool, not your master.65

Using Technology to Generate Alternatives. Technology, especially the Internet, has shown considerable potential for assisting with problem solving and decision making, as it provides so much data instantly. Two Sigma Investments uses computers to trawl the sea of data for stock picks, including Twitter.66 However, when using the Internet to make decisions, one must be careful due to the amount of false information posted on the web. Technology is also used to generate creative alternatives in groups.

Nike (IOM 4) has a team of 50 research scientists developing new technology to improve the performance of athletes using its products, such as its featherweight Flyknit sneakers.67 Nike continues to innovate the fashion looks of its sports footwear, apparel, and equipment with new materials, colors, and designs and star athletes to endorse them. Nike also offers customizing your own shoes and apparel under the NIKEiD option at its website.
Using Groups to Generate Creative Alternatives

Creativity can thrive in small groups, so there is a trend today toward using groups to develop creative ideas and make decisions. A big advantage to using a group is members’ ability to combine and improve creative ideas. It also helps creativity to get out of the routine, so get away to change the scene like they do at The Land of Nod company. Five of the more popular group creativity techniques are illustrated in Exhibit 4-7.

Brainstorming. Brainstorming is the process of suggesting many possible alternatives without evaluation. When brainstorming ideas, follow these guidelines. Include diverse people. The group is presented with a problem and asked to develop as many solutions as possible. Members should be encouraged to make wild, extreme suggestions. You should also build on suggestions made by others. Everyone should have an equal voice. No criticizing others’ ideas, and none of the alternatives should be evaluated until all possible alternatives have been presented. Microsoft used brainstorming to choose “Bing” as the name of its search engine.

Research has also shown that we are more creative when walking, so with small groups, some companies are holding walking brainstorming sessions. Using technology, a newer form of brainstorming is electronic e-brainstorming. People use computers to generate alternatives. Participants synchronously send ideas without getting together. People who are far apart geographically can brainstorm this way, and the number of participants does not have to be limited.

Synectics. Synectics is the process of generating novel alternatives through role playing and fantasizing. Synectics focuses on generating novel ideas rather than a large quantity of ideas. At first, the group leader does not even state the exact nature of the problem so that group members avoid preconceptions.

Nolan Bushnell, founder of Chuck E. Cheese’s, wanted to develop a new concept in family dining, so he began by discussing leisure activities generally. Bushnell then moved to leisure activities having to do with eating out. The idea that came out of this synectic process was a restaurant–electronic game complex where families could entertain themselves while eating pizza and hamburgers.

Nominal Grouping. Nominal grouping is the process of generating and evaluating alternatives using a structured voting method. This process usually involves six steps:

1. Listing. Each participant generates ideas in writing.
2. Recording. Each member presents one idea at a time, and the leader records these ideas where everyone can see them. This continues until all ideas are posted.
3. Clarification. Alternatives are clarified through a guided discussion, and any additional ideas are listed.
4. Ranking. Each employee rank orders the ideas and identifies what he or she sees as the top three; low-ranked alternatives are eliminated.
5. Discussion. Rankings are discussed for clarification, not persuasion. During this time, participants should explain their choices and their reasons for making them.
6. Vote. A secret vote is taken to select the alternative.
Nominal grouping is appropriate to use in situations in which groups may be affected by disadvantages (Exhibit 4.4) of domination, goal displacement, conformity, and groupthink, because it minimizes these effects.

Consensus Mapping. Consensus mapping is the process of developing group agreement on a solution to a problem. If a consensus cannot be reached, the group does not make a decision. Consensus mapping differs from nominal grouping because there can be no competitive struggle ending in a vote that may force a solution on some members of the group. The Japanese call this approach *ringi*. Consensus mapping can be used after brainstorming by categorizing or clustering ideas in the process of trying to agree on a single solution. A major benefit is that because any solution chosen is the group’s, members generally are more committed to implementing it. However, consensus can’t always be reached, and leaders can’t always wait for consensus and must make decisions themselves.

The Delphi Technique. The Delphi technique involves using a series of confidential questionnaires to refine a solution. Responses on the first questionnaire are analyzed and resubmitted to participants on a second questionnaire. This process may continue for five or more rounds before a consensus emerges. Managers commonly use the Delphi technique for technological forecasting, such as projecting the next Internet breakthrough and its effect on a specific industry. By knowing what is to come, managers can make creative decisions to plan for the future.

Upper-level managers commonly use synectics and the Delphi technique for a specific decision. Brainstorming, nominal grouping, and consensus mapping techniques are frequently used at the departmental level with work groups.

Decision Trees

After you come up with alternative problem solutions, you may want to make a decision tree, as it can help you visualize the alternatives you are considering. A decision tree is a diagram of alternatives. The diagram gives a visual picture of the alternatives, which makes it easier
for some people to analyze them. Decision trees are also especially helpful when you face information overload.

Carolyn Blakeslee started Art Calendar (a business magazine for visual artists) dedicated to helping artists make a living doing what they love. Blakeslee started Art Calendar as a part-time business in a room in her house. But as the business grew, it became more than a full-time job. She wanted to have it all—to meet financial goals and devote time to her family and create her own artwork. Like many small business owners, she had to make a decision. Her choices are diagrammed in a decision tree in Exhibit 4-8. Blakeslee decided to expand her business—to work full time and hire professional help. But she later decided to sell the company magazine, now called Professional Artist.78

Analyze Alternatives and Select the Most Feasible

Notice that in the decision-making model in Exhibit 4-1, generating and analyzing alternatives and selecting the most feasible are two different steps (steps 3 and 4). This is because generating and evaluating alternatives at the same time tends to lead to satisficing and wasting time discussing poor alternatives rather than moving to maximizing. So only after you gather evidence-supported alternatives79 is it time to analyze them, and analytical thinking is an important skill job recruiters are looking for in job candidates.80 Adidas hired Herbert Hainer as CEO because he is known for his analytical approach with the task of solving the problem of decreasing market share to Nike and Under Armour.81 You want to select the “best” alternative.82 But notice we said select the most feasible, because some options may not be practical. You have limited resources and just can’t afford some options, or the cost may be too high for the expected return. The CEO of Priceline says that sometimes it is harder to decide what you’re not going to do,83 especially when analyzing opportunities instead of problems.

In evaluating alternatives, think forward and try to predict the possible outcome of each action on your stakeholders that will be affected by the decision.84 Don’t forget to consider the ethics of each alternative.85 Be sure to compare alternatives to the objectives and criteria set in step 2 of the decision-making process. In addition, compare each alternative to the others.

Using Groups to Generate Alternatives

Identify the most appropriate group technique for generating alternatives in each situation.

A. brainstorming
B. synectics
C. nominal grouping
D. consensus mapping
E. Delphi technique

13. Management wants to expand the business by offering a new product but doesn’t know what to offer.
14. Management wants to project future trends in the social media industry as part of its long-range planning.
15. Management at a video game maker wants to develop a new game. It calls in a consultant, who is leading groups of employees and children to come up with ideas together.
16. A department is suffering from morale problems, and the manager doesn’t know why or how to improve morale.
17. A department is getting new computers, and everyone has to get the same type: either desktop, laptop, or tablet. The manager doesn’t know which type to select for her 25 employees.

Using Groups to Generate Alternatives

Identify the most appropriate group technique for generating alternatives in each situation.

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B. synectics
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17. A department is getting new computers, and everyone has to get the same type: either desktop, laptop, or tablet. The manager doesn’t know which type to select for her 25 employees.
This section presents quantitative and qualitative approaches that are commonly used to analyze alternative solutions: quantitative techniques, big data, and cost-benefit analysis and intuition.

**Quantitative Techniques**

As you read in Chapter 1, one of the five approaches to management is management science, which uses math to aid in problem solving and decision making. Quantitative techniques professionalize decision making by using math in the objective analysis of alternative solutions. The MLB Oakland Athletics Billy Beane became a celebrity (did you see the movie *Moneyball*?) by popularizing the use of statistics to make baseball decisions.86

You may not be expected to compute the math for all types of quantitative techniques. However, if you know when to use these techniques, you can seek help from specialists within or outside the organization. If you are interested in the actual calculations, you should take courses in quantitative analysis.

**Break-Even Analysis.** Break-even analysis allows calculation of the volume of sales or revenue that will result in a profit. The break-even point occurs at the level at which no profit or loss results. If a Stop & Shop store buys a carpet cleaner for $300 and rents it for $25 a day, how many times does it have to rent it to break even? If you said 12, you are correct.

**Capital Budgeting.** Capital budgeting is used to analyze alternative investments in assets that will be used to make money, such as machines to make products and equipment to provide a service like a lawn mower. Capital budgeting is used for make-or-buy, fix-or-replace, upgrade-replacement, and rent/lease-or-buy decisions. The payback

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EXHIBIT 4-8 DECISION TREE

1. Maintain Business as Is
   - Work Full-Time, Doing All the Work
   - Hire Some Help and Work Part-Time

2. Expand the Business
   - Work Full-Time; Hire Clerical Help
   - Work Full-Time; Hire Professional Help
   - Work Full-Time; Hire Professionals to Do the Work

3. Sell the Business
   - Work for New Owners, Full- or Part-Time
   - Start a New Business
   - Work for Someone Else, Full- or Part-Time
   - Stop Working

---

Many companies today realize that good decisions often hinge on gathering relevant data and performing good data analysis.
approach allows the calculation of the number of years it will take to recover the initial cash invested. Another approach computes the average rate of return. It is appropriate when the yearly returns differ. A more sophisticated approach, discounted cash flow, takes into account the time value of money. It assumes that a dollar today is worth more than a dollar in the future. Organizations including AMF, Kellogg’s, Procter & Gamble, and 3M use discounted cash flow analysis.

Linear Programming. Optimum allocation of resources (time, money, space, material, equipment, and employees) is determined using linear programming (LP). Companies primarily use LP for programmed decisions under conditions of certainty or low risk, but LP is also widely applied to product-mix decisions. Lear Siegler uses LP when determining work flow to optimize the use of its equipment. FedEx and UPS use LP to determine the best sequence of deliveries to minimize costs for their trucking fleets.

Queuing Theory. Queuing theory focuses on waiting time. An organization can have any number of employees providing service to customers. If the organization has too many employees working at one time, not all of them will be waiting on customers, and the money paid to them is lost. If the organization has too few employees working at one time, it can lose customers who don’t want to wait for service, which results in lost revenue. Queuing theory, which helps the organization balance these two costs, is used by retail stores to determine the optimum number of checkout clerks and by production departments to schedule preventive maintenance. Kaiser Permanente uses queuing theory to help doctors’ offices reduce waiting times for patients.

Probability Theory. Probability theory enables the user to make decisions that take into consideration conditions of risk. You assign a probability of success or failure to each alternative. Then you calculate the expected value, which is the payoff or profit from each combination of alternatives and outcomes. The calculations are usually done on a payoff matrix by multiplying the probability of the outcome by the benefit or the cost. Probability theory is used to determine whether to expand facilities and to what size, to select the most profitable investment portfolio, and to determine the amount of inventory to stock. Using probability theory, hedge fund investors are providing movie financing to major film studios, such as Walt Disney and Sony Pictures, using computer-driven investment simulations to pick movies with the right characteristics to make money. Have you ever used a simple probability, such as I have a 75% chance of winning or getting the job or sale?

Big Data
You should realize that big data is also a quantitative technique that is used with or rapidly replacing the other quantitative techniques. Data scientists are in demand. Fortune 500 executives are all talking about big data.

What Is Big Data? Big data is the analysis of large amounts of quantified facts to aid in maximizing decision making. The quantitative analysis is commonly done through algorithms and their related sophisticated software. Jack Ma, Chairman of Alibaba, says, “Data will become the biggest production material in the future.” Executives must transform into math machines, because whoever has the most exact data—and knows how to use it—wins today. Data-driven businesses make faster decisions and are more profitable than companies with low reliance on data.

Using big data with the help of data crunchers like Gauss & Neumann and Google Analytics can be expensive, but big data can be used by small business at no or low cost. Google Analytics does have a free version, and for $100 or less per month, Wicked Reports, ClicData, Graphly, and SumAll can provide reports of information telling you what is working and what isn’t from websites and social media.
How Is Big Data Used? It can reveal patterns and opportunities that 99% of businesspeople would miss. The math department is the hottest new function because it provides the big data to the operation, marketing, accounting, and other functional departments. Big data is being used in all industries to improve operations and marketing. Harklinikken (Danish for hair clinic) founder Lars Skjøth uses his algorithm and tonics to prevent and stop hair loss. Domino’s Pizza uses big data to customize marketing, select locations, and manage staffing. GE uses big data in operations to make its products and in the maintenance of its assets to keep them running longer at a lower cost. United Airlines uses big data to decide where to fly, how often, how many people to carry, and how big or small a plane. Taco Bell and Pizza Hut are using apps to take orders and payment to improve service and increase sales. Apple and Google are collecting big data in a race to predict what future products and services you will buy.

Do you believe those big-hit music artists and songs just happen by chance? Alex White brought data analysis to the music industry, forecasting which artists were on the brink of stardom and which songs would be hits before they were released, and now he is using big data to help predict best-selling books with Next Big Book. Have you ever been online and received customized ads for products you bought in the past or are likely to buy or ads telling you it’s time to reorder? That’s big data.

Cost-Benefit, Pros and Cons, and Intuition

Decision making is not simple trust data-versus-gut decisions. Quantitative techniques including big data are objective mathematical approaches to comparing alternatives. However, there are times when management science approaches alone don’t work well, and data is a tool for enhancing intuition, or data and intuition are commonly used together, as discussed here. The leader who truly understands the numbers will make the best gut decisions.

Cost-Benefit Analysis. When making decisions, it is helpful to use a cost-benefit analysis. It compares the cost of implementing a decision to the benefits received. Although we should still use EBM, sometimes you can’t put a number on a cost and/or benefit. You may be able to tell me how much you paid for tuition, but how much did you lose in income while you were in college and not working? Plus, the benefits of your education are surely more than the pay you get for a job—how do you put a price on these? How do you put a price on a human life, and how should you compare the cost of adding extra safety

Selecting Quantitative Methods

Select the appropriate quantitative method to use in each situation.

A. break-even analysis
B. capital budgeting
C. linear programming
D. queuing theory
E. probability theory

18. Burger King manager Tania wants to even the workload in her fast-food restaurant. At times, employees hang around with no customers to wait on; at other times, they have long waiting lines.

19. Taylor Rental manager Matthew wants to know how many times a bounce house will have to be rented out to recoup the expense of adding it to the rental list.

20. Machine shop manager Henry is scheduling which products to make on which machines next week.

21. Kandeeda, a lawn care services solo owner/operator, must decide whether to repair her old truck or to replace it with a new one.

22. Shawn wants to invest money in commodities futures to make a profit.
features to the benefits of fewer “potential” accidents? In such cases, cost-benefit analysis is considered a mixed technique for comparing the cost and benefit of each alternative course of action using subjective judgment along with some quantitative math. Judgment is the cognitive process of drawing conclusions using a rational reasoning process in reaching a decision.109 So cost-benefit should be a mix of EBM information and judgment.110 Even with big data, in the fast-changing global environment, managers tend to use some judgment.111

**Pros and Cons.** With pros-and-cons analysis, you identify the advantages, which can be considered the benefits, and the disadvantages, which can be considered the costs, of each alternative. Ben Franklin is said to have used pros-and-cons analysis. Franklin would draw a line down the middle of a piece of paper. On one side he would list the pros and on the other the cons of whatever he was considering.

**Intuition.** Recall that we suggested not using bad intuition, winging it without using the decision-making model and EBM information. However, when using the decision-making model, it is appropriate to use good intuition by selecting an alternative based on your experience and rational judgment.112 Many successful entrepreneurs suggest listening to your voice of intuition.113 When you have dealt with a recurring problem calling for a programmed decision and it comes up again, you can act quickly with what seems to be limited information when in fact it is based on good intuition. Intuition can also be used with nonsignificant nonprogrammed decisions with low risk, but it is also used to some extent with the decision-making model to complement the other techniques.

Exhibit 4-9 compares the three major approaches to analyzing and selecting alternatives. Although the exhibit seems to have three distinct types, they are actually on a continuum. Regardless of the method used to analyze alternatives, the one selected must meet the criteria established in step 2 of the decision-making model. If none of the alternatives meets the criteria, you have two options: (1) return to step 2 and change the criteria for the best alternative or (2) return to step 3 and generate more alternatives.

Multimillion-dollar endorsement contracts may seem like a lot to offer to star athletes. However, contract amounts are paid over several years, and Nike (IOM 5) has more than $3 billion in profits yearly. The contracts also include clauses that specify how they may be ended if things don’t work out. So, relatively speaking, endorsement contracts are not a great

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### EXHIBIT 4-9 CONTINUUM OF ANALYSIS TECHNIQUES

<table>
<thead>
<tr>
<th>Quantitative Techniques</th>
<th>Mixed Technique</th>
<th>Qualitative Technique</th>
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</thead>
<tbody>
<tr>
<td>Break-even</td>
<td></td>
<td>Intuition</td>
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<tr>
<td>Capital budgeting</td>
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<td>Linear programming</td>
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<td>Queuing theory</td>
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<td>Probability theory</td>
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<td>Big data</td>
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<tr>
<td>Decision is objective, based primarily on math</td>
<td>Decision is based on some objective EBM information and/or math along with subjective judgment</td>
<td>Decision is based on experience and subjective judgment</td>
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<tr>
<td>Used for making significant nonprogrammed decisions under the condition of uncertainty and risk</td>
<td>Used for making significant nonprogrammed decisions under the condition of uncertainty and risk</td>
<td>Used for making nonsignificant programmed decisions under the condition of certainty and low risk</td>
</tr>
<tr>
<td>Follows all steps of decision-making model</td>
<td>Follows all steps of decision-making model</td>
<td>May skip steps of decision-making model</td>
</tr>
<tr>
<td>Commonly a group decision</td>
<td>Commonly a group decision</td>
<td>Commonly an individual decision</td>
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</tbody>
</table>
financial risk for Nike. Nike can use quantitative break-even analysis in making contract decisions, as Nike managers know the cost and can figure the sales needed to break even on contracts, and they are using big data. Cost-benefit analysis is also applied in making contract decisions, as there is a cost to having a competitor contract with the athletes, thereby causing Nike to potentially lose sales and market share.

Plan, Implement the Decision, and Control

The final two steps in the decision-making model involve planning and implementing the decision (step 5) and controlling (step 6). Unfortunately, decisions will be made but not implemented. And a major cause is not developing a detailed plan to achieve the objective of the decision. Have you ever made a New Year’s resolution, which is a decision, but didn’t succeed, like to lose weight and exercise more? So once the decision is made, everyone needs to commit to meeting its objective (step 2 of the decision-making model), and this requires giving support and getting the necessary resources (step 1) and coordinating them with current resources.

After making a decision, you develop a plan of action with a schedule for implementation. (You will learn the details of the planning process in the next chapter.) The plan needs to be clearly communicated so that everyone can do his or her part to achieve the objective. (You will learn about communication in Chapter 13.) After a decision has been made and plans developed, the plans must be implemented—you need to take action to achieve your objective. In implementing a decision, it is likely to be necessary to delegate assignments to others. (You will learn about delegating in Chapter 7.)

Control methods should be developed while planning to measure and monitor decision outcomes. Checkpoints should be established to determine whether the chosen alternative is solving the problem. If not, corrective action may be needed. (You will learn about control methods in Chapters 14 and 15.) If you are not on track to achieve the objective, you don’t want to give up too soon and lose the desired outcome, but you also don’t want to get caught in the escalation of commitment.

When we will not admit that we made a bad decision, we are in the process known as escalation of commitment. We tend to maintain commitment to losing courses of action, even in the face of bad news, by wasting more resources, called throwing good money after bad. Why? Because we don’t like to lose something once we have it, and we don’t like to admit we made a mistake, even to ourselves. Do you know anyone who will never admit to making a mistake? The pain of losing outweighs the joy of winning. It’s called loss aversion.

When you make a poor decision, you should admit the mistake and try to rectify it quickly. Go back over the steps in the decision-making model. Target went global, for the first time opening stores in Canada, but it was a major misstep, as after losing billions in investment it shut down. You also need to learn from your mistakes by building intuition so you don’t repeat them. On the positive side, poor decisions and failure can often be fixed and may even lead to new opportunities; recall the 3M Post-it note.

Trends and Issues in Management

We live in a global village. The World Economic Forum provides detailed assessments of the productive potential of 139 nations worldwide in its annual “Global Competitiveness Report” (for a copy, visit http://www3.weforum.org/docs/gcr/2015-2016/Global_Competitiveness_Report_2015-2016.pdf). As discussed in Chapter 3’s section on Project GLOBE, people around the globe are different, and people from different cultures don’t necessarily make decisions the same way.
Managers in some countries (such as the United States) are more oriented to problem solving, whereas those in others (such as Thailand and Indonesia) tend to accept things the way they are. Culture influences the selection of problems to solve, the depth of analysis, the importance placed on logic and rationality, and the level of participation in decision making. Thus, in high-power-distance cultures (most Latin American countries and the Philippines), where decisions are more autocratic, participation is not acceptable. In lower-power-distance cultures (the United States, Ireland, Australia, and Israel), there is greater use of participation in decision making.

Decision-making styles also often vary based on time orientation globally. In some countries, decisions are made more quickly than in others. In countries that are less time conscious, such as Egypt, decision styles are more reflective than in time-conscious countries like the United States, where decision styles are more reflexive. In countries where managers use participative decision making, decisions take longer than in countries where managers use autocratic decision making. Japanese managers, for example, for whom decision making involves high levels of participation, often take longer to make decisions than U.S. managers do.

Globalization also brings diversity, which can help in problem solving and decision making, as it really helps creativity as you understand how to rethink a problem or reanalyze a situation. Hikmet Ersek, Western Union CEO, says that if you listen to people whether they are from the United States, Spain, or Brazil, whether they are rich or poor, white or black, male or female, they help you grow and innovate.

Big data is being collected and used globally. With more than 3.2 billion social networking users, 3.9 billion active e-mail users, and 400 million tweets a day, the rise of social media has generated vast amounts of big data content that is being used as discussed in this chapter. People are also posting their problems on social media and getting personal information to aid in their decision making globally.

Technology can help you think about problems and how to solve them or create opportunities, such as using big data. However, big data can be misread and lead to poor, costly decisions. Even though Coca-Cola made a bad decision to replace Coke with New Coke and brought Coke back years ago, PepsiCo made the same poor decision. Pepsi spent two years surveying consumers, conducting taste tests, and tinkering with soft drink recipes using sucralose sweetener to improve Diet Pepsi taste and sales. But it misread what customers wanted. To fix the poor decision, it brought back Diet Pepsi with aspartame.

Along with big data come the issues of privacy and security. People question their privacy using websites like Google, Facebook, and LinkedIn and are concerned about how these companies are using (and possibly selling) their data. As you may know, hackers broke into companies’ data files, including Yahoo! and Home Depot, and stole customer information. States challenged RadioShack’s plan to auction customer data. If it is legal, is the sale ethical? Are you concerned?

Clearly, when it comes to making decisions, we need to be ethical and socially responsible globally, and not simply go by the big data numbers. We need to be honest in reporting statistical data and not fix the data to support the decisions we want to make. Some question the ethics and accuracy of using algorithms to manage people, such as when making hiring, promoting, and firing decisions.

We need to balance economics and sustainability of the environment, so don’t abuse your power. Be a responsible leader; use the ethical guides (Chapter 2). Technology and big data can also help with environmental sustainability problems, such as sewage treatment plants, and in China, where they are turning the sea into fresh water. Bayer and Monsanto are collecting big data that helps farmers increase productivity while helping to preserve our natural resources to feed the world.
PART II: PLANNING

CHAPTER SUMMARY

4-1. Discuss the relationship among objectives, problem solving, and decision making and their relationship among the management functions.

Managers are responsible for setting and achieving organizational objectives. When managers do not meet objectives, a problem results. When a problem exists, decisions must be made about what, if any, action must be taken.

When managers perform the functions of planning, organizing, leading, and controlling, they make decisions and solve problems.

4-2. Describe when to use rational (maximizing) versus bounded rational (satisficing) decision making and group versus individual decision making.

The more complex and nonprogrammed the decision, the higher the degree of risk and uncertainty, and the more significant the decision outcome, the greater the need to spend time as a maximizer conducting research with the aid of the decision-making model to make a rational decision.

The more programmed the decision, the more certainty of the outcomes of the decision, and the less important the decision outcome, the less research and use of the decision-making model needed to make a bounded rational (satisficing) decision. The greater the need to maximize, the greater the need to use group decision making. With a group, it is good to have a mix of maximizers and satisficers to increase the speed and quality of the decision. Simple satisficing decisions can be made by an individual.

However, this is a general guide; there may be exceptions to the rule.

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Digital Resources

Learning Objective | Digital Resource
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4-1. Discuss the relationship among objectives, problem solving, and decision making and their relationship among the management functions. | Management in Action: Decision-Making Styles*
4-2. Describe when to use rational (maximizing) versus bounded rational (satisficing) decision making and group versus individual decision making. | Maximizing vs. Satisficing
4-3. Explain the difference between an objective and “must” and “want” criteria. | SMART Objectives
4-4. State the difference between creativity and innovation and identify five group techniques used to generate creative alternatives. | Creativity and Innovation*
4-5. Compare quantitative techniques including big data, cost-benefit analysis, and intuition for analyzing and selecting an alternative. | Cost-Benefit Analysis
4-6. Explain the importance of planning, implementing, and controlling decisions. | Planning Strategies

* premium video available only in the interactive eBook
4-3. **Explain the difference between an objective and “must” and “want” criteria.**

An objective is the result you want to achieve when making a decision. "Must" criteria are the requirements that an alternative must meet to be selected. "Want" criteria should also be weighted by their level of importance to achieving the objective.

4-4. **State the difference between creativity and innovation and identify five group techniques used to generate creative alternatives.**

Creativity is a way of thinking that generates new ideas. Innovation is the implementation of new ideas for products and processes. Five techniques for generating creative alternatives include brainstorming, synectics, nominal grouping, consensus mapping, and the Delphi technique. Decision trees can also be used as a visual aid for generating alternatives.

4-5. **Compare quantitative techniques including big data, cost-benefit analysis, and intuition for analyzing and selecting an alternative.**

Quantitative techniques (break-even, capital budgeting, linear programming, queuing, and probability theories) including big data (the analysis of large amounts of quantified facts to aid in maximizing decision making) are objective management science approaches using math to select the alternative with the highest value.

Cost-benefit analysis compares the cost of implementing a decision to the benefits received. It is commonly used when some of the cost and/or benefits can’t be quantified. Cost-benefit tends to be used by a group that mixes evidence-based information/math and subjective judgment.

Intuition is based on experience and subjective rational judgment. It is commonly used by individuals with recurring problems calling for a programmed decision under the condition of certainty.

4-6. **Explain the importance of planning, implementing, and controlling decisions.**

Decisions are of no value to the company unless there is a plan stating how the objective of solving the problem will be achieved, and a plan that is not implemented is also of no value. The implementation of the plan must also be controlled to measure and monitor the progress of achieving the objective. Based on control, the decision maker must also not give up too soon and lose the benefits or get caught in the escalation of commitment and throw good money after bad.

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**KEY TERMS**

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**KEY TERM REVIEW**

Complete each of the following statements using one of this chapter’s key terms.

1. A ____ exists whenever objectives are not being met.
2. ____ is the process of taking corrective action to meet objectives.
3. ____ is the process of selecting a course of action that will solve a problem.
4. The steps of ____ include (1) classifying and defining the problem or opportunity (2) setting objectives and criteria, (3) generating creative and innovative alternatives, (4) analyzing alternatives and selecting the most feasible, (5) planning and implementing the decision, and (6) controlling the decision.

5. For ____ which are recurring or routine, the decision maker should use decision rules or organizational policies and procedures.
6. For ____ which are significant, nonrecurring, and nonroutine, the decision maker should use the decision-making model.
7. The three ____ are certainty, risk, and uncertainty.
8. ____ are the standards that an alternative must meet to be selected as the decision that will accomplish the objective.
9. ____ is a way of thinking that generates new ideas.
10. ____ is the implementation of a new idea.
11. The three stages in the ____ are (1) preparation, (2) incubation and illumination, and (3) evaluation.
12. With the _____, group members focus on defending a proposed solution to a problem while others try to come up with criticisms of why the solution will not work.

13. _____ is the process of suggesting many possible alternatives without evaluation.

14. _____ is the process of generating novel alternatives through role playing and fantasizing.

15. _____ is the process of generating and evaluating alternatives using a structured voting method.

16. _____ is the process of developing group agreement on a solution to a problem.

17. _____ is the analysis of large amounts of quantified facts to aid in maximizing decision making.

**REVIEW QUESTIONS**

1. What is the relationship among the management functions, problem solving, and decision making?

2. Why is it necessary to determine the decision structure and decision-making conditions?

3. What is the current trend concerning the use of groups to solve problems and make decisions?

4. Is a decrease in sales and/or profits a symptom or a cause of a problem?

5. Would a maximum price of $1,000 to spend on a stereo be an objective or a criterion?

6. Is there really a difference between creativity and innovation?

7. What is the major difference between nominal grouping and consensus mapping?

8. Why are generating and analyzing alternatives separate steps in the decision-making model?

9. What quantitative techniques are commonly used to compare alternatives?

10. When is the cost-benefit analysis commonly used?

11. When is intuition commonly used?

**COMMUNICATION SKILLS**

The following critical-thinking questions can be used for class discussion and/or as written assignments to develop communication skills. Be sure to give complete explanations for all questions.

1. Are problem solving and decision making really all that important? How do you rate your decision-making ability?

2. Which potential advantage and disadvantage of group problem solving and decision making do you think arises most frequently?

3. Are creativity and innovation really important to all types of businesses? Is it important to evaluate a creative idea before it becomes an innovation?

4. What is the role of intuition in decision making? Should managers use more objective or subjective intuition techniques when making decisions?

5. Have you ever used any of the techniques for analyzing and selecting an alternative? If so, which one(s)?

6. Should managers be ethical in their decision making? If so, how should ethics be used in decision making?

7. Have you or someone you know experienced escalation of commitment? If so, explain.

8. Do men and women make decisions differently?

9. Have you ever made a decision with information that was not timely, of good quality, complete, and/or relevant? If so, was the decision a good one? Why or why not?

**CASES**

**Case 4-1 Toyota Motor Corporation**

Toyota Motor Corporation is a leading, global manufacturer of motor vehicles. It has seven key operating principles that drive what the company does and how it does it:

- Honor the language and spirit of the law of every nation and undertake open and fair business activities to be a good corporate citizen of the world.

- Respect the culture and customs of every nation and contribute to economic and social development through corporate activities in their respective communities.

- Dedicate our business to providing clean and safe products and to enhancing the quality of life everywhere through all of our activities.

- Create and develop advanced technologies and provide outstanding products and services that fulfill the needs of customers worldwide.

- Foster a corporate culture that enhances both individual creativity and the value of teamwork, while honoring mutual trust and respect between labor and management.
• Pursue growth through harmony with the global community via innovative management.
• Work with business partners in research and manufacture to achieve stable, long-term growth and mutual benefits, while keeping ourselves open to new partnerships.

The company consists of three business units: automotive operations, financial services, and all others. The company was started by Kiichiro Toyoda in 1937 and is headquartered in Toyota, Japan. The company has a workforce of more than 348,000 employees, and it sells its vehicles in 190 countries and regions. The company has won many industry awards including most trusted brand, longest-lasting vehicles, and best overall value.

Toyota has established itself as an industry leader in quality, reliability, and efficiency in its automotive operations. Its methods for product development, production, and operations have served as the benchmark for others in the industry. One set of practices that has enabled Toyota to achieve a sustainable competitive advantage is the Toyota eight-step problem-solving process that it deploys throughout its global operations. The steps include the following:

- Step 1: Clarify the problem
- Step 2: Break down the problem
- Step 3: Set the target
- Step 4: Analyze the root cause
- Step 5: Develop countermeasures
- Step 6: Implement countermeasures
- Step 7: Monitor results and process
- Step 8: Standardize and share success

Clarifying the problem (step 1) involves Toyota management and employees working in teams to obtain direct experience with the problem for themselves to understand the nature of the problem. Breaking down the problem (step 2) focuses on further analyzing the problem and decomposing it into subproblems that are more specific and manageable. Setting the target (step 3) involves Toyota management and workers agreeing to challenging goals for solving a problem (e.g., reducing defects) as well as mapping out a plan and timeline for achieving the objectives. Analyzing the root cause (step 4) refers to collecting empirical data to understand the underlying causes of a problem. This step is typically helpful in terms of identifying multiple causes of the problem. Developing countermeasures (step 5) focuses on teams of Toyota managers and workers brainstorming specific solutions to remove the root causes of a problem. Implementing countermeasures (step 6) is the actual deployment of the selected countermeasure. Monitoring results and process (step 7) is based on a process called Plan-Do-Check-Act (PDCA) that supports the effective implementation and continuous improvement of a countermeasure. Basically, PDCA involves implementing a countermeasure, evaluating its effectiveness, modifying the countermeasure to further improve it, and then implementing that countermeasure as a cyclical process. Standardizing and sharing success (step 8) focuses on “institutionalizing” the new practice or process into Toyota’s overall production and operational system. This could involve redesigning a process, changing rules and policies, job redesign, and realigning the culture of the organization. This also involves communicating the new practices or processes to others in the Toyota organization so that they may also learn from the success of the change and obtain guidance about how they can achieve similar results.

The decision-making and problem-solving process used at Toyota Motor Corporation has enabled it to produce some of the most popular and reliable vehicles in their respective market segments including the Camry sedan and the RAV4 sport utility vehicle.

Discussion Questions
1. How does Toyota address both decision making and problem solving in its operations?
2. How does Toyota’s approach to decision making and problem solving address the four management functions?
3. How does Toyota apply the six-step decision-making process model in its operations?
4. How does Toyota use groups to support decision making and problem solving?
5. What do you think of Toyota’s 8-Step Problem Solving Model? Do you think you could use it at any of the employers where you have held part-time jobs or internships as a student? Why or why not?
6. Do you think that it would be better for Toyota to use a more informal approach to decision-making and problem solving so that management and workers have more flexibility to address issues they face in performing their jobs? Why or why not?

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Case created by Loren Kuzuhara, University of Wisconsin–Madison.

Case 4-2 Was Target Missing the Mark With Fashion Designer Clothing?

Target, or as many refer to, “Tar-zhay,” was once known for its super chic, affordably priced, designer clothing that targeted middle-class consumers. The fashion-forward discount chain was based around the consumer expectation to “expect more,
pay less." Unfortunately for Target, it only focused on the “pay less” part during the recent recession. (1) Realizing its mistake, Target has committed to revitalizing the mantra of expect more, pay less by working with such famous designers as Jason Wu, Lilly Pulitzer, Marimekko, Missoni, Phillip Lim, Prabal Gurung, and Zac Posen.

“Target has recently teamed up with Victoria Beckham for a capsule collection to be released in the spring of 2017. Victoria Beckham for Target will include more than 200 items, including tops and bottoms for women, plus corresponding styles for girls, toddler and baby. Beckham’s line will range in price from $6 to $70, with most articles costing under $40. Items will be offered in sizes XS–3X for women and NB–XL for girls, toddler and baby. The collection will be available Apr. 9 through Apr. 30, 2017, or while supplies last. Select pieces will also be sold online for global shoppers via VictoriaBeckham.com.” (2)

The question everyone is asking, though, is, can Target keep pace with the consumer demands for these designer products? Why are they asking this question?

In 2011, when internationally known designer Missoni launched a collection at Target, the unanticipated high traffic unintentionally caused its website to crash. The Target website and designer merchandise were unavailable for a half day while the company worked to restore the website from the high-volume crash. (3)

Believing it had learned from its prior mistake, Target decided to collaborate with Lilly Pulitzer—the first big designer that it brought back to shelves after abandoning its original mantra. This limited-edition collection excited many consumers, giving Target hope that it would attract previous consumers and capture the attention of many new ones. Lilly Pulitzer is a high-end luxury designer known for its colorful American resort wear.

Lilly Pulitzer at Target did create quite the hype, attracting its typical middle-class target market and the upper-class Lilly Pulitzer loyalist. Everyone, including Target, was excited for the high-end line to be available for a fraction of its typical price. On April 19, 2015, the limited-time capsule collection launched. (4)

Its objective worked as planned—and yet it was still not prepared for its success. Eager consumers on Target’s website at midnight were utterly disappointed to learn the site had crashed due to an overwhelmingly high volume of traffic. As a result, during points in the launch, Target decided to deactivate the website. (5) Lucky consumers who had the ability to navigate and shop the site were disappointed when they went to check out and merchandise was no longer available. Consumers who went to shop in brick-and-mortar stores lined up outside Target locations prior to opening with hundreds of others seeking out the Lilly Pulitzer line. Consumers scrambled in to get their hands on any of the apparel, accessories, or home goods that became available. Merchandise in stores lasted minutes—five minutes to be exact in one Michigan location. (6)

The overall consumer feeling regarding Lilly Pulitzer at Target was disappointment. Many who sought out the highly anticipated collection did not have access to the merchandise online or in stores. What should have been a revitalization of the “Tar-zhay” image resulted in an inconsistent shopping experience. A collaborative collection that was intended to run for weeks lasted only a few minutes. However, consumers, also known as “the lucky ones,” who were able to purchase the merchandise were extremely satisfied by the design and quality of the items. (7)

It is then not surprising that in 2016, when the Finnish designer Marimekko collection hit the stores, customers waited several hours outside the store before its opening in order to make sure to get first grabs at the collection. Many waiting were wondering if Target was going to run into the same problems that it had with the Pulitzer collection. An employee said to a reporter that it was expected that Target would run out of inventory at the end of the day. (8)

Target invested countless hours into its limited-edition designer collaborations, only to see them falter when actually launched in stores and online. Though the products are well received, the shopping experience and impression they leave on consumers is not a positive one. So what went wrong with these prior designer collections? Was the culprit inventory control or rather how Target launched the product lines or both? If Target plans to fulfill the mantra of “expect more, pay less,” will it have learned from prior experiences and give consumers what they “really really want” from Victoria Beckham’s collection or will consumers just be saying “Goodbye”? (9)

**Discussion Questions**

1. Explain the objective, decision, and problem when Target collaborated with Lilly Pulitzer and other designer firms.

2. When Target deactivated its website, what type of decision did it make? Explain.

3. How could Target have utilized steps 4–6 in the decision-making model with its inventory to have a more successful launch?

4. Did Target use the Delphi Technique? Elaborate.

5. If you were in charge of operations for these collaborations, what type of decisions would you have made during the creation and launch of these lines?

6. Did Target make the right decision by collaborating with Lilly Pulitzer and other designers to revitalize the “Tar-zhay” image?

7. Do you think Lilly Pulitzer Company was satisfied by this outcome?

**Cumulative Case Questions**

8. Please rate the customer value on a scale of 1 (low) to 10 (high) with regard to the Lilly Pulitzer collection and other designer collections at Target. (Chapter 2)

9. Was Target’s management ultimately effective during this launch? (Chapter 1)
10. What type of managers were used heavily on this project? Distinguish their responsibilities. (Chapter 1)

11. Did Lilly Pulitzer enter a licensing contract with Target? (Chapter 3)

References
target-brand-shop/-/N-4ymap 2

Case created by Herbert Sherman, Hannah K. Walter, and Naveed Ahmad, Long Island University.

**SKILL BUILDER 4-1: MAKING A DECISION USING THE DECISION-MAKING MODEL**

Select a problem or opportunity that you now face. Remember, a problem exists when objectives are not being met—when there is a difference between what is happening and what you want to happen. The problem or opportunity may be from any facet of your life—work, college, sports, a relationship, a purchase to be made in the near future, where to go on a date, and so on. Use the decision-making model outline that follows to solve your problem or take advantage of the opportunity.

**Objective**
To improve your ability to make decisions.

**Skills**
The primary skills developed through this exercise are:
1. Management skill—decision making (conceptual, diagnostic, analytical, critical thinking, and quantitative reasoning)
2. AACSB competency—analytic skills and application of knowledge
3. Management function—primarily planning (but decisions are made when organizing, leading, and controlling)

**Step 1. Classify and Define the Problem or Opportunity**
**Decision structure.** Do you need to make a programmed or a nonprogrammed decision?

**Decision condition.** Are you facing a condition of uncertainty of risk, or of certainty?

**Decision-making type.** Is a rational or bounded rational decision appropriate? (Continue to follow all steps in the decision-making model even if a bounded rational decision is appropriate.)

**Select the appropriate level of participation.** Should the decision be made by an individual or a group? (If a group decision is appropriate, use a group for the following steps in the model. But remember to maximize the advantages and minimize the disadvantages of group decision making.)

**Define the problem.** List the symptoms and causes of the problem (or opportunity); then write a clear statement of it.

**Step 2. Set Objectives and Criteria**
Write down what is to be accomplished by the decision and the standards that any alternative must meet to be selected as the decision that will accomplish the objective. (Specify “must” and “want” criteria if appropriate for the decision.)

**Objective: Criteria (“must” and “want”)**

**Step 3. Generate Creative and Innovative Alternatives**
What information do you need? (Remember that information must be timely, of good quality, complete, and relevant to be useful.) Will you use any technology?

If you are working with a group, will brainstorming, nominal grouping, or consensus mapping be used?

List your alternatives (at least three); number them. If a decision tree will be helpful, make one.

**Step 4. Analyze Alternatives and Select the Most Feasible**
Is a quantitative or cost-benefit (pros and cons) analysis appropriate? Choose a method and complete your analysis.

**Step 5. Plan and Implement the Decision**
Write out your plan for implementing the decision. Be sure to state the controls you will use to make sure you know if the decision is working. How can you avoid escalation of commitment?

**Step 6. Control the Decision**
After implementing the decision, make notes about progress in solving the problem or taking advantage of the opportunity.
**SKILL BUILDER 4-2: USING THE SITUATIONAL DECISION-MAKING MODEL**

**Objective**
To determine the appropriate level of participation using the decision-making model.

**Skills**
The primary skills developed through this exercise are:

1. **Management skill**—decision making (conceptual, diagnostic, analytical, critical thinking, and quantitative reasoning)
2. **AACSB competency**—analytic skills and application of knowledge
3. **Management function**—primarily planning (but decisions are made when organizing, leading, and controlling)

**Preparation (Individual and/or Group)**
In this exercise, you will learn how to use the situational decision-making model. Chapter 1’s Skill Builder 1-1 discussed the situational management model. Now you will learn an extension of the model to use when deciding which style to use when solving problems and making decisions. Selecting the appropriate level of participation style includes two steps: (1) diagnose the situation, and (2) select the appropriate style.

**Step 1: Diagnose the Situation.** The first step is to diagnose the situational variables, which include time, information, acceptance, and employee capability level. See Model 4-1 for a list of variables. The top half summarizes step 1. Note that we use the term supervisor to represent a manager or group leader of any type overseeing the decision.

- **Time** You must determine if there is enough time to include the group in decision making. If there is not enough time, use the autocratic style, and ignore the other three variables—they are irrelevant if there is no time. If time permits, consider the other three variables and select the style without considering time. **Time**, however, is a relative term. In one situation, a few minutes may be considered a short time period, while in another, a month or more may be a short period of time.

- **Information** The more information you have to make the decision, the less need there is to use participation, and vice versa. If you have all the necessary information to make a decision, there is no need to use participation. If you have little information, you need to get it through participation.

- **Acceptance** If you make the decision alone, will the group implement it willingly? The more the team will like the decision, the less need there is to use participation, and vice versa.

- **Employee Capability** The leader must decide if the group has the ability and willingness to be involved in problem solving and decision making. The more capable the employees, the higher the level of participation, and vice versa. Realize that a group’s capability level can change from situation to situation.

**Step 2: Select the Appropriate Supervisory Style for the Situation.** After considering the four variables, you select the appropriate style for the situation. In some situations, all variables suggest the same possible style, while other cases indicate conflicting styles. For example, you may have time to use any style and may have all the information necessary (autocratic); employees may be reluctant (consultative or participative); and the capability may be moderate (consultative). In situations in which conflicting styles are indicated for different variables, you must determine which variable should be given more weight. In the given example, assume it was determined that acceptance was critical for successful implementation of the decision. Acceptance takes precedence over information. Realizing that employees have a moderate capability, the consultative style would be appropriate. See the bottom half of Model 4-1 for an explanation of how the decision is made using each of the four situational supervisory styles.

**Applying the Situational Decision-Making Model**
We will apply the model to the following situation:

Ben, a supervisor, can give one of his employees a merit pay raise. He has a week to make the decision. Ben knows how well each employee performed over the past year. The employees really have no option but to accept getting or not getting the pay raise, but they can complain to upper management about the selection. The employees’ capability levels vary, but as a group, they have a high capability level under normal circumstances.

**Step 1: Diagnose the Situation.**

- **Acceptance** Ben, the supervisor, has plenty of time to use any level of participation. He has all the information needed to make the decision (autocratic). Employees have no choice but to
Step 1: Diagnose the Situation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Use of Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>No = S-A ---stop---------&lt;br&gt;Yes = any style continue</td>
</tr>
<tr>
<td>Information</td>
<td>All = S-A&lt;br&gt;Some = S-C&lt;br&gt;Little = S-P or S-E</td>
</tr>
<tr>
<td>Acceptance</td>
<td>Accept = S-A&lt;br&gt;Reluctance = S-C&lt;br&gt;Reject = S-P or S-E</td>
</tr>
<tr>
<td>Capability</td>
<td>Low = S-A&lt;br&gt;Moderate = S-C&lt;br&gt;High = S-P&lt;br&gt;Outstanding = S-E</td>
</tr>
</tbody>
</table>

Step 2: Select the Appropriate Style for the Situation

**Autocratic (S-A)**
The supervisor makes the decision alone and announces it after the fact. An explanation of the rationale for the decision may be given.

**Consultative (S-C)**
The supervisor consults individuals or the group for information and then makes the decision. Before implementing the decision, the supervisor explains the rationale for the decision and sells the benefits to the employees. The supervisor may invite questions and have a discussion.

**Participative (S-P)**
The supervisor may present a tentative decision to the group and ask for its input. The supervisor may change the decision if the input warrants a change, or the supervisor may present the problem to the group for suggestions. Based on employee participation, the supervisor makes the decision and explains its rationale.

**Empowerment (S-E)**
The supervisor presents the situation to the group and describes limitations to the decision. The group makes the decision. The supervisor may be a group member.

 accept the decision (autocratic). And the group’s level of capability is normally high (participative).

**Step 2: Select the Appropriate Style for the Situation. There are conflicting styles to choose from (autocratic and participative):**

The variable that should be given precedence is information. The employees are normally capable, but in a situation like this, they may not be capable of putting the department’s goals ahead of their own. In other words, even if employees know which employee deserves the raise, they may each fight for it anyway. Such a conflict could cause future problems. Some of the possible ways to make the decision are as follows:

- **Autocratic (S-A).** The supervisor would select the person for the raise without discussing it with any employees. Ben would simply announce the decision and explain the rationale for the selection after submitting it to the payroll department.
- **Consultative (S-C).** The supervisor would consult the employees as to who should get the raise. Ben would then decide who would get the raise. He would announce the decision and explain the rationale for it. The supervisor may invite questions and discussion.
- **Participative (S-P).** The supervisor could tentatively select an employee to get the raise but be open to change if an employee or group convinces him that someone else should get the raise. Or Ben could
explain the situation to the group and lead a discussion of who should get the raise. After considering their input, Ben would make the decision and explain the rationale for it.

- **Empowerment (S-E).** The supervisor would explain the situation and allow the group to decide who gets the raise. Ben may be a group member. Notice that this is the only style that allows the group to make the decision.

*Selection:* The autocratic style is appropriate for this situation because Ben has all the information needed, acceptance is not an issue, and capability is questionable.

Following are 10 situations calling for a decision. Select the appropriate problem-solving and decision-making style. Be sure to use Model 4-1 when determining the style to use. On the time, information, acceptance, and capability lines, place SA, SC, SP, or SE, as indicated by the situation. Based on your diagnoses, select the one style you would use. Note that style on the line preceding the situation.

S-A = Autocratic  
S-C = Consultative  
S-P = Participative  
S-E = Empowerment

1. You have developed a new work procedure that will increase productivity. Your boss likes the idea and wants you to try it within a few weeks. You view your employees as fairly capable and believe that they will be receptive to the change.
   
   _____ time _____ information _____ acceptance _____ capability

2. The industry of your product has new competition. Your organization's revenues have been dropping. You have been told to lay off 3 of your 10 employees in two weeks. You have been the supervisor for over one year. Normally, your employees are very capable.
   
   _____ time _____ information _____ acceptance _____ capability

3. Your department has been facing a problem for several months. Many solutions have been tried, but all have failed. You have finally thought of a solution, but you are not sure of the possible consequences of the change required or of acceptance by the highly capable employees.
   
   _____ time _____ information _____ acceptance _____ capability

4. Flextime has become popular in your organization. Some departments let each employee start and end work when he or she chooses. However, because of the cooperative effort of your employees, they must all work the same eight hours. You are not sure of the level of interest in changing the hours. Your employees are a very capable group and like to make decisions.
   
   _____ time _____ information _____ acceptance _____ capability

5. The technology in your industry is changing so fast that the members of your organization cannot keep up. Top management hired a consultant, who has made recommendations. You have two weeks to decide what to do. Your employees are normally capable, and they enjoy participating in the decision-making process.
   
   _____ time _____ information _____ acceptance _____ capability

6. A change has been handed down from top management. How you implement it is your decision. The change takes effect in one month. It will personally affect everyone in your department. Your employees' acceptance is critical to the success of the change, but they are usually not too interested in being involved in making decisions.
   
   _____ time _____ information _____ acceptance _____ capability

7. Your boss called you on the telephone to tell you that someone has requested an order for your department's product with a very short delivery date. She asked you to call her back in 15 minutes with the decision about taking the order. Looking over the work schedule, you realize that it will be very difficult to deliver the order on time. Your employees will have to push hard to make it. They are cooperative and capable and enjoy being involved in decision making.
   
   _____ time _____ information _____ acceptance _____ capability

8. Top management has decided to make a change that will affect all your employees. You know the employees will be upset because it will cause them hardship. One or two may even quit. The change goes into effect in 30 days. Your employees are very capable.
   
   _____ time _____ information _____ acceptance _____ capability

9. You believe that productivity in your department could be increased. You have thought of some ways that may work, but you are not sure of them. Your employees are very experienced; almost all of them have been in the department longer than you have.
   
   _____ time _____ information _____ acceptance _____ capability

10. A customer has offered you a contract for your product with a quick delivery date. The offer is open for two days. Meeting the contract deadline would require employees to work nights and weekends for six weeks. You cannot require them to work overtime. Filling this profitable contract could help get you the raise you want and feel you deserve. However, if you take the contract and don't deliver on time, it will hurt your chances of getting a big raise. Your employees are very capable.
    
    _____ time _____ information _____ acceptance _____ capability
Preparation: You should have completed the 10 situations from the preparation.

Experience: You will try to select the recommended problem-solving and decision-making style in the 10 preparation situations.

Procedure 1 (5–12 minutes)
The instructor reviews Model 4-1 and explains how to use it for selecting the appropriate supervisory style for situation 1 of the exercise preparation.

Procedure 2 (12–20 minutes)
Break into teams of two or three. Apply the model to situations 2 through 5 as a team. You may change your original answers. The instructor goes over the recommended answers and scoring for situations 2 through 5. Do not continue on to situation 6 until after the instructor goes over the answers to situations 2 through 5.

In the same teams, select problem-solving and decision-making styles for situations 6 through 10. The instructor will go over the recommended answers and scoring.

Apply It
What did I learn from this experience? How will I use this knowledge in the future?

Your instructor may ask you to do Skill Builder 4-2 in class in a group. If so, the instructor will provide you with any necessary information or additional instructions.