Chapter 2

Making Decisions

In this chapter, students will explore the importance of decision making to managers and learn how to make effective decisions.

LEARNING OBJECTIVES

1. Describe the eight steps in the decision-making process.
2. Explain the five approaches managers can use when making decisions.
3. Classify decisions and decision-making styles.
4. Describe how biases affect decision making.
5. Identify cutting-edge approaches for improving decision making.

CHAPTER OUTLINE

2.1 THE DECISION-MAKING PROCESS

A **decision** is a choice made from two or more alternatives. The **decision-making process** is a set of eight steps that include identifying a problem, selecting an alternative, and evaluating the decision's effectiveness. (See **Exhibit 2-1** for an illustration of the decision-making process.)

- A. **Step 1: Identify a Problem.** A **problem** is a discrepancy between an existing and a desired condition. In order to identify a problem, you, as a manager, should recognize and understand the three characteristics of problems:
    1. You must be aware of the problem. Be sure to identify the actual problem rather than a symptom of the problem.
    2. You must be under pressure to act. A true problem puts pressure on the manager to take action; a problem without pressure to act is a problem that can be postponed.
    3. You must have the authority or resources to act. When managers recognize a problem and are under pressure to take action but do not have the necessary resources, they usually feel that unrealistic demands are being put upon them.
- B. **Step 2: Identify Decision Criteria. Decision criteria** are criteria that define what is relevant in a decision.
- C. **Step 3: Allocate Weights to the Criteria.** The criteria identified in Step 2 of the decision-making process do not have equal importance, so the decision maker must assign a weight to each of the items in order to give each item accurate priority in the decision. **Exhibit 2-2** lists the criteria and weights for Amanda's purchase decision for new computers.
- D. **Step 4: Develop Alternatives.** The decision maker must now identify viable alternatives that could resolve the problem.
- E. **Step 5: Analyze Alternatives.** Each of the alternatives must now be critically analyzed by evaluating it against the criteria established in Steps

2 and 3. **Exhibit 2-3** shows the values that Amanda assigned to each of her alternatives for a new computer. **Exhibit 2-4** reflects the weighting for each alternative, as illustrated in **Exhibits 2-2** and **2-3**.

F. **Step 6: Select an Alternative.** This step to select the best alternative from among those identified and assessed is critical. If criteria weights have been used, the decision maker simply selects the alternative that received the highest score in Step 5.

G. **Step 7: Implement the Alternative.** The selected alternative must be implemented by effectively communicating the decision to the individuals who will be affected by it and winning their commitment to the decision.

H. **Step 8: Evaluate Decision Effectiveness.** This last step in the decision-making process assesses the result of the decision to determine whether or not the problem has been resolved.

2.2 APPROACHES TO DECISION MAKING

At this point in the study of Chapter 2, students will learn about the manager as a decision maker and how decisions are actually made in organizations. **Exhibit 2-5** shows how decision making fits into the four functions of management.

In this section, students examine how decisions are made, the types of problems and decisions faced by real-life managers, the conditions under which managers make decisions, and decision-making styles.

A. **Rationality.** Managerial decision making is assumed to be rational—that is, making choices that are consistent and value-maximizing within specified constraints. If a manager could be perfectly rational, he or she would be *completely* logical and objective.

1. Rational decision making assumes that the manager is making decisions in the best interests of the *organization*, not in his or her own interests.
2. The assumptions of rationality can be met **if** the manager is faced with a simple problem in which (1) goals are clear and alternatives limited, (2) time pressures are minimal and the cost of finding and evaluating alternatives is low, (3) the organizational culture supports innovation and risk taking, and (4) outcomes are concrete and measurable.

B. **Bounded Rationality.** In spite of these limits to perfect rationality, managers are expected to be rational as they make decisions. Because the *perfectly* rational model of decision making isn't realistic, managers tend to operate under assumptions of bounded rationality, which is decision-making behavior that is rational, but limited (bounded) by an individual's ability to process information.

1. Under bounded rationality, managers make **satisficing** decisions, in which they accept solutions that are "good enough."
2. We may satisfice due to time constraints that inhibit our ability to fully search out all possible alternatives.

C. **Intuition.** Managers also regularly use their intuition. Intuitive decision making is a subconscious process of making decisions on the basis of experience and accumulated judgment. **Exhibit 2-6** describes the five different aspects of intuition.

1. Making decisions on the basis of gut feeling doesn't necessarily happen independently of rational analysis; the two complement each other.
2. Although intuitive decision making will not replace the rational decision-making process, it does play an important role in managerial decision making.

D. **Evidence-Based Management.** The premise behind **evidence-based management (EBMgt)** is that any decision-making process is likely to be enhanced through the use of relevant and reliable evidence. EBMgt promotes the use of the best available evidence to improve management practice.
   1. The four essential elements of EBMgt are the decision maker's expertise and judgment; external evidence that's been evaluated by the decision maker; opinions, preferences, and values of those who have a stake in the decision; and relevant organizational (internal) factors such as context, circumstances, and organizational members.
   2. The strength or influence of each of these elements on a decision will vary with each decision.
   3. The key for managers is to recognize and understand the mindful, conscious choice as to which element(s) are most important and should be emphasized in making a decision.

E. **Crowdsourcing.** Crowdsourcing involves relying on a network of people outside the organization's traditional set of decision makers. Managers solicit input and ideas via the Internet.
   1. One example of crowdsourcing is Hershey's use of a competition to find a solution to keep their chocolates cool when shipping during the summer months.
   2. Crowdsourcing can be used to solicit input from customers, suppliers, any stakeholder group, or other external parties.
   3. Managers can get a diverse set of opinions to help them make better-informed decisions.

2.3 TYPES OF DECISIONS AND DECISION-MAKING STYLES

A. **Types of Decisions.** Managers encounter different types of problems and use different types of decisions to resolve them.
   1. Structured problems are straightforward, familiar, and easily defined. In dealing with structured problems, a manager may use a programmed decision, which is a repetitive decision that can be handled by a routine approach. Managers rely on three types of programmed decisions:
      a. A procedure is a series of interrelated sequential steps that can be used to respond to a structured problem.
      b. A rule is an explicit statement that tells managers what they can or cannot do.
      c. A policy is a guideline for making decisions.
   2. **Unstructured problems** are problems that are new or unusual and for which information is ambiguous or incomplete. These

problems are best handled by a **nonprogrammed decision** that is a unique decision that requires a custom-made solution.

3. **Exhibit 2-7** describes differences between programmed versus nonprogrammed decisions.
    a. At higher levels in the organizational hierarchy, managers deal more often with difficult, unstructured problems and make nonprogrammed decisions in attempting to resolve these problems and challenges.
    b. Lower-level managers handle routine decisions themselves, using programmed decisions. They let upper-level managers handle unusual or difficult decisions.

B. **Decision-Making Styles.**
1. Each person has an individual decision-making style.
2. Research shows there are four different individual approaches to making decisions. People differ along two dimensions: way of thinking and tolerance for ambiguity. **Exhibit 2-8** shows this Decision-Style Model.
3. The matrix generates four types of decision makers which are:
    a. Directive – people with a directive style have low tolerance for ambiguity and seek rationality. They are efficient and logical but may be prone to making decisions too fast with limited information.
    b. Analytic – analytic decision makers are more comfortable with ambiguity relative to directive styles. They are more willing to adapt to change or new situations.
    c. Conceptual – conceptual decision makers have a broad scope and consider many alternatives. They are good at finding creative solutions to problems.
    d. Behavioral – behavioral decision makers work well with others. They tend to avoid conflict and seek acceptance from others. This tendency makes them receptive to suggestions from others.

    While each of the four categories is distinct, people typically display characteristics from more than one style. Most business students score high on the analytic style.

2.4 DECISION-MAKING BIASES AND ERRORS

Managers use different styles and "rules of thumb" (**heuristics**) to simplify their decision making.

A. See **Exhibit 2-9** for the common decision-making biases.
1. *Overconfidence bias* occurs when decision makers tend to think that they know more than they do or hold unrealistically positive views of themselves and their performance.
2. *Immediate gratification bias* describes decision makers who tend to want immediate rewards and avoid immediate costs.
3. The *anchoring effect* describes when decision makers fixate on initial information as a starting point and then, once set, fail to adequately adjust for subsequent information.

4. *Selective perception bias* occurs when decision makers selectively organize and interpret events based on their biased perceptions.
5. *Confirmation bias* occurs when decision makers seek out information that reaffirms their past choices and discount information that contradicts their past judgments.
6. *Framing bias* occurs when decision makers select and highlight certain aspects of a situation while excluding others.
7. *Availability bias* is seen when decision makers tend to remember events that are the most recent and vivid in their memory.
8. Decision makers who show *representation bias* assess the likelihood of an event based on how closely it resembles other events or sets of events.
9. *Randomness bias* describes the effect when decision makers try to create meaning out of random events.
10. The s*unk costs error* is when a decision maker forgets that current choices cannot correct the past. Instead of ignoring sunk costs, the decision maker cannot forget them. In assessing choices, the individual fixates on past expenditures rather than on future consequences.
11. *Self-serving bias* is exhibited by decision makers who are quick to take credit for their successes and blame failure on outside factors.
12. *Hindsight bias* is the tendency for decision makers to falsely believe, once the outcome is known, that they would have accurately predicted the outcome.

Managers need to be aware of these decision-making biases so they can avoid them. Research shows that training can help managers learn to recognize situations where these biases occur.

2.5 CUTTING-EDGE APPROACHES FOR IMPROVING DECISION MAKING
Today's business world revolves around making decisions when faced with rapid technological change. However, some of the advances in technology can help managers make better decisions. In this section we will review some of those cutting-edge approaches to decision making that are attributed to changes in technology.

WORKPLACE CONFIDENTIAL: Making Good Decisions

Decisions are an essential part of our lives, personally and professionally. Each and every day is a series of decisions, from minor to significant, and everything in between. Good decision making is a skill, and like any skill, it can be learned and improved. So, how can you improve your decision-making skills? Here are a few suggestions you can use to improve your decision-making skills:

1. Know, understand, and use the decision-making process. Yes, there is a "method" to making decisions that takes you from identifying problems to evaluating the effectiveness of your decision. It works. Know it. Understand it. Use it.
2. Know when and how to use rational or intuitive decision making or both. Different types of problems and different conditions will influence how you approach making a decision.

3. Know your decision-making style. Not everyone approaches decision making the same way. But you do need to recognize how you're most comfortable when making a decision—and how others around you make decisions.
4. Know, recognize, and understand the biases and errors that may influence your decision making. Biases and errors can creep into your decision making. You may think you're making good decisions and may not even recognize you are being affected by biases.

Student answers to these questions will vary.

A. **Design Thinking and Decision Making.**

Design thinking has been described as "approaching management problems as designers approach design problems." It can be useful when identifying problems and when identifying and evaluating alternatives. Design thinking involves asking the "what if" questions and using observation and inquiry skills instead of relying solely on rational analysis.

B. **Big Data and Artificial Intelligence.**

Big data is the vast amount of quantifiable information that can be analyzed by highly sophisticated data processing. One IT expert described big data with "3V's: high volume, high velocity, and/or high variety information assets." With this type of data at hand, decision makers have very powerful tools to help them make decisions. Big data has opened the door to the widespread use of artificial intelligence and other powerful decision-making tools.

Artificial Intelligence (AI) harnesses computing power to replicate the decision-making functions of humans. AI now has the ability to learn and solve complex problems such as the technology used in self-driving autos.

Machine learning is a method of data analysis facilitated by AI. Machine learning involves pattern identification, learning from those patterns, and then using that information to make decisions with little or no human assistance.

Deep learning is a subset of machine learning. Deep learning simulates functions of the human brain by using algorithms to create a hierarchical level of artificial neural networks. This network of connected nodes processes information in a nonlinear fashion and has been used to improve the identification of skin cancers.

Analytics is the use of mathematics, statistics, predictive modeling, and machine learning to find meaningful patterns in data sets. Analytics are now being used in professional sports to help make decisions about whether to kick a field goal or go for it on fourth down. There are numerous other applications.

ANSWERS TO REVIEW AND DISCUSSION QUESTIONS

Student answers to these questions will vary.

2-1. Why is decision making often described as the essence of the manager's job?
Decisions are made throughout the performance of all four functions of management. Almost anything a manager does in terms of planning, organizing, leading, and controlling involves decision making. The pervasiveness of decision making in management explains why managers are often called decision makers. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

2-2. Describe the eight steps in the decision-making process.
The decision-making process consists of eight steps: (1) identify problem; (2) identify decision criteria; (3) weight the criteria; (4) develop alternatives; (5) analyze alternatives; (6) select alternative; (7) implement alternative; and (8) evaluate decision effectiveness. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

2-3. Compare and contrast the five ways managers make decisions.
The assumptions of rationality are as follows: the problem is clear and unambiguous; a single, well-defined goal is to be achieved; all alternatives and consequences are known; and the final choice will maximize the payoff. Bounded rationality says that managers make rational decisions but are bounded (limited) by their ability to process information. Satisficing happens when decision makers accept solutions that are good enough. With escalation of commitment, managers increase commitment to a decision even when they have evidence it may have been a wrong decision. Intuitive decision making means making decisions on the basis of experience, feelings, and accumulated judgment. Using evidence-based management, a manager makes decisions based on the best available evidence. Crowdsourcing involves soliciting input from a network of people outside of the organization and using that information to make better decisions and find innovative solutions. (LO: 2, Explain the five approaches managers use when making decisions, AACSB: Analytical thinking)

2-4. Explain the two types of problems and decisions. Contrast the four decision-making styles.
Programmed decisions are repetitive decisions that can be handled by a routine approach and are used when the problem being resolved is straightforward, familiar, and easily defined (structured). Nonprogrammed decisions are unique decisions that require a custom-made solution and are used when the problems are new or unusual (unstructured) and for which information is ambiguous or incomplete. The four decision-making styles are directive, analytic, conceptual, and behavioral. People with a directive style have low tolerance for ambiguity and seek rationality. They are efficient and logical but may be prone to making decisions too fast with limited information. Analytic decision makers are more comfortable with ambiguity relative to directive styles. They are more willing to adapt to change or new situations. Conceptual decision makers have a broad scope and consider many alternatives. They are good at finding creative solutions to problems. Behavioral decision makers work well with others. They tend to avoid conflict and seek acceptance from others. This tendency makes them receptive to suggestions from others. (LO: 3, Classify decisions and decision-making styles, AACSB: Analytical thinking)

2-5. How can managers blend the guidelines for making effective decisions in today's world with the rationality and bounded rationality models of decision making, or can they? Explain.

A balance is required. Under today's business conditions (such as intense time pressure and higher degrees of risk and uncertainty), managers must practice sound decision-making approaches. Knowing when it's time to quit, for example, is not inconsistent with rationality and bounded rationality. Changes in technology also provide managers with the data and tools to make better decisions. Some decisions can now be made with AI or machine learning tools that require little managerial effort. (LO: 5, Identify cutting-edge approaches for improving decision making, AACSB: Analytical thinking)

2-6. Is there a difference between wrong decisions and bad decisions? Why do good managers sometimes make wrong decisions? Bad decisions?
A bad decision is making an incorrect choice even when faced with the information needed to make a better decision. A wrong decision is one made with incomplete data that ends up being a poor choice in hindsight. Time pressures, incomplete information, and higher levels of uncertainty in today's business environment may lead to ineffective decision making. Bad decisions are typically due to one of the biases listed in Exhibit 2-9. Managers can improve their decision-making skills by focusing on six characteristics of effective decision making, including focusing on important criteria, logic, and consistency; blending subjective and objective thinking with analysis; requiring the information necessary to resolve a particular dilemma; gathering relevant and informed opinions; and remaining flexible. (LO: 4, Describe how biases affect decision making, AACSB: Analytical thinking)

2-7. All of us bring biases to the decisions we make. What are the drawbacks of having biases? Could there be any advantages to having biases? Explain. What are the implications for managerial decision making?
Not all biases are negative. Sometimes they lead to heuristics, or short-cuts, that speed up decision making. However, in many cases they do have negative effects resulting in poor decisions and should be avoided. Managers need to be aware of common biases that have negative effects and learn to recognize them and change behavior accordingly. (LO: 4, Describe how biases affect decision making, AACSB: Analytical thinking)

ETHICS DILEMMA

Student answers to these questions will vary.

This dilemma describes a situation where IKEA designed a belt-driven bike, called Sladda, to market to consumers that wanted to drive less and reduce their carbon footprint. However, the belt drives snapped on some bikes and resulted in injuries to riders. IKEA determined it was too expensive to replace all the belts with traditional chains so the firm recalled the Sladda bikes and halted new sales. Some skeptics felt the decision was driven more by slow sales and that IKEA abandoned the sustainability solution offered by the Sladda.

Ask the students:
2-8. Was the decision by Ikea to recall and stop production of the Sladda appropriate? Explain both "why" and "why not."

Possible answers: IKEA is a for-profit firm and cannot exist in the long run without making money. If the “fix” was too expensive to undertake, then it’s a rational decision to recall the bikes and cease production. However, the entire fiasco could tarnish IKEA’s reputation and highlight a lack of commitment to sustainability. The firm could have redesigned the bike with a chain drive and launched again. (LO: 2, Explain the five approaches managers can use when making decisions, AACSB: Ethical understanding and reasoning)

2-9. If you were a manager, how would you use this incident to “teach” employees about ethics and decision making?
Possible answer: IKEA needs to consider factors other than profit when making a decision. Sometimes it is costly to “do the right thing.” Employees need to understand the firm’s commitment to ethical decision making, even if the consequences for making an ethical decision reduce the firm’s profitability. (LO: 2, Explain the five approaches managers can use when making decisions, AACSB: Ethical understanding and reasoning)

SKILLS EXERCISE: DEVELOPING YOUR CREATIVITY SKILL

Creativity is an important skill for all managers—not just those in marketing and R&D. In this exercise, students work on developing their creativity skills using eight steps suggested by the authors. To practice their new creativity skills, students can engage in a brainstorming exercise where they see how many words can be made from the letters in the word “brainstorm.” To illustrate the usefulness of brainstorming, this could be done as an entire class with someone assigned to write down the created words. There are 95 possible words that can be generated. (LO: 5, Identify cutting-edge approaches for improving decision making, AACSB: Analytical thinking)

WORKING TOGETHER: TEAM EXERCISE

In this team-based activity, small groups of students are to list possible problems on campus. Are there limited food options, parking issues, or other problems? The groups should go through the first six steps of the decision-making process to identify a solution to the specific problem. Teams should be prepared to share the best solution with campus administrators. This class activity should help students to become more comfortable and skillful in using the decision-making process. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

MY TURN TO BE A MANAGER

- Consider a big decision that you have made. Write a description of the decision using the steps in the decision-making process as your guide. What could you have done differently in the process to improve your decision? (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

- Write a procedure, a rule, and a policy for your instructor to use in your class. Be sure that each one is clear and understandable. And be sure to explain how it fits the characteristics of a procedure, a rule, or a policy. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

- Find three examples of managerial decisions described in any of the popular business periodicals (*Wall Street Journal*, *BusinessWeek*, *Fortune*, etc.). Write a paper describing each decision and any related information, such as what led to the decision, what happened as a result of the decision, etc. What did you learn about decision making from these examples? (LO: 3, Classify decisions and decision-making styles, AACSB: Analytical thinking)

- Interview two managers and ask them for suggestions on what it takes to be a good decision maker. Write down their suggestions and be prepared to present them in class. (LO: 5, Identify cutting-edge approaches for improving decision making, AACSB: Analytical thinking)

- Do a web search on the phrase "101 dumbest moments in business." Get the most current version of this end-of-year list. Choose three of the examples and describe what happened. What's your reaction to each example? How could the managers have made better decisions? (LO: 4, Describe how biases affect decision making, AACSB: Analytical thinking)

- Visit the Mindtools website (www.mindtools.com) and find the decision-making toolkit. Explore the decision-making tools suggested and select one tool to use the next time you need to make a decision. (LO: 5, Identify cutting-edge approaches for improving decision making, AACSB: Analytical thinking)

CASE APPLICATION 1 QUESTIONS

Student answers to these questions will vary.

Making Decisions with Bad Data

2-10. What should managers and companies do to minimize their use of bad data?
Managers need to be able to verify the accuracy of the data in some way to prevent the use of fake data in decision making. Firms and managers also need to make sure the data is current and transferrable between departments or divisions if applicable. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

2-11. How might intuition, the analytical decision style, and the conceptual decision style help to work against problems arising from using bad data?
These managerial styles have a greater tolerance for ambiguity and have the ability to consider numerous alternatives or use their gut feel to interpret data. For this reason

these managers will be less likely to accept bad data as accurate if it goes against their intuition or judgement. (LO: 3, Classify decisions and decision-making styles, AACSB: Analytical thinking)

2-12. What does this case illustrate about big data and analytics?
Making good decisions still requires managers to use judgement. Just because you have reams of data it may not always lead to good decisions. Use good judgement to interpret the results, and if it doesn't make sense reevaluate it. (LO: 5, Identify cutting-edge approaches for improving decision making, AACSB: Analytical thinking)

ANSWERS TO CASE APPLICATION 2 QUESTIONS

Student answers to these questions will vary.

Bringing Sports Analytics into the Thick of Things

2-13. What do you think the analyst and head coach need to do to make this approach of adding analysts to the bench as effective as possible?
Having both groups interact in social settings to create trust will help players and coaches be more receptive to the analyst's advice. Having the analysts travel with the team and be involved during the games will also help them better understand the goal of their analysis. (LO: 2, Explain the five approaches managers can use when making decisions, AACSB: Analytical thinking)

2-14. How might rational and intuitive decision making both be involved when analysts join the coaching staff?
Rational decision makers will be more receptive to the data-driven recommendations. However, intuition combines collective experiences and gut feeling, which can often result in faster decisions that are very accurate. These two styles combined should result in better decisions. (LO: 3, Classify decisions and decision-making styles, AACSB: Analytical thinking)

2-15. What decision-making errors might analysts help coaches minimize by being close by?
Several errors could be eliminated by the close proximity of analysts. These include selective perception bias, framing bias, availability bias, and sunk costs errors. An unbiased third party analyst could quickly discuss major decisions with a coach if they perceive a bias will result in a poor decision.
(LO: 4, Describe how biases affect decision making, AACSB: Analytical thinking)