Chapter 2

Decision Making

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.
   - Develop your skill at being creative.
2. Explain the four ways managers make decisions.
3. Classify decisions and decision-making conditions.
4. Describe how biases affect decision making.
   - Know how to recognize when you're using decision-making errors and biases and what to do about it.
5. Identify effective decision-making techniques.

It's Your Career

Problem Solving—Not A Problem

Every day you're faced with problems to solve—right from your school days through to when you are an employee of an organization—you are going to be expected to show that you're a good problem solver. And having good problem-solving skills is important if you're going to be successful in your career. Decision making is the essence of management. It's what managers do (or try to avoid). And all managers would like to make good decisions because they're judged on the outcomes of those decisions. In this chapter, we examine the concept of decision making and how managers make decisions. What can you do to develop and improve your problem-solving skills? Let's look at some suggestions.

1. Define the problem. This might seem self-evident but you'd be surprised at how many people try to jump in with a quick and easy solution without having spent time to first understand and then define the problem. When you do that, you might come up with a solution . . . to the wrong problem! Instead, spend some time in asking questions, but don't get so caught up in defining the problem that you ignore solving the problem. Another precautionary note when defining the problem is, as we describe in the chapter, making sure you don't confuse problems with symptoms of problems.
2. Look at the problem from different perspectives and generate multiple solutions. A good problem-solver (and a good decision-maker) has an open mind and attempts to be as creative as possible in coming up with solutions to a problem.
3. Evaluate the ideas or possible solutions. Evaluate your ideas carefully and thoroughly by how they would impact the problem. But it's also critical to look at the constraints of time and money. Can your solutions lead to successful results in the time frame and the budget constraints you face?

4. Implement your solution. A problem doesn't get solved without implementing your solution. Think through the "how's" of your solution. If you don't execute this step well, the problem is likely to still be there or even get worse.
5. Re-examine your solution. Has the problem been resolved or at least gotten better? If not, you'll have to determine if it is still the right solution or what additional actions might be needed.

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. Managers' decision-making may be strongly influenced by the organization's culture, internal politics, power considerations, and by a phenomenon called **escalation of commitment**—an increased commitment to a previous decision despite evidence that it may have been wrong.

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.

2.3 TYPES OF DECISIONS AND DECISION-MAKING CONDITIONS

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 Conditions.**
   1. **Certainty** is a situation in which a manager can make accurate decisions because all outcomes are known. Few managerial decisions are made under the condition of certainty.
   2. More common is the situation of **risk,** in which the decision-maker is able to estimate the likelihood of certain outcomes. **Exhibit 2-8** shows an example of how a manager might make decisions using "expected value," considering the conditions of risk.

FUTURE VISION: Crowdsourcing Decisions

Instead of looking internally for a solution to keeping chocolate cool during shipping, Hershey is asking the crowd. Finding innovative solutions to problems is one of several uses of crowdsourcing in organizations. Crowdsourcing can help managers gather insights from customers, employees, or other groups to help make decisions such as what products to develop, where they should invest, or even who to promote. Today's Internet connectivity provides businesses quick and easy access to insights from customers and employees, effectively tapping into their cumulative wisdom. This revolution in the decision-making process could challenge conventional management practices, requiring new skills from managers.

The following discussion questions are posed:
Talk About It 1: How can crowdsourcing help managers make better decisions?

Talk About It 2: What are some risks in using crowdsourcing to make decisions?

Student answers to these questions will vary.

3. **Uncertainty** is a situation in which the decision-maker is not certain and cannot even make reasonable probability estimates concerning outcomes of alternatives.
    a. The choice of alternative is influenced by the limited amount of information available to the decision-maker.
    b. It's also influenced by the psychological orientation of the decision-maker.
        1) An optimistic manager will follow a *maximax* choice, maximizing the maximum possible payoff.
        2) A pessimistic manager will pursue a *maximin* choice, maximizing the minimum possible payoff. (see **Exhibit 2-9)**
        3) The manager who desires to minimize the maximum "regret" will opt for a *minimax* choice. (see **Exhibit 2-10)**

LEADER MAKING A DIFFERENCE

Elon Musk is not your typical CEO. In 2002, he sold his second Internet startup, PayPal, to eBay for $1.5 billion. Currently, Musk is CEO of Space Exploration Technologies (SpaceX) and Tesla Motors, and chairman and largest shareholder of SolarCity, an energy technology company. Each of these ventures has transformed (or is transforming) an industry: PayPal—Internet payments; Tesla—automobiles; SpaceX—aeronautics; and SolarCity—energy. As a decision-maker, Musk deals mostly with unstructured problems in risky conditions. However, like other business innovators, Musk is comfortable with that and in pursuing what many might consider "crazy" idea territory. His genius has been compared to that of the late Steve Jobs and Fortune magazine named him the 2013 Businessperson of the Year.

What can you learn from this leader making a difference?

2.4 DECISION-MAKING BIASES AND ERRORS

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

A. See **Exhibit 2-11** 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.

B. **Overview Managerial Decision-Making.**

1. **Exhibit 2-12** provides an overview of managerial decision-making. Managers want to make good decisions because doing so is in their best interests.
2. Regardless of the decision, it has been shaped by a number of factors, which are discussed in Chapter 7.

2.5 EFFECTIVE DECISION-MAKING FOR TODAY'S WORLD

Today's business world revolves around making decisions, which are often risky ones made with incomplete or inadequate information and under intense time pressure. How can managers make effective decisions under these conditions?

A. **Guidelines for Effective Decision-Making.**

1. Understand cultural differences.
2. Create standards for good decision-making.
3. Know when it is time to call it quits.
4. Use an effective decision-making process. Experts say an effective decision-making process has these six characteristics: a. It focuses on what's important.
   b. It's logical and consistent.
   c. It acknowledges both subjective and objective thinking and blends analytical with intuitive thinking.
   d. It requires only as much information and analysis as is necessary to resolve a particular dilemma.
   e. It encourages and guides the gathering of relevant information and informed opinion.
   f. It's straightforward, reliable, easy to use, and flexible.
5. Develop your ability to think clearly so that you can make better choices at work and in your life.

B. **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.

C. **Big Data and Decision-Making.**
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. However, experts caution that collecting and analyzing data for data's sake is wasted effort. Goals are needed when collecting and using this type of information.

ANSWERS TO REVIEW AND DISCUSSION QUESTIONS

Student answers to these questions will vary.

2-1. Explain how good decision making is a skill that can be learned and improved.
There are eight steps to the decision-making process: (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. These steps can be learned and practiced often to improve decision-making skills. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

2-2. Where in the eight-step decision-making process are the likely problem areas for managers?

Problems may occur at every stage of the decision-making process. For example, Step 1 (identifying a problem) appears simple; however, it is not easy to diagnose a problem. Step 4 (developing alternatives) will also be a likely problem area, as possible alternatives are sometimes restrained by available resources as well as the creativity of managers themselves. Step 5 (analyzing alternatives) can be affected by inherent biases of managers. Step 7 (implementing the alternative) can also become a problem area for managers, especially if those who are responsible for implementing a decision do not believe in it because they feel management has forced the decision onto them. Further, in a dynamic environment, managers must constantly monitor the situation, lest there are changes that require a re-evaluation of the decision. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

2-3. What role does intuition play in decision making? Discuss.
Intuitive decision making is the process of making decisions based on experience, feelings, and accumulated judgement. Intuitive decision making can complement rational and bounded rational decision making by speeding up the decision-making process due to past experience. Further, managers who experienced intense feelings and emotions when making decisions achieved higher decision-making performance, especially when they understood their feelings when making those decisions. (LO: 2, Explain the four ways managers make decisions, AACSB: Reflective thinking)

2-4. Is satisficing a desirable way of making managerial decisions?
Managers are limited by their ability to process information. Because they cannot analyze all information on all alternatives (and some alternatives may not even reveal themselves until later), managers satisfice, rather than maximize. That is, they accept solutions that are “good enough.” (LO: 2, Explain the four ways managers make decisions, AACSB: Analytical thinking)

2-5. Most managers adopt particular styles to simplify their decision making. This helps them make sense of information. Why do you think these styles are unreliable?
Exhibit 2-11 shows the common decision-making biases as a result of implementing particular styles that simplify managerial decision-making. Managers can avoid the negative effects of these decision errors and biases by being aware of them and then not using them. (LO: 4, Describe how biases affect decision making, AACSB: Reflective thinking)

2-6. What should a good manager do if it becomes apparent that a decision that has already been made is clearly not working or solving the situation?
For effective decision-making, the manager needs to know when to call it quits. Decision-makers will often block negative information in order to hide a bad decision. They become too attached to the decision they have made and refuse to recognize when it is time to move on. (LO: 5, Identify effective decision-making techniques, AACSB: Reflective thinking)

2-7. What do you understand by personalization technologies? How does big data fit into decision-making processes?
Amazon.com is an example of a company that uses personalization technologies to make product recommendations to their customers and to target computer-generated emails at them. The company has a vast amount of quantifiable data on their customers. They use the data and personalization technologies to generate around 30% of their

sales. Big data simply refers to a large amount of quantifiable information that can be analyzed by highly sophisticated data processing. With this type of data at hand, decision makers have very powerful tools to help them make decisions. However, experts caution that collecting and analyzing data for data's sake is wasted. Even quantifiable data must be handled in the right way and businesses should, instead of being led by it, use it to help achieve their goals. (LO: 5, Identify effective decision-making techniques, AACSB: Reflective thinking)

PERSONAL INVENTORY ASSESSMENTS

Student answers to these questions will vary.

ETHICS DILEMMA

Student answers to these questions will vary.

This dilemma describes a situation where a senior consultant, working for a London hospital, was suspended on full pay for three years after becoming a whistle-blower and exposed staffing concerns in her clinic. The hospital promptly offered her money with a gagging clause as part of the agreement. But she turned it down.

Ask the students:
2-10. Was the hospital's decision to suspend the consultant correct? Explain why or why not.

2-11. If you were the consultant's line manager, how would you have dealt with the situation?

(LO: 2, Explain the four ways managers make change, 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 effective decision-making techniques, AACSB: Analytical thinking)

WORKING TOGETHER: TEAM EXERCISE

In this team-based activity, small groups of students are to discuss previous decision-making experiences. They should discuss what tools and techniques they would use to process information. The group should be encouraged to note why others chose a different approach and whether the approaches would vary depending on the situation or style.

They should share this with the rest of the group; discover the balance in the class for the two approaches. As a class they should then discuss the merits of both approaches and whether it is possible to learn to think the opposite way. (LO: 5, Identify effective decision-making techniques, 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 conditions, 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 effective decision-making techniques, 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 different decision-making styles and discuss 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 effective decision-making techniques, AACSB: Analytical thinking)

CASE APPLICATION 1 QUESTIONS

Student answers to these questions will vary.

On The Cards: Decision Making

2-12. What ongoing decisions are necessary about the size of franchise areas?
This will depend on whether the boundaries of each of the franchises are guaranteed to the franchise holder or whether Card Connection has reserved the right to make adjustments as and when necessary. Inevitably, there will be demographic and economic changes in each of the areas as time passes. Population growth, retail development, and other factors will need to be monitored. To avoid conflict between franchise holders and adjacent territories, it is essential that the boundaries remain clear. (LO: 1, Describe the eight steps in the decision-making process, AACSB: Analytical thinking)

2-13. What factors should you consider when deciding to acquire a franchise?
There are many factors to be considered when deciding to acquire a franchise:

- Background of franchisor
- Total costs, ongoing costs, and financial commitments
- Expected break-even figure and the time to achieve this figure
- Training package
- Advertising and promotion and ongoing marketing support
- Success of existing franchises
- Sole and exclusive use of territory
- Similar territories and their progress
- Competition, PEST, and SWOT

(LO: 3, Classify decisions and decision-making conditions, AACSB: Analytical thinking)

2-14. How might globalization impact the decision-making process for Card Connection?
Globalization has had a massive impact on cultures and countries around the world in several ways; however, there may be many social, economic, and technological differences between any two countries. It is precisely for this reason that the U.S.-parent company has established a degree of distance from Card Connection. They recognize the fact that decision-making on some key issues needs to be made at the national level in the United Kingdom and ROI to reflect the clear differences between these markets and the United States. By ensuring that decision-making is made in the market itself, the parent company can be more assured of continuing success. (LO: 5, Identify effective decision-making techniques, AACSB: Analytical thinking)

ANSWERS TO CASE APPLICATION 2 QUESTIONS

Student answers to these questions will vary.

Manchester City: Football Big Data Champions

2-15. What types of decisions are made by football managers? Would you characterize these decisions as structured or unstructured problems? Explain.
When it comes to the actual performance during a match as well as the preparation for the match, the problems are structured as the coach can apply programmed decisions and procedures (for example, by employing different formations or other tactics on the pitch) that have been prepared and tested during the weekly training sessions. Structured problems may also arise when team managers are organizing pre-season training sessions and deciding on the location of the matches, the duration, the type of training for the players, etc. This is a structural problem as the team managers can apply programmed decisions and successfully repeated strategies of the past years. However, during the recruitment of new players or the insertion of a young player from youth teams into the first team, the problems are unstructured because the factors affecting the performance of a newly recruited or a young player are uncertain and might require nonprogrammed decisions. Another example for an unstructured problem faced by football teams at present comes from the necessity to enlarge the number of shareholders of the club, especially with the arrival of investors from richer countries like China or the Middle East. This is an unstructured problem that requires nonprogrammed decisions as there is uncertainty about the cultural fit of these new investors with regard to the host country and their strategies. (LO: 2, Explain the four ways managers make decisions; AACSB: Reflective thinking)

2-16. Describe how big data can help football managers to make better decisions and how this has an effect on the decision-making process.
Big data can help football managers to make better decisions as they help managers to overcome their limited capacity to process all information or control all external factors affecting one decision (i.e. rationality model). In this way, the resulting decision-making process can be more effective as it considers more factors affecting a decision. Given the complexity and uncertainty that characterize contemporary society in general and particularly the football world, it is more realistic to assume that managers make decisions on the basis of bounded rationality and rarely on intuition that is mostly informed by prior experiences, personal emotions, and values. More Importantly, big data can make managers rely more extensively on evidence-based management (EBMgt) in their decision-making processes as they provide relevant and reliable evidence that can drive the decision-making process. (LO: 3, Classify decisions and decision-making conditions; AACSB: Analytical thinking)

2-17. What type(s) of conditions are more likely to influence the performance analyst team's work: certainty, uncertainty, or risks? Explain.
The work of a performance analyst is fully based on the calculation of likelihood that certain events will occur in the future. The estimation of this likelihood is becoming more and more accurate thanks to improvements in hardware and software technology, which enable analysts to create algorithms that are capable of handling large quantities of information in lesser time. However, likelihood is different from certainty as there can always be errors in mathematical models or unpredicted factors that can influence the final outcome in a way that was not expected. Thus, the condition that more likely influences the work of the performance analyst team is risk. (LO: 3, Classify decisions and decision-making conditions; AACSB: Analytical thinking)

2-18. Do you think it is appropriate for football managers to use only quantitative information to evaluate their players' performance during a season? Why or why not?

Students should reflect on the fact that qualitative information is also important to evaluate players' performance and form at any given moment in a season. Players are not robots but human beings; therefore, their motivation and performance can be affected by qualitative factors related to their private life, the quality of their relationship with the manager and their teammates, what they perceive their importance to be in the team, and expectations and pressure from supporters, media, agents, etc. Certainly, there have been cases where young players who distracted by sudden notoriety underperformed in the subsequent matches. (LO: 3, Classify decisions and decision-making conditions; AACSB: Reflective thinking)

2-19. How can big data transform football decisions in the future?
Students should understand that big data is a reality and ignoring it will pose serious problems for football clubs, as it would for any other organization. In the future, football team managers may receive detailed reports on how their teams are playing from their performance analysts in real time, leading to rapid decisions. Thus, big data could probably replace even more of what it is already doing in terms of matching a football manager's intuition with evidence-based information. Furthermore, by making data publicly available (instead of only the clubs), more people on the outside can engage with and analyze the data. This in turn means that football enthusiasts, even if they are not part of the clubs, can come up with different ways of seeing the game and develop it. (LO: 2, Explain the four ways managers make decisions; AACSB: Analytical thinking).