

***Cost Management (Canadian) 3rd edition Eldenburg
Solutions Manual***

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Chapter 1

The Role of Accounting Information in Ethical Management Decision Making

SOLUTIONS

LEARNING OBJECTIVES

Chapter 1 addresses the following learning objectives:

- LO1 Describe the process of strategic management and decision making
- LO2 Identify the types of control systems that managers use
- LO3 Explain the role of accounting information in strategic management
- LO4 Explain the information systems and information that is relevant for decision making
- LO5 Describe how business risk affects management decision making
- LO6 Appreciate how biases affect management decision making
- LO7 Determine how managers make higher quality decisions
- LO8 Explain the importance of ethical decision making

These learning objectives (LO1 through LO8) are cross-referenced in the textbook to individual exercises and problems.

Summary of Questions by Learning Objective, Level of Difficulty and CPA Canada Competency

Item	LO	LOD	CPA	Item	LO	LOD	CPA	Item	LO	LOD	CPA
Questions											
1.	1	E	cpa-e001	6.	5	E	cpa-e001	11.	6, 7	M	cpa-e001
2.	1, 2	E	cpa-e001	7.	6	E	cpa-e001	12.	2, 6, 8	M	cpa-e001
3.	3	M	cpa-e001	8.	7	M	cpa-e001	13.	2	M	cpa-e001
4.	3, 4	E	cpa-e001	9.	8	E	cpa-e001	14.	2	M	cpa-e001
5.	3	M	cpa-e001	10.	8	E	cpa-e001	15.	2	E	cpa-e001
Multiple-Choice											
16.	3	E	cpa-t003	18.	8	E	cpa-t002	20.	7	E	cpa-t003
17.	3, 4	E	cpa-t003	19.	2	E	cpa-t002				
Exercises											
21.	1	M	cpa-t003	25.	4	M	cpa-e002	29.	2, 8	M	cpa-e001
22.	1	E	cpa-e004	26.	2, 8	E	cpa-e001	30.	1, 2, 3, 4, 5	M	cpa-t003
23.	4	M	cpa-e002	27.	6	E	cpa-t002	31.	4, 5	E	cpa-e002
24.	4	M	cpa-e002	28.	2, 3, 7	E	cpa-t003	32.	4, 5, 6,	M	cpa-e002

									7		
Problems											
33.	6	M	cpa-t003	38.	4, 5, 6	H	cpa-e002, cpa-e004	43.	4, 5, 6	H	cpa-e001
34.	4, 6, 7	M	cpa-t003	39.	3, 4, 7	H	cpa-e002, cpa-t003	44.	4, 6, 7	H	cpa-e002
35.	5	M	cpa-e002, cpa-e004	40.	1, 2, 3	M	cpa-e003, cpa-t002	45.	4, 7, 8	H	cpa-e002
36.	6, 7	M	cpa-e002	41.	1, 6, 7	E	cpa-e002, cpa-t002				
37.	5	M	cpa-e002	42.	7	M	cpa-e002, cpa-t002				
Mini-Cases											
46.	4, 5, 6, 7	H	cpa-e002, cpa-e003, cpa-t003	48.	4, 5, 6, 7	E	cpa-t003	50.	3, 6, 8	E	cpa-t004
47.	4, 5, 6	E	cpa-e001	49.	1, 2, 7	E	cpa-t004				

CPA CODES

ID	Competency
cpa-e001	Professional and Ethical Behaviour
cpa-e002	Problem-Solving and Decision-Making
cpa-e003	Communication (both written and oral)
cpa-e004	Self-Management
cpa-e005	Teamwork and Leadership
cpa-t001	Financial Reporting
cpa-t002	Strategy and Governance
cpa-t003	Management Accounting
cpa-t004	Audit and Assurance
cpa-t005	Finance
cpa-t006	Taxation

Note: E = Easy M = Medium H = Hard

QUESTIONS

- 1.1** Organizational vision is the core purpose of the organization and shapes the current organization and its future. Decisions about the organizational vision are important because they communicate to employees and other stakeholders the overall direction of operations. Core competencies are the strengths of the organization relative to competitors. The choice of core competencies that an organization focuses upon is important to the success of the organization because value is added by these competencies. To be successful, the vision should be guided by the basic strengths of the organization. Organizational strategies are developed around core competencies. These tactics are important because they guide the long-term decisions, such as product lines that will be offered. Operating plans put into action the organizational strategies in the short term. These plans guide employees in their day to day operations.
- 1.2** Once operating plans are in place, organizations need to know whether the plans are being met or need to be changed to take advantage of new opportunities. To do this, actual performance needs to be measured and compared to the plans (monitored). To help managers move toward the organizational goals, incentives such as performance-based bonuses are offered (motivating).
- 1.3** See Exhibit 1.9 for a list of possible internal and external reports. Students may have thought of other reports as well. Following are examples of internal reports. Capital budgets support organizational strategies, the master budget supports operating plans, and variance reports (actual versus planned performance) help organizations monitor and motivate performance if they are tied to compensation contracts.

Financial statements are external reports that provide creditors and shareholders information about current and past operations. Tax returns are reports prepared for the government that also determine the amount of taxes due. Suppliers need reports about inventory levels to keep an organization's inventory levels up to date.

- 1.4** The type of information needed depends on the type of decision. For product-related decisions, managers may need information about competitors' prices and quality of products. For employee-related decisions, they may need to know the amount of experience employees have had or estimate costs to lay them off using information about length of service from human resources. If managers are developing a new good or service, they need information from suppliers about the cost of resources. Students may have thought of other types of decisions and information needed for them.
- 1.5** Cash flows that vary with the available alternatives for a decision are relevant because they relate directly to each separate decision that could be made. Summing these relevant cash flows provides quantitative information about the relevant costs and benefits for each alternative. However, some cash flows will not change, regardless of the decision made. These are irrelevant cash flows because they remain the same under all courses of action and have no influence on the decision.

- 1.6** Business risk is the possibility that an event could occur and interfere with an organization's ability to meet strategic goals or operating plans. Examples of business risks are shown in Exhibit 1.11. Some events, such as a hurricane or tsunami, may occur infrequently but have devastating effects. Other events, such as product returns under warranty, occur regularly but could escalate if production processes become out of control. The degree of business risk varies across organizations, industries, geographic regions, and time periods. Top managers are responsible for addressing business risks, taking calculated risks across the enterprise, and appropriately managing and mitigating the risks for the benefit of the stakeholders (i.e., quality of decision).
- 1.7** Biases are preconceived notions adopted without careful thought. This chapter's box introduces non-rational escalation of commitment. Also, the Snow-Blade Snowboards example demonstrated a type of information bias: the average cost per unit overestimated relevant cost for the manager's decision to accept or reject a customer order. Predisposition bias was probably a major issue in the RIM case. Poorer quality decisions result when managers fail to recognize and control for biases because important information is often overlooked.
- 1.8** Higher quality decisions are made by using higher quality information, that is, information that has few uncertainties and is relevant, complete, as certain as possible, and timely. This information needs to be prepared in reports that are easy to understand, readily available, relevant and timely. Then a high quality decision-making process is used. This is a process that is thorough, as unbiased as possible, focused, creative, and visionary as it relates to strategies.
- 1.9** There are many reasons for behaving ethically. From an economic perspective, if everyone behaved ethically, less investment would be needed in police and security protection. In addition, written contracts would be less important, and a court system would not be needed to determine whether people are acting unethically and then penalize wrongdoers. More business would probably be transacted because people could trust each other. From a personal perspective, people would feel their world was more certain if they knew others would always treat them ethically. Even in a world where many people are unethical, organizations and individuals who act ethically develop better long term reputations and self-respect and improve social welfare.
- 1.10** Ethical behavior takes into consideration the wellbeing of others and society in making decisions and choosing courses of action. Because many different kinds of stakeholders rely on accounting information, unethical behavior can be very costly through poor decisions that are based on bad information. When accountants are not ethical, investors no longer believe information produced by firms and are unwilling to invest. The market collapses and firms lose their value and society suffers from the losses.

- 1.11** In business situations, non-rational escalation of commitment occurs when managers inappropriately use more resources based on the value of an original investment. This often occurs when a poor decision is made in the first place and more money is spent because managers hope the project will succeed and make up for past losses, or they may want to save face and not admit the original decision did not lead to a successful outcome. People exhibit non-rational escalation of commitment in many ways. For example, people may continue repairing a vehicle or household appliance because of money previously spent.
- 1.12** Belief systems provide guidance and motivation that encourages employees to act in ways that are consistent with the organization's goals and vision. Boundary systems provide limits on what employees can do. Boundary systems include things like codes of conduct and budgets. The two systems are similar in that they both provide information that helps employees determine the best courses of action for the organization. They are different in that belief systems provide encouragement and motivation while boundary systems provide limits and a way to monitor employee behavior so that it does not exceed the limits.
- 1.13** Interactive control systems are sets of information that are discussed by managers from many different levels in an organization. These discussions occur regularly. The managers focus on interpreting the information and determining what it means and what opportunities and challenges have arisen. These systems help managers determine whether organizational strategies and operating plans are appropriate or need to be changed. They may also lead to reanalysis of organizational vision or core competencies.
- 1.14** Diagnostic control systems measure and monitor progress toward managers' pre-set goals. In addition, these systems motivate employees to reach these goals. Diagnostic control systems provide information about actions taken and allow managers to determine whether the actions are moving the organization toward its goals. These include budgets and variances, balanced scorecards, among others.
- 1.15** The four levers of control are used together to guide and control business strategy, to insure that employees are complying with the organization's plans and policies, and to empower employees to identify opportunities and challenges and to develop strategies for success.

MULTIPLE-CHOICE QUESTIONS

- 1.16** Which of the following statements is true?
- a) Management accounting is guided by IFRS or Canadian ASPE.
 - b) Management accounting information is mainly for external users.
 - c) Management accounting is future oriented.**
 - d) Management accounting information is mainly quantitative.

Ans: C

- 1.17** Which of the following statements is *not* true?
- a) Unavoidable cost is relevant in decision-making.**
 - b) Avoidable cost is relevant in decision-making.
 - c) Additional investment is relevant in decision-making
 - d) Cost saving is relevant in decision-making

Ans: A

- 1.18** Which of the following is not one of the components of ethical decision making?
- a) Identify ethical problems as they arise.
 - b) Objectively consider the well-being of others and society when exploring alternatives.
 - c) Clarify and apply ethical values, and choose a course of action which avoids the exposure of wrongdoing.**
 - d) Work toward ongoing improvement of personal and organizational ethics.

Ans: C

- 1.19** Which of the following statements is *not* true?
- a) Monitoring and motivating is part of an implementation function.
 - b) Budgeting is a part of a control function.**
 - c) Performance measure is a part of a control function.
 - d) Budget is a quantitative expression of a plan.

Ans: B

- 1.20** Which of the following characteristics is *not* high-quality information?
- a) Timely
 - b) Relevant
 - c) Complete
 - d) Circumventing**

Ans: D

EXERCISES

1.21 Types of Manager Decisions - Microsoft Corporation

- A. (4) Measuring, monitoring & motivating (specifically monitoring) because it is *comparing* actual versus expectations
- B. (2) Operating plans because it involves looking at *short-term plans*
- C. (3) Actual operations because this is part of normal operations (developing new products)
- D. (3) Actual operations because this is part of normal operations (customer support for existing products)
- E. (2) Operating plans because it involves developing *short-term plans*
- F. (4) Measuring, monitoring & motivating because it involves *comparing* actual to expectations and discussing variances from budget with managers (and measuring their performance as managers). Presumably the managers know in advance that their performance is measured based (or at least partially based) on these variances from budget, which should *motivate* their performance.
- G. (1) Organizational strategies because it involves a *long-term* decision to expand facilities

1.22 Types of Personal Decisions

- A. A student's vision might be a particular type of career, or job they would like to have after graduation.
- B. A student's core competencies include his or her knowledge, leadership skills, and abilities to communicate, to analyze and solve problems, to sell ideas to colleagues, to develop spreadsheets, any skill or talent that is well developed.
- C. A student's long-term strategies include completing a particular degree in college, acquiring certain licenses (such as CA) and other qualifications, selecting a group of organizations within which to work, and determining means of financing an education.
- D. Short term planning includes the particular schedule of classes over the next year, determining whether it is necessary to work during the school year, finding a place to live.
- E. Actual results are scores on exams and projects, and grades for the semester or quarter. Financial results are the monthly and quarter or semester costs incurred.
- F. Students might prepare a financial budget and a time management budget and compare their actual results to the plans they have made. Some students might set up rewards for themselves if they achieve certain goals, such as a good grade for an exam or class, or for meeting planned study goals (set in hours).

1.23 Relevant Costs - Avery Car Rental

The question calls for a computation to determine the number of kilometres driven over four days so that the rental cost would be the same under the two options. The easiest way to solve this is to first write the total cost for each option using number of kilometres as an unknown variable. Then set the two costs equal to each other and solve for the number of kilometres. Let x be the number of kilometres driven:

$$(\$26 \text{ per day} \times 4 \text{ days}) + (\$0.20 \text{ per km} \times x) = (\$35 \text{ per day} \times 4 \text{ days}) + (\$0.08 \text{ per km} \times x)$$

$$\$104 + \$0.20 \times x = \$140 + \$0.08 \times x$$

$$\$0.20 \times x - \$0.08 \times x = \$140 - \$104$$

$$\$0.12 \times x = \$36$$

$$x = \$36 / \$0.12$$

$$x = 300 \text{ kilometres}$$

1.24 Relevant Costs - Driving

- A. The current average cost per kilometre most likely includes depreciation and insurance. These would be irrelevant because they would not change depending on the option that Susan chooses for driving to this client's office.
- B. Susan has no cost and receives no reimbursement if she uses a company car. If she uses her own car, her incremental cost will be \$0.25 per kilometre times 100 kilometres, or \$25. She will receive a reimbursement of \$0.30 per kilometre times 100 kilometres, or \$30. So, she will be \$5 (\$30 - \$25) better off if she drives her own car.

(Note: It is not clear which option would make Susan's company better off because the incremental cost of operating the company car is unknown.)

1.25 Relevant Costs, Other Relevant Factors - Netflix

- A. The question calls for a computation to determine the number of DVDs rented per month so that the total cost would be the same under the two options. The total cost for the Netflix option is \$21.95. The total cost of the video store option is \$3.95 times the number of DVDs rented. These costs will be the same when:

$$\$21.95 \text{ per month} = \$3.95 \text{ per DVD} * x \text{ number of DVDs per month}$$

$$\$21.95 / \$3.95 = x$$

$$x = 5.56 \text{ DVDs per month}$$

(students should actually round this to 6 since they cannot rent 0.56 of a DVD)

The cost of the Netflix option will be higher if customers rent fewer than 6 DVDs per month, and it will be lower if customers rent more than 6 DVDs per month.

- B. If customers often pay extra charges because they fail to return DVDs to a video store in a timely manner, they might prefer Netflix. If they prefer to order from home, they may prefer Netflix. If Netflix carries movies that students cannot get at a video store, they may prefer Netflix. If they like to rent movies spontaneously and do not want to plan their rentals in advance, then they would prefer the video store. If customers like to rent newly-released movies, they might be able to get them more quickly at a video store than through Netflix.

1.26 Levers of Control, Ethics

- A. An organization's culture may be influenced significantly by beliefs systems, which define core values. Two specific beliefs system controls that might discourage managers from overlooking unethical behavior are core values statements and ethics statements that include descriptions of the values and ethical practices that managers and other employees are expected to follow. Students might think of other relevant beliefs systems controls.
- B. Boundary systems establish limits on individual behavior in response to risk that should be avoided. Specific types of boundary systems that relate to ethics include codes of conduct and budgets, which limit specific behaviors. Students might think of other relevant boundary systems controls.

1.27 Effects of Biases

- A. When the quality of information is poor, resulting in data that misestimates or misrepresents a situation, poor decisions are likely to be made. This is called information bias. When people's minds do not appropriately process information, cognitive biases occur. A predisposition bias occurs when people do not control their preferences, attitudes, or emotions in making a decision and they are therefore unable to make an objective analysis of the situation or problem.
- B. The manager's forecasts do not seem to appropriately describe potential changes in revenues and costs, but do make operations appear to be improving, which may be important to the manager's self-image. Changes in sales and costs are driven by many different factors that cannot easily be predicted. Historical data is often useful, and the fast-food store had not been doing that well. Small improvements may be possible, but large improvements are unlikely to occur without significant changes in operations.
- C. The revenues and costs can be benchmarked with other locations of the same chain or other fast-food stores with similar products. Also historical data and economic data including changes in demographics, disposable income, etc., could assist in checking reliability.

1.28 Master Data Management, Control Systems, Quality of Information

- A. An enterprise-wide database could be used to develop information for budgets and balanced scorecards at the levels of both sub-units and the entire organization. These would be used as part of a diagnostic control system. If this information is then shared among managers on a periodic basis, along with data about the market and any changes in the business environment, it could be used for interactive control systems.
- B. Common rules insure a consistency of data so that when managers are using the data to measure, monitor and motivate performance they can reach agreement more quickly when interpreting results of analyses using the data. The practice of using a data governance function helps managers improve the consistency and accuracy of data used in the diagnostic and interactive control systems. While managers may have different viewpoints, the underlying data is the same, so that all managers understand that differences are related to viewpoints rather than data differences.

1.29 Ethics, Culture, Belief, and Boundary Systems

- A. Corporate culture sets the tone for employees. If the culture sets a high bar regarding ethics, the top management will act in ways that provide models and will adopt policies that strengthen the overall ethics used in the firm. If top management puts more weight on objectives other than on ethics, they will expect their employees to do so as well. This could easily weaken ethical behavior among all employees.
- B. Ethical values are part of both the belief systems and boundary systems within organizations. In vision, mission, and values statements, organizations often address and promote their ethical values. These are part of belief systems. In addition, firms develop checks and balances to ensure that breaches of ethical conduct (e.g., bribery or conflicts of interest) will be avoided. These are part of boundary systems.

1.30 Pace of Change, Historical Data, Control Systems

- A. In a rapidly changing environment, historical data may not reflect future operations. For example, changes in technology can alter manufacturing costs, and changes in customer preferences can change required product features and/or selling prices. When this happens, the historical data is less relevant. While historical data may be used as a base, many adjustments need to be made to reflect changes in the business and economic environment.
- B. Diagnostic control systems use current and historical data to develop information to compare whether an organization is performing according to established plans. In response to changing conditions, managers may need to continuously modify and adapt operations. Accordingly, comparisons of actual results to planned results in diagnostic control systems such as budgets and balanced scorecards may provide less useful information in a rapidly changing environment than in a more stable economic environment.
- C. In interactive control systems, managers interactively discuss the meaning of information related to strategic uncertainties. They can focus on changes as they arise and also on how current operations might need to change in response. These systems become much more important in a dynamic business environment so that the organization can respond successfully to external changes.

1.31 Relevant Costs, Uncertainties - Toys for Boys

- A. Selling the cars as-is would provide $\$5 \text{ per car} \times 10,000 \text{ cars} = \$50,000$.
Painting and selling the cars would provide $[(\$8 \text{ selling price} - \$2 \text{ painting cost}) \text{ per car} \times 10,000 \text{ cars}] = \$60,000$.
The company would be \$10,000 better off if it paints the cars.
- B. The gray cars have not sold well at \$8.00, and the managers cannot know whether they will sell at \$5.00. The red cars appear to be selling well for \$8.00 each, so that alternative is probably more certain in terms of selling the cars. However, the managers might not be sure whether the cost to paint the cars will be \$2 each. If the managers are fairly certain that the cost will be \$2 each, then the painting option probably has less uncertainty overall. If the managers believe that the painting costs could vary substantially from the \$2 estimate, then the painting option might have more uncertainty.

1.32 Relevant Costs, Risks, Other Relevant Factors, Bias

- A. First, students should note that they will still own the car under all three alternatives. Therefore, the monthly payments of \$220 will exist under all three alternatives and are not relevant to this decision. The average maintenance costs of \$37 per month may contain some costs that are relevant (assuming that maintenance costs increase with the number of kilometres driven); however, this cost is also likely to include costs that do not depend on whether the car is driven to school. For simplicity, this solution assumes that none of the maintenance costs are relevant. Second, note that the estimated monthly use of the car above the 200 kilometres for commuting to campus will be incurred regardless of which option is chosen.

Based on cost only, the one-ride bus ticket (Bus B) is the best alternative as shown below:

Relevant Semester Costs of Three Alternatives

<u>Drive to School</u>	<u>Bus A – Semester pass</u>	<u>Bus B – One-ride tickets</u>
Parking \$150.00	Ticket cost <u>\$225.00</u>	Ticket cost
Gasoline: 200		\$2/trip * 24
km/mo*4 mos		trips/mo*4
@ \$0.10/km*		mos <u>\$192.00</u>
*(60/600 km) <u>80.00</u>		
<u>\$230.00</u>	<u>\$225.00</u>	<u>\$192.00</u>

- B. Gasoline costs for driving the car might be different than estimated because gasoline prices might rise or fall, and students might achieve higher or lower mileage per litre. In addition, maintenance costs might be lower if one of the bus options is chosen. However, it may be difficult to predict the portion of maintenance costs that are likely to vary with kilometres driven. If students choose either of the bus options, they might find that they drive their car to campus sometimes. If they choose the bus semester pass, they might find that they use the bus more than expected. During times of bad weather, students may need to take the bus even though they chose the option to drive.
- C. Here is a partial list of things that are not necessarily quantifiable in dollars, but could be relevant to this decision:
- Flexibility of the bus schedule (both times and routes)
 - How students value their time
 - The ability to use the bus ride time in a useful manner (for example, by studying or relaxing)
 - The stress students experience under each alternative (some people are nervous driving, and others hate being in a crowded bus)
 - The risk of damage to cars in the school parking lot versus the parking lot at an apartment (students have insurance, but there is a deductible)
 - Reliability of bus service, that is, on-time service history, labour relations, financial solvency

EXERCISE 1.32 (Continued)

- D. Students who have never ridden a bus may be biased against the bus option because their information about this option is limited. In addition, limited information combined with the non-rational escalation of commitment bias could encourage students to believe that using their cars justifies their investment in a car and they may prefer that option to the bus option.

PROBLEMS

1.33 Risks - College Course Sequence

A. Many potential uncertainties may be identified, including the following:

- Which courses teach skills that will be needed in other courses?
- Will enough class sections be offered at appropriate times?
- Will enough space be available in a particular course?
- Who will teach a particular course?

B. Many answers are possible for this question. Following are some explanations for the uncertainties listed in Part A:

- *Which courses teach skills that will be needed in other courses?* Some courses are specifically identified as prerequisites for other courses. However, considerable flexibility may exist in the sequence of courses taken. When there is flexibility, students are often uncertain about the types of skills taught in particular courses and the extent to which skills in one courses are required for another. For example, a cost accounting course may teach spreadsheet and communication skills that will be useful in other accounting courses.
- *Will enough class sections be offered at appropriate times?* Sometimes course offerings change from year to year or even at the last minute based on a variety of factors, including course demand, instructor availability, departmental personnel changes, university budgets, and so on.
- *Will enough space be available in a particular course?* It is not possible to know for sure how many other students will attempt to register for a particular course. In addition, it may be uncertain whether a particular professor will be permitted or will allow students to enroll on an overload basis.
- *Who will teach a particular course?* Even when instructors are scheduled for a course, sometimes there are last minute changes. Students are uncertain whether the teacher will be someone from whom they can learn. Even if other students have recommended an instructor, students are uncertain about whether they will enjoy the course and learn from the instructor.

1.34 Relevant Information, Bias - Office Photocopy Machine

- A. The annual lease payment is relevant since it will not be incurred if the photocopy machine is purchased. Similarly, the purchase price is relevant because it will not be incurred if the machine is leased. There are many other possible answers to this question.
- B. Any cost that would be incurred under both options would be irrelevant. Examples include the cost of supplies such as copier paper and toner. There are many other possible answers to this question.
- C. To choose between options, it is necessary to investigate how the two options would differ. By definition, relevant costs differ across options and help the decision maker choose between options. If irrelevant information is included, costs would be over-estimated for one or both options which could lead to a poor quality decision.
- D. When service people are paid based on commission for parts sold, they may tend to recommend use of more parts than necessary, which in turn increases their compensation. A service repair person under this compensation scheme might recommend replacing parts earlier than necessary or recommend using lower quality parts that must be replaced more frequently.

1.35 Business Risk, Degree of Risk, Risk Appetite - Community Children's Hospital

- A. There are more possibilities than are listed, but here are some of the uncertainties the CEO faces in the “buy hotel” alternative:
- Vacancy rates (i.e. demand for rooms)
 - Optimal pricing structure for the rooms
 - Hotel operating costs
 - Tax consequences of running a for-profit business as a sideline to a not-for-profit business (uncertainty alleviated if she purchases tax advice)
 - Ways that hotel maintenance may differ from hospital maintenance
 - Security in this neighborhood in the future
 - Long-term future of a hotel in a declining neighborhood
- B. There are more possibilities than are listed, but here are some of the uncertainties for the “heart monitor” decision:
- Future demand for neo-natal equipment at the hospital
 - Expected wages for the special technician (although she can easily find this out)
 - Maintenance or operating costs for the monitors that are not disclosed by the medical supply vendor
 - Expected useful life of the monitors
 - Hospital's ability to charge patients for the new equipment
 - Effect of the new equipment on how nurses spend their time
- C. The “buy hotel” alternative probably has a greater degree of uncertainty because it is outside the core competencies of the hospital and CEO.
- D. The hospital's risk appetite affects whether managers are willing to take on more risk for potentially higher returns. If the hospital has little appetite for risk (i.e., is risk averse), the managers are likely to choose the less risky alternative. If the hospital is risk neutral, the managers are likely to choose the alternative that provides the best return for the level of risk incurred. If the hospital is risk seeking, the managers are likely to choose a risky alternative with a higher rate of return. However, the managers might or might not make decisions that are consistent with the hospital's appetite for risk. Sometimes managers fail to consider the organization's risk appetite when making decisions.

1.36 Decision-Maker Bias - Gene Horita

- A. Gene is basing his understanding of accounting careers on his father's experience. There are many different types of accounting careers, and not all of them involve long hours during tax season or at any other time. In addition, it is possible that Gene's father would have spent most of his time at work regardless of his career. Gene may not know much about careers in information systems, but he is idealizing careers in this field. Sometimes when employees are working against a deadline in preparing a new software product, a lot of overtime is incurred.
- B. Gene could analyze his perspective and control for his biases by doing some informational interviewing with people in both accounting and information systems careers. He could check with both the accounting and information systems departments at his college and ask for phone numbers of alumni who have been successful in their careers. Through conversations with these people he will get a better understanding of the different options available for each career path. He could also secure internships in both areas to have an inside view of these career paths, although it may be difficult to get an internship without declaring a major.

1.37 Identifying Risk

- A. The managers cannot be certain how much the company will save in labour and insurance costs if it decides to purchase the new equipment. There also may be unforeseen costs in modifying the company's production processes, such as employee training, system testing, and production down time. In addition, a reduction in labour cost probably means that the company will reduce its labour force, and the new equipment might require employees having different skills than in the past. The managers cannot be certain how a reduction will affect the morale and work quality of workers who remain, and the new workforce might cost more per employee than the old one.
- B. Either internship would provide work experience for Amira, but she cannot be certain how much or completely anticipate the types of learning would occur with each option. Also, she might have preferences for living in one location versus the other, but she cannot perfectly foresee the living and social arrangements in each setting.

1.38 Relevant Information, Bias, Recommendations - Francisco

A. Relevant costs for deciding whether to go camping or stay home this year:

- \$1,000: this is not relevant because it represents the *past* cost of the camper
- \$150 (1,000 kilometres x \$0.15): the gas & oil portion of this is relevant because it is incremental
- \$220 (1,000 kilometres x \$0.22): depreciation is not relevant because it is related to the *past* cost of the camper and insurance is not relevant because Francisco will insure the camper whether they take the trip or not.
- \$250: the cost of groceries is relevant only to the extent that it exceeds the cost of groceries while at home.
- \$100: the cost of beverages is relevant only if it exceeds the cost of beverages while at home.
- Entertainment costs (movies, etc.) that the family might incur if they stay at home during their vacation time that they would not incur if they go camping instead

B. The relevant costs for deciding whether to continue to use the camper or to sell it and stay in motels in the future:

- \$1,000: this is not relevant (but the estimated cash inflow from selling the camper will be relevant)
- \$150: this is still relevant because it is an estimate for the future costs of using the camper. The family will probably drive their car if they sell the camper, so that option will incur some level of gasoline, oil, tires, and maintenance cost.
- \$220: depreciation is not relevant, but insurance is now relevant because it differs across the alternatives
- \$250: the cost of groceries is relevant only to the extent that it differs from the cost of eating while staying at motels
- \$100: the cost of beverages is relevant only if it differs from the cost of beverages while staying at motels.
- Motel costs: If they sell the camper, the family will incur costs to stay in motels.
- Storage costs of the camper (if any) would no longer be required if the camper is sold.

C. Other factors that Francisco might consider include:

- The enjoyment that his children receive from camping (if they do in fact enjoy it) and whether their preferences will change as they grow older
- The enjoyment that Francisco receives from camping
- Francisco's wife's displeasure with camping and enjoyment of the alternatives
- Expected selling price of the camper

PROBLEM 1.38 (Continued)

- D. Some students might recommend that Francisco keep the camper because they view it as better than staying in motels. Others might suggest that Francisco should experience more things than just state and national parks. Still others might think that a camper must be too small for a 5-person family, so Francisco should sell it. Personal biases often sway the way that people look at information for a problem. They often ignore information that contradicts their preferences. Francisco and his family do not necessarily have the same experiences and preferences as students when responding to this question. One way for students to control biases is to first recognize their own preferences. Then they can look for ways in which their preferences affect what they consider to be relevant or important. Another way is to talk about this problem with other people who are likely to have preferences different from theirs.
- E. As outsiders, it is difficult for students to give advice because they cannot know which priorities should be used to solve this problem. Accordingly, the best advice students could give Francisco might be to discuss it with the family and come up with the best solution/compromise for the family. They could also recommend that Francisco remain open to his own biases.

1.39 Income Statement Information, Solve for Unknowns – Mouse Max

- A. The first step is to classify all costs as fixed and variable. Cost of goods sold includes direct materials, direct labour, and manufacturing overhead. Direct materials are variable because the total amount increases with the volume produced and sold. Direct labour costs may be fixed or variable; it is variable if workers are paid based on time worked and their work hours depend on production needs. Direct labour is fixed if workers are paid a flat amount regardless of production schedules. A solution is provided below for each assumption. The problem states that all manufacturing overhead is fixed. The sales commission cost is variable because the total amount depends on the number of units sold. No information is provided about the nature of other selling costs or administration costs. Most of these costs are likely to be fixed.

The next step is to calculate the amount of manufacturing overhead that is included in cost of goods sold (COGS) on the income statement. Total COGS of \$1,220,000 divided by 100,000 units sold equals \$12.20 per unit. Subtracting the per-unit cost of direct material and direct labour, manufacturing overhead cost per unit is \$6.20 (\$12.20 - \$5.00 - \$1.00).

Variable cost income statement **assuming direct labour costs are variable:**

Revenue		\$2,500,000
Variable costs:		
Direct materials (100,000 × \$5.00)	\$ 500,000	
Direct labour (100,000 × \$1.00)	100,000	
Variable selling (100,000 × \$1.50)	<u>150,000</u>	
Total variable costs		<u>750,000</u>
Contribution margin		1,750,000
Fixed costs:		
Manufacturing overhead (100,000 × \$6.20)	620,000	
Selling and admin (\$1,150,000 - \$150,000)	<u>1,000,000</u>	
Total fixed costs		<u>1,620,000</u>
Operating income		<u>\$ 130,000</u>

Variable cost income statement **assuming direct labour costs are fixed:**

Revenue		\$2,500,000
Variable costs:		
Direct materials (100,000 × \$5.00)	\$ 500,000	
Variable selling (100,000 × \$1.50)	<u>150,000</u>	
Total variable costs		<u>650,000</u>
Contribution margin		1,850,000
Fixed costs:		
Direct labour (100,000 × \$1.00)	100,000	
Manufacturing overhead (100,000 × \$6.20)	620,000	
Selling and admin (\$1,150,000 - \$150,000)	<u>1,000,000</u>	
Total fixed costs		<u>1,720,000</u>
Operating income		<u>\$ 130,000</u>

PROBLEM 1.39 (Continued)

- B. Traditional income statements conform to a set of rules (such as IFRS or Canadian ASPE) so that information is comparable across organizations. These reports are developed for external parties who want to compare operations in one firm with those in another and be assured that the way the information is reported is similar across firms.
- C. When managers use an average cost based on cost of goods sold information, they include an estimate of fixed cost. If the volume of units actually produced is not identical to the predicted number, total fixed costs will either be overestimated or underestimated.

1.40 Strategic Management Process

The purpose of this problem is for students to demonstrate an understanding of concepts introduced in the chapter. Below are possible answers. Actual student answers will vary.

- A. Our organization mission is to provide customers with convenience, an enjoyable experience, and high quality, good tasting food. Two core competencies would be the ability to produce foods that customers consider a good value and to deliver the food very quickly so that the customer wait time is not long.
- B. Our organization's general strategy is to compete on low prices, food that tastes good and is a good value and is served relatively quickly. This general strategy maps to the core competencies identified in Part A.
- C. Managers will need to work closely with suppliers to ensure high quality, low cost ingredients. In addition, employee training will need to emphasize quick service.
- D. Accounting information is valuable in monitoring operations to ensure that operations follow plans. Costs or timeliness of service may fail to meet expectations, requiring some type of intervention. For example, diagnostic control systems are likely to include budgets for costs and customer wait time. Financial statements would also be valuable for comparing this period's overall results with last period's results or with budgets.

1.41 Strategic Decision Quality, Business Risk - Starbucks

- A. Students may answer this question based on what they already know about Starbucks. Alternatively, they could search on the Internet to identify statements that describe the company's vision and/or core competencies. Following is the company's mission statement and principles (Source: www.starbucks.com/about-us/company-information/mission-statement, accessed July 20, 2010):

Our Starbucks Mission Statement

Our mission: to inspire and nurture the human spirit – one person, one cup and one neighborhood at a time.

Here are the principles of how we live that every day:

Our Coffee

It has always been, and will always be, about quality. We're passionate about ethically sourcing the finest coffee beans, roasting them with great care, and improving the lives of people who grow them. We care deeply about all of this; our work is never done.

Our Partners

We're called partners, because it's not just a job, it's our passion. Together, we embrace diversity to create a place where each of us can be ourselves. We always treat each other with respect and dignity. And we hold each other to that standard.

Our Customers

When we are fully engaged, we connect with, laugh with, and uplift the lives of our customers – even if just for a few moments. Sure, it starts with the promise of a perfectly made beverage, but our work goes far beyond that. It's really about human connection.

Our Stores

When our customers feel this sense of belonging, our stores become a haven, a break from the worries outside, a place where you can meet with friends. It's about enjoyment at the speed of life – sometimes slow and savored, sometimes faster. Always full of humanity.

Our Neighborhood

Every store is part of a community, and we take our responsibility to be good neighbors seriously. We want to be invited in wherever we do business. We can be a force for positive action – bringing together our partners, customers, and the community to contribute every day. Now we see that our responsibility – and our potential for good – is even larger. The world is looking to Starbucks to set the new standard, yet again. We will lead.

PROBLEM 141 A. (Continued)***Our Shareholders***

We know that as we deliver in each of these areas, we enjoy the kind of success that rewards our shareholders. We are fully accountable to get each of these elements right so that Starbucks – and everyone it touches – can endure and thrive.

Environmental Mission Statement

Starbucks is committed to a role of environmental leadership in all facets of our business.

We fulfill this mission by a commitment to:

- *Understanding of environmental issues and sharing information with our partners.*
- *Developing innovative and flexible solutions to bring about change.*
- *Striving to buy, sell and use environmentally friendly products.*
- *Recognizing that fiscal responsibility is essential to our environmental future.*
- *Instilling environmental responsibility as a corporate value.*
- *Measuring and monitoring our progress for each project.*
- *Encouraging all partners to share in our mission.*

Starbucks mission statement includes comments about high quality coffee and an experience where employees are engaged with customers—i.e., the “human connection” discussed in the company’s principles. Romance and theatre are the way that baristas engage with customers as they prepare the drinks.

- B. Some of Starbucks business risks include entry into the market of fast-food stores which also sell coffee. Coffee prices and availability are also potential business risks. Economic downturns may affect customers’ abilities to purchase expensive coffee drinks or alternatively may represent an affordable “luxury” in poor economic times and cause an increase in coffee purchases. See Exhibit 1.11 for examples of many types of business risks.
- C. At the time the decision was made, customers must have been concerned about long wait lines, and the decision reduced those. Because waiting time affects the customer experience, it reflects part of Starbucks’ mission and values. However, the decision caused customers to be separated from the experience of easily watching their coffee drinks being prepared, and thus conflicted with a strategy of fully engaging the customers.

1.42 Steps in Decision-Making Process (Appendix 1B)

Starbucks's decision to install automatic espresso machines can be described using Steps 1, 2, and 3 of Steps for Better Thinking model as follows (see details of the model in Appendix 1B).

Step 1: Starbucks' managers identify any problems in their operations as a regular, ongoing effort to improve customer experience (part of the company's mission; see the solution to Problem 1.41 above). Specifically, the managers were probably concerned about efficiency and wait time as stores became busier, and they had identified the use of automatic espresso machines as potential solution.

Step 2: Starbucks managers most likely explored alternative solutions to customer wait times, and they also would have considered the costs and benefits of installing automatic espresso machines. The costs and benefits would have included the expected effects on cash flows, such as the cost of the equipment and the expected increase in revenue from faster service. They also would have considered qualitative factors such as the effect on customers of shorter wait times and the company's ability to rapidly open new stores using automatic machines that required less employee training.

Step 3: The managers would have weighed the pros and cons of the automatic espresso machines before deciding to use them. At the time, they must have concluded that the advantages outweighed the disadvantages. Their decision might have been heavily influenced by the company's rapid growth and a desire to increase per-store revenues.

1.43 Ethical Decision-Making, Relevant Information, Risks, Biases - Larry

- A. The ethical issue is whether it is proper for Larry to help Annie with her homework. Larry's interests potentially conflict with those of Annie, his professor, and other students in the course.
- B. When identifying alternatives, there is a tendency to automatically filter out some of the options. When answering a question like this one, students should try to be as creative and open as possible. Below are some of the alternatives available for this problem; students may think of others.

Because there is only half an hour before class begins, Larry has fewer alternatives than he would have if more time were available. He can choose to help Annie, or he can refuse. He also has alternatives about how he responds to Annie. Whether or not he chooses to help her, there are many different things he could say to her and many different ways he could act toward her. This situation might also affect the future of his relationship with Annie. In addition, he could potentially go beyond the explicit requirements of the professor; he could tell the professor about Annie's request. If Larry helps Annie and then she signs a statement saying that that the homework had been her own effort, he could inform the professor.

- C. The problem does not provide information about what the professor will do in cases where students violate the homework policy. The course syllabus might explicitly state what would happen. For example, the students might receive a grade of zero on the assignment, receive a flunking grade in the course, or be referred to a university ethics committee. The university or program might also have policies about what will occur if a student is found to "cheat" in a course. Those policies might include probation or expulsion. If the students violate the course and/or school policies, then they risk these outcomes. If the course syllabus and other school guidelines are not explicit about the outcomes, then the students would still face risks but they will be less certain about the nature of the risks.
- D. Information that is relevant to Larry is anything (including facts, arguments, opinions, ideas, theories, concepts, observations, values, perceptions, beliefs, influences, etc.) that might help him evaluate and choose a course of action. Thus, Larry's information for this problem includes many things, such as the professor and school policies, his knowledge about what has occurred with students under similar circumstances, his own prior experiences, the nature of his relationship with Annie, and his own values and beliefs.
- E. This is an open-ended problem because there is no one response by Larry that will be absolutely "correct." Most people are likely to agree that it would be ethically inappropriate for Larry to help Annie with her homework. However, as discussed in Part B, there are other aspects to Larry's decision. How should he respond to Annie? Should he inform the professor? Larry cannot be certain exactly what he should do. In addition, educational research suggests that students are likely to learn more when they collaborate with others. Therefore, some people might argue that the professor's policy is inappropriate. Does the ethical response to this problem change if Larry views the course policy as contradictory to what is best for his education?

PROBLEM 1.43 (Continued)

F.

1. Given that Annie made her request only half an hour before class was to begin, she is probably concerned primarily with avoiding a low score on her homework assignment. Unless she is an exceptionally quick learner, she will not learn the material before class. Annie finds herself in this position because she has chosen to do something else instead of completing her homework. Perhaps she was partying with friends, had an assignment due or test in another course, was unexpectedly asked to work overtime, or had a family emergency. Whatever the reason, Annie apparently believes it is appropriate to ask for Larry's help. She implicitly values the completion of her assignment as more important than other potential values such as complying with the professor's policy, avoiding putting Larry in an uncomfortable position, or competing fairly with other students in the course. Annie might have rationalized her behavior as follows: "Everyone else is doing it." "The professor's policy is silly." "This won't hurt anyone." "I don't have any choice; my boss required me to work last night [or I was sick, or my friend was in an automobile accident, or I had to meet with my group for another class]."
2. Larry's perspective is less clear because information is lacking about the nature of his relationship with Annie, his values, or his willingness to assume risk. Perhaps he believes it is his obligation to help Annie. He might be more inclined to help her if he knows that she had an unavoidable reason for not completing her own assignment. Or, perhaps he considers her request to be inappropriate regardless of her reason. He might be angry that she has asked him to violate a course policy or to violate his ethical values. He might or might not be afraid of the potential risks. Or, he might be concerned primarily with making a decision that is consistent with his own ethical values. He might also be concerned about the best way to help Annie learn the course material.
3. The professor most likely believes that students will learn more if they assume responsibility for working on their own homework assignments. The professor might have observed cases in the past where students worked together and copied each other's work, thus defeating student learning. The requirement for students to sign a statement suggests that the professor wants to ensure that students are aware of the course policy and encourage them to assume ethical responsibility for following it. This requirement also suggests that the professor is likely to hold students accountable for violating the policy. Thus, the professor is likely to respond in a negative way if he or she discovers that students have worked together.

- G. The importance of ethical conduct for students is no different than its importance in the business or personal environments. Ethical conduct improves mutual trust and enhances an individual's reputation. Unethical conduct has the opposite effect. School is also a place where students work toward developing life-long behaviors and attitudes. Unethical conduct in school is likely to lead to unethical conduct in other arenas. Attention to ethical conduct in school can help students establish appropriate patterns of behavior and encourage them to reflect upon and improve their ethical conduct in the future.

PROBLEM 1.43 (Continued)

- H. If Larry and Annie are sufficiently open with each other, they could use this opportunity to explore their ethical values and conduct. They could discuss the various dimensions of this problem (Parts A-G above) and help each other clarify the values they would like to adopt. They could also relate this situation to ethical dilemmas that are likely to arise in their professional lives. What types of circumstances could occur where they are asked to do something that violates a policy? When choosing a course of action, does it matter whether they believe that others would be harmed? Does it matter if mitigating circumstances exist?

1.44 Relevant Information, Decision-Making Biases, Quality of Decisions

A.

Revenue	Relevant Information
Cost of Delivery	Relevant Information
Marketing	Relevant Information
Administration	Irrelevant Information

B. Operating income from the new risk management program:

Revenue	\$150,000
Cost of Delivery	<u>108,000</u>
Gross Margin	42,000
Marketing	30,000
Administration	<u>0</u>
Operating Income	<u>\$12,000</u>

Based on Rico's estimate, the new risk management program will add value to ProTrain in an amount of \$12,000.

- C. Rico may be too enthusiastic about the importance of risk management and overestimate the revenue, while understating the expenses of the risk management program. He may have a bias reflected in his assertion that the administration costs will not change. It is questionable that the administration expenses will remain the same, while the revenue and other expenses increase.
- D. To control for biases and make higher-quality decisions, I would ask Rico to conduct some market research to assess the demand for the risk management program from potential corporate clients. In addition, it will be helpful to obtain competitive information to see whether competitors are offering this type of program and the fee they are charging. I would also need more information on administration expenses, and then to determine whether additional administration expenses will be incurred to support the new program. The more complete and relevant information that I have, the higher certainty I have to help me make a better decision as to whether to proceed with the new risk management program.

1.45 Relevant Costs, Quality of Decision-Making, Ethical Decision-Making

A.

Flight \$500/person	Relevant
Parking on campus	Irrelevant
Taxi (to and from Airports)	Relevant
Hostel \$40/night per person	Relevant
Residence	Irrelevant
Food on campus	Irrelevant
Food during conference	Relevant

B. Budget:

Expenses	
Flight \$500/person	\$1,500
Taxi (to and from Airports)	120
Hostel \$40/night per person	480
Food during conference ¹	<u>480</u>
Total Expenses	\$2,580

Note 1: We estimate that each person will spend \$40/day on meals.

C. I disagree with my teammate's argument because the meals not consumed on campus are not reimbursed. Also, the meals consumed at the conference will be paid for by the school. It is unethical to include expenses that should not be included in the budget. I will explain to my teammate that it is an honour to represent our school to compete in the conference internationally. We need to hold ourselves to a high level of integrity and ethics. It is wrong to include the 4-day meal plan cost in the conference budget, as it has nothing to do with the conference. It is a sunk cost. If the school finds out that we include a 4-day meal plan cost in our conference expense budget, we are likely to be disciplined for our unethical behaviour. Our reputation and future career prospects will be damaged. I would be unwilling to put forward a false budget and continue to work with teammates who will jeopardise my integrity and ethics.

MINI-CASES

1.46 Relevant Information, Risk – Janet Breton

A.1 and A.2 The costs of each option are listed below:

“Residence hall” Alternative		
Couch	\$350	Not relevant because the cost occurred in the past
Couch storage	\$35/mo (4 mos)	Relevant
Tuition	\$7,500 (annual)	Not relevant because it is the same across the alternatives
Books	\$450 (4 mos)	Not relevant because it is the same across the alternatives
Room & board	\$2,900 (4 mos)	Relevant

“Apartment” Alternative		
Apartment rent	\$400/mo (6 mos)	Relevant
Utilities	\$75/mo (6 mos)	Relevant
Groceries	\$200/mo (6 mos)	Relevant
Couch	\$350	Not relevant because the cost occurred in the past
Tuition	\$7,500 (annual)	Not relevant because it is the same across the alternatives
Books	\$450 (4 mos)	Not relevant because it is the same across the alternatives

A.3. Some assumptions need to be made here because of the different time spans for the data. The apartment is to be leased for a minimum of 6 months, but the residence hall alternative is only good for 4 months. What does Janet do for the 2-month period after she cannot live in the residence hall any longer? Are the semesters contiguous so that she can choose two 6-month leases in an apartment versus three 4-month periods in the residence hall? If the semesters are contiguous, then the cost per month can be computed after annualizing the information.

Relevant monthly costs for the “residence hall” alternative:

Room & board (\$2,900/4)	\$725 per month
Couch storage	<u>35</u>
	<u>\$760</u>

Relevant monthly costs for the “apartment” alternative:

Apartment rent	\$400 per month
Utilities	<u>75</u>
Groceries	<u>200</u>
	<u>\$675</u>

MINI-CASE 1.46 A. (Continued)

- A.4. Given the assumption that semesters are contiguous (and that costs can be annualized), the apartment seems to be less expensive for Janet than the residence hall by \$85 per month.

B. Costs Janet Would Know For Sure:

	Source of Information
Residence hall	Information published by the university
Tuition	Information published by the university
Couch	Already purchased; know purchase price

Costs Janet Would Estimate With Little Uncertainty:

	Why Not Known for Sure
Couch storage (Assume Janet investigated prices of storage units)	Until a rental agreement is signed, the cost could vary because the rental rate could change or the storage unit could be rented to someone else
Rent (Assume Janet has identified a potential apartment and was given a rent quote)	Until a rental agreement is signed, the cost could vary because the rental rate could change or the apartment could be rented to someone else. Also, the rent could change after the initial six months unless an agreement is signed for a longer period.

Costs Janet Would Estimate With Moderate or High Uncertainty:

	Why Not Known for Sure
Utilities (Assume friends or the apartment manager have given Janet an estimate)	Janet cannot be sure how much the utilities will cost. For example, suppose Janet and her roommate need to heat their apartment during the winter. Janet does not know how warm she and her roommate will keep the apartment, and she does not know how cold the winter will be. Also, she cannot know whether the utility rates will change during the year.
Groceries (Assume Janet estimated her own grocery costs)	Unless Janet has purchased her own groceries in the past, she might not know how much food costs or how much and what types of food she would eat. In addition, she might share costs with her roommate, making it more difficult for Janet to anticipate the food costs. Also, there can be unanticipated changes in food prices.

MINI-CASE 1.46 (Continued)

C. Additional information that might be relevant to Janet's decision

1. Costs not identified by Janet:

- Janet might need to purchase more furniture if she lives in an apartment. She might need a bed, dresser, desk, chair, dining room set, lamps, etc.
- Janet might need to purchase a range of household equipment and supplies under the apartment alternative, such as a vacuum cleaner, microwave oven, dishes, cookware, etc.
- If Janet purchases furniture and other household items, she will need to consider what to do with them at the end of the semester. Will she sell them? Will she move them to another living situation? Will she put them into storage? There may be additional costs after the end of the semester, especially if her lease is for a time period longer than the semester.
- If Janet chooses the residence hall alternative, she might incur living costs during the break between semesters.
- If the apartment is not within walking distance of the university, she might incur additional transportation costs.
- Janet needs to consider the possibility that her roommate might not pay for her full share of costs. Janet could be held responsible for more than one-half of the rent, utilities, and other apartment costs.
- There are a number of other additional costs that would differ under the two alternatives that students may list.

2. Factors other than costs:

- Janet has uncertainties under both options about how she will get along with her roommate; however, there might be more opportunities for disagreement and conflict under the apartment alternative. Janet needs to consider the pros and cons of each roommate situation.
- Janet's personal preferences for living in an apartment versus living in the residence hall are likely to be a major factor. Personal preferences might include a desire for greater personal freedom, security, physical space, ability to cook, and so on.
- Janet needs to consider the difference in flexibility in the two options. For example, if she chooses the apartment, she is committed for a minimum of six months' rent and possibly a wide range of other costs such as furniture purchases, etc. These commitments might make it difficult for her to change her mind.

D. The cost comparison will help Janet plan her finances and decide whether she can afford each alternative.

MINI-CASE 1.46 (Continued)

- E. Students need to recognize their own preferences, which are a function of their own previous experiences and tastes. For example, they might not want to spend time commuting to and from school. However, Janet might consider this to be less important than living in an apartment in a part of town she enjoys more. Students might have had good or bad experiences with roommates in a residence hall, which causes them to be biased toward or against that option. One way for students to control biases is to first recognize their own preferences. Then they can look for ways in which their preferences affect what they consider to be relevant or important. Another way is to talk about this problem with other people who are likely to have preferences different than theirs.
- F. This question was partially answered in Part E. Some people weigh some factors more than others and these weights affect the choices they make. It is possible to come up with many different ways for Janet to prioritize the various factors from Parts A and C in deciding which option is best for her.
- G. Janet might learn something about her ability to manage her funds. She might learn more about whether she likes or dislikes various aspects of living in an apartment such as:
- Cooking her own meals
 - Commuting from an apartment off campus
 - Living with a roommate

Janet also might learn more about her ability to manage costs in a less structured situation.

- H. Student memos will vary. However, a high-quality memo would do all of the following:
- Correctly identify relevant costs for each alternative
 - State that costs for the apartment option initially seem to be lower than for the residence hall option (however, this statement could change depending on the assumptions made or based on errors in the student's calculations)
 - Present numerical calculations, preferably in an appendix to the memo
 - Identify potential costs not identified by Janet
 - Discuss the numerical calculations in a way that a non-accountant college student would be likely to understand
 - Integrate reasonable uncertainties about costs into the discussion of alternatives, recognizing that costs under both options involve estimation and may deviate from expectations
 - Explain why the actual costs of the apartment option could easily be higher than expected, whereas the actual costs of the residence hall option are less risky
 - Integrate reasonable qualitative factors into the discussion of alternatives
 - Refrain from basing recommendation on own preferences instead of Janet's
 - Demonstrate a tone of giving advice, with Janet as the ultimate decision maker
 - Offer criteria that might lead to different decisions (e.g., importance of personal freedom, risk appetite and financial flexibility, or proximity to campus)
 - Be written as a cohesive document that does NOT read like a mere list of answers to Parts A-G

The sample memo shown on the next page satisfies all of the requirements listed above.

Sample Memo for Mini-Case 1.46

Memo

To: Janet Breton
From: Student
Date: July 20, 20XX
Re: Apartment versus Residence Hall Decision

Thank you for giving me the opportunity to help you decide whether to move into an apartment with your friend Rachel or live in the residence hall during your second year of college. This memo provides an analysis of the costs for these options, describes various other factors that are likely to influence your decision, and offers suggestions about how to make a final decision.

Cost Analysis

Based on the cost comparison shown in the attached schedule, the apartment might cost you \$85 per month less than the residence hall. However, you also need to consider whether at least some of the costs, such as apartment utilities and groceries, might turn out to be higher than expected. In addition, the attached schedule lists several costs that have not yet been factored in.

For the apartment alternative, you might need to make a rental deposit and buy more furniture, equipment, or household items. Depending on the apartment location, you might incur additional transportation costs. You should also consider the possibility that Rachel will not pay her full share of costs.

For the residence hall alternative, you might incur temporary housing costs between semesters.

Overall, the apartment alternative could cost more than the residence hall. I suggest developing estimates for additional costs and then factoring in an allowance to cover unforeseen items.

Factors Other Than Cost

A number of factors other than cost might be important for your decision, as listed below.

- Lifestyle in an apartment (e.g., greater personal freedom and privacy, physical space, ability to prepare your own meals)
- Lifestyle in the residence hall (e.g., easier access to other students and events on campus, greater security, avoid grocery shopping and preparing meals, etc.)
- How well you would get along with Rachel versus a residence hall roommate
- Whether you know enough about how Rachel handles her finances to be comfortable sharing apartment costs with her
- Commitment for six months' apartment rent versus commitment for four months' room and board in the residence hall (assuming you do not need to commit for an entire academic year)
- Time required for transportation to and from an apartment, unless the apartment is next to campus

SAMPLE MEMO FOR MINI-CASE 1.46 (Continued)

Making a Decision

As described above, you will need to consider quite a few factors before making a decision. You might think of additional items that are also important.

The first issue you need to resolve is whether you have the financial resources to cover all of the costs for an apartment, including unforeseen items. If not, then the residence hall may be the only realistic alternative. The residence hall is less risky because you will know your costs in advance and are less likely to incur unexpected costs.

If you have sufficient financial resources, then your decision is likely to depend on personal preferences. The apartment may be the better alternative if it is sufficiently attractive to you and outweighs the possibly higher cost.

Before making your final decision, you might want to consider still other alternatives. For example, is Rachel the best choice for a possible apartment roommate? What might you do if the roommate situation does not turn out well? Would it be possible and desirable to live in an apartment alone? Does the school have different residence hall options?

Please let me know if you would like to discuss these ideas or if I can be of further assistance.

Attachment: Memo to Janet Breton
July 20, 20XX

Comparison of Monthly Cost**Costs Already Identified:*****Residence Hall***

Room and board	\$725
Couch storage	35
	<u>\$760</u>

Apartment

Apartment rent	\$400
Utilities	75
Groceries	<u>200</u>
	<u>\$675</u>

Additional Costs to Be Considered:***Residence Hall***

Living costs between semesters
(assuming cannot stay in
residence hall)

Apartment

Additional furniture (bed, dresser, desk,
chair, dining set, lamps, etc.)
Household equipment and supplies
(vacuum cleaner, microwave, dishes,
cookware, etc.)
Transportation costs if apartment is not
within walking distance

ATTACHMENT FOR MINI-CASE 1.46 (Continued)

Deposit on apartment
Rachel's share of costs if she fails to pay

Costs Excluded from Computations:

Costs that would be identical under the two alternatives:

- Tuition \$7,500 per year
- Books \$450 per semester

Money already spent:

- Couch \$350

- I. The purposes of this question are to (1) encourage students to focus on Janet's needs while they write the memo and (2) provide professors with information about the range of factors considered and the priorities used in writing the memo.

Students with weak critical thinking skills tend to simply repeat what they said in their memos (perhaps with slightly different wording).

Students with strong critical thinking skills tend to describe:

- Their decision process for communicating with Janet (i.e., how they prioritized information when writing the memo)
- A wider range of factors than discussed in the memo
- Their assumptions about Janet's need for information

Grading and Assessment Rubric for Mini-Case 1.46

The next page provides a sample rubric that professors can use to grade and assess student responses to Mini-Case 1.46. Alternatively, students can use the rubric to self-assess their performance.

Note: Grading points are shown only for illustrative purposes. Each professor should decide: (1) the number of points for the entire assignment, (2) the breakdown of points across computations/schedule, communication, and critical thinking, and (3) the range of points for each level of performance.

The textbook instructor's manual provides more information about using this type of rubric.

Grading and Assessment Rubric
Mini-Case 1.46: Janet Breton's Residence Decision

	Weak	Average	Professional
Computations and Data Schedule Maximum 30 points Points Earned: __	Up to 20 points • Fails to correctly distinguish between relevant and irrelevant costs • Fails to adjust cost data for number of months • Fails to present data schedule, or presents schedule that is difficult to understand	Up to 25 points • Correctly distinguishes between relevant and irrelevant costs • Attempts to adjust cost data for number of months • Presents data schedule, but fails to provide supporting details for calculations	Up to 30 points • Correctly distinguishes between relevant and irrelevant costs • Applies a reasonable approach for adjusting costs data for number of months • Presents data schedule, along with supporting details; schedule and details are easy to understand
Written Communication Maximum 30 points Points Earned: __	Up to 20 points • Spelling or grammar errors interfere with understandability • Unprofessional language and/or improper memo format • Difficult to understand; poor organization • Fails to explain calculations, relevant information, and/or recommendations	Up to 25 points • Minor spelling and/or grammar errors, which do not interfere with understandability • Uses proper memo format, but uses some unprofessional language • Organizes memo into paragraphs that enable reader to understand calculations, relevant information, and recommendations	Up to 30 points • No spelling or grammar errors (or very minor) • Uses proper memo format including useful headings, and uses professional language • Concisely and clearly presents purpose, calculations, relevant information, and criteria/process Janet should use for making her decision
Critical Thinking Maximum 40 points Points Earned: __	Up to 20 points	Up to 30 points	Up to 40 points
Overall approach	• Focuses primarily on computations in making a recommendation	• Focuses primarily on supporting a single recommendation; appears to ignore or discount information that contradicts the recommendation	• Focuses primarily on providing Janet with the information she needs to make a decision, including criteria for weighing the options
Identify and analyze relevant information	• Makes erroneous statements about costs and/or qualitative factors	• Correctly interprets cost data and addresses at least some relevant factors not considered by Janet (cost and qualitative)	• Correctly interprets cost data and incorporates a wide range of relevant cost and qualitative factors that were not explicitly presented in the assignment
Identify and address uncertainties/risks	• Does not appear to recognize uncertainty about the costs and/or qualitative factors	• Identifies at least some uncertainties about the costs and/or qualitative factors	• Describes a range of important issues and risks that Janet should consider
Analyze problem from Janet's perspective	• Does not appear to be aware of Janet's perspective or makes incorrect statement(s) about Janet's preferences	• Acknowledges Janet, but addresses the problem primarily from own perspective	• Anticipates and addresses alternative preferences that Janet might hold
Total Points Earned: __ (100 maximum)			

1.47 Ethical Decision Making, Relevant Information, Risks, Biases – Entry-Level Accountant

- A. The ethical issue is whether it is proper for the entry-level accountant to work on a personal project for the roads department director and then bill his/her time to the employer (the city). The accountant's interests are potentially in conflict with those of the director, the boss of the accountant's home department, and the city's citizens and taxpayers.
- B. When identifying alternatives, there is a tendency to automatically filter out some of the options. When answering a question like this one, students should try to be as creative and open as possible. Below are some of the alternatives available for this problem; students may think of others.

One option is to refuse to work on the personal project. The accountant could then ask for other work to do or go home. Other options are to work on the personal project, and then to either bill the time to the city or choose not to report the time. Whether or not the accountant chooses to work on the personal project, there are many different things he/she could say or ways to act toward the director. For example, the accountant could express anger at the request, or express concern for the director's personal situation and offer to help on his/her own time. The accountant could seemingly agree to go along and then leave the time off of the time sheet. In addition, the accountant could potentially report this incident to his/her usual boss or to others (e.g., the accountant could follow the suggestions in CGA's *Independence Standard and Code of Ethical Principles and Rules of Conduct* as shown in the chapter).

- C. If the accountant goes along with the director's request and his/her boss finds out, the accountant risks losing his/her job or boss's trust. This situation could also have long-term repercussions. It is more difficult to regain a tarnished reputation than to create and maintain a positive one. Even if the accountant keeps his/her job, he/she may be overlooked for promotion or for interesting future work opportunities.
- D. Relevant information is anything (including facts, arguments, opinions, ideas, theories, concepts, observations, values, perceptions, beliefs, influences, etc.) that might help in evaluating and choosing a course of action. Information for this problem might include the city's policies (e.g., a code of ethics), as well as the accountant's knowledge and perceptions about factors such as the work culture, the director and his evaluation of the accountant's performance, interest in doing the requested work (whether or not paid for the time), desire for overtime pay, and ethical values.

MINI-CASE 1.47 (Continued)

- E. This is an open-ended problem because no one response is absolutely “correct.” Most people are likely to agree that it would be ethically inappropriate to work on the personal project and bill the time to the city. However, as discussed in Part B, there are other aspects to the decision. Exactly how should you respond to the director? Will he be offended if the work is performed but it is left off the time sheet? If you refuse to do the work, will you receive a poor evaluation from the director on the city-related work? Should you inform your usual boss? Is the director likely to use city resources for personal purposes again? If so, should you take action to prevent future occurrences? You cannot be certain exactly what to do.
- F.
1. To evaluate their own perspective on this problem, students should consider the pros and cons and how various options fit with their own priorities and ethical values. When placed in the position of an entry-level accountant, students might be reluctant to turn the director down. However, doing the work may not mean that they agree to bill the city for their time. Students will need to assess their comfort level with various responses. The quality of their working relationship and communication with their usual boss might also influence their response. If the usual boss is likely to support their position in this situation, they might be less concerned about how the director will respond. Students might also want to inform their boss about the situation to protect themselves in case the director gives them a poor performance evaluation. They will need to weigh their values, work interests, and potential repercussions in making their final decision.
 2. The department director apparently believes it is appropriate to bill the city for personal work. This might be a one-time situation, in which he is thinking less clearly due to personal emotional problems. Or, the director might routinely misuse city resources. From his behavior, he implicitly values the completion of this work at the city’s cost as more important than other potential values such as using city resources efficiently, complying with city policies, or treating the entry-level accountant fairly. He might have rationalized his behavior as follows: “I’ve worked for the city for years [or I’m not paid enough]; the city owes me.” “I had to work on personal projects for my bosses when I was a new employee.” “I wouldn’t need to do this if I weren’t going through a terrible divorce.” “There’s plenty of money in the budget.” “This will give the entry-level accountant some good work experience.”
 3. Assuming that the entry-level accountant’s usual boss does not have a close friendship or working relationship with the roads department director, the boss probably would not expect the accountant to perform this work or to bill the time to the city. The most important question is how the boss would respond if told about the situation, or if he/she learns about it from someone else. The boss might expect the accountant to handle the situation alone and view it as inappropriate if the accountant tells him/her about it. Sometimes “whistleblowers” are viewed with suspicion by others. Alternatively, the boss might see it as his/her job to mentor and protect the entry-level accountant. In that case, the accountant might lose some of the boss’ trust by not telling him/her about the situation and the boss learns about it from someone else.

MINI-CASE 1.47 F. (Continued)

4. Taxpayers clearly would not want the city to pay for personal work. The taxpayers might also prefer for this situation to be reported and investigated. If the director has asked the accountant to bill personal work to the city, then the director might have misused city resources in other ways. The taxpayers would like similar circumstances to be identified and dealt with to minimize the waste of future resources.
- G. Ethical conduct improves mutual trust and enhances an individual's reputation. Unethical conduct has the opposite effect. An entry-level accountant wants to establish a reputation as someone who can be trusted. It is his/her responsibility to create and further develop a positive reputation.
- H. There are many possible "scripts" that could be written. In writing a script, students should consider all of the factors identified in Parts A-G in choosing a course of action. Then they should consider how to communicate the decision to the director. Should they respond with concern and sympathy? Should they be firm and defend their actions? Should they agree to do the work and give themselves some more time to think about the billing aspect?
- I. Most of the answer for this part is already addressed in Part F.3 above. Students will need to consider the type of relationship the entry-level accountant has with the boss and also consider the boss's preferences. In addition, students may wish to follow recommendations in the CGA's *Independence Standard and Code of Ethical Principles and Rules of Conduct* (in the chapter). Those standards state "Members shall act in the interest of their clients, employers, and interested third parties, and shall be prepared to sacrifice their self-interest to do so. Members shall honour the trust bestowed on them by others, and shall not use their privileged position without their principal's knowledge and consent." In this problem, the accountant has two immediate superiors: the usual boss and the director. Since the director is clearly involved, it would be necessary to discuss the matter with the boss. *Note:* Because this incident occurred on a Saturday, the accountant will probably be unable to discuss it with the boss until the following work week and could not benefit from doing personal work for the director. Thus, the accountant will probably need to initially address the problem alone and then later report the incident to the boss.

1.48 Quality of Decisions, Risk Appetite, Bias – Maria and Tracey

- A. Maria appeared to use the following information in making her investment decision:
- Information learned during investment course, including different types of investments and strategies for investing
 - Information learned from an investment book
 - Risk/return trade-off for different types of investments
 - Need to balance risk against desired return
 - Higher risk leads to higher returns on average, but can also lead to low returns or even loss
 - Investment advisors recommend diversifying risky investments
 - One way to diversify is to invest in mutual funds
 - Maria's willingness to assume some risk, but not a high level
 - Information about different mutual funds obtained from reading *Consumer Reports*
- B. Tracey appeared to use the following information in making her investment decision:
- Investment strategies used by her boyfriend and other friends
 - Her boyfriend's cousin's recommendation about a start-up video game company
 - The opinion that the video games were very hot with teenagers and that the company would probably be acquired, resulting in big gains for investors
 - Her desire for a big gain
- C. Maria appeared to use reasonably high-quality information (see Exhibit 1.13). The information was obtained from various relatively objective and knowledgeable sources. She made use of a fairly large amount of relevant information to select an investment strategy, and then she used an understandable and objective source of information to help her select a mutual fund.
- D. Tracey appeared to use fairly low-quality information (see Exhibit 1.13). Most of the information consisted of personal opinions from people who most likely were not knowledgeable about investing and might have been biased.
- E. Maria appeared to use a logical decision-making process. She began by learning about investment strategies in a course, and then expanded her knowledge by reading a book. She then made an intermediate decision to invest in a mutual fund. That decision seemed to be based primarily on her willingness to assume some risk, the recommendation that she diversify her investment risk, and the fact that she did not have a large amount of money to spread across multiple investment opportunities. She then conducted additional research to identify a mutual fund that matched her personal willingness to assume risk.
- F. Tracey appeared to base her decision on what "sounded good" based on personal opinions from her boyfriend's cousin. She appeared to be biased toward an opportunity that might earn a large gain.

MINI-CASE 1.48 (Continued)

- G. Maria's decision-making process was fairly high quality (see Exhibit 1.13). She did not appear to be biased in her approach, and she used multiple sources of information to help her explore options. She identified some key factors that were important for her decision, identified her own values/priorities, and chose an investment option that was consistent with the information she had collected and with her values.
- H. Tracey's decision-making process was fairly low quality (see Exhibit 1.13). She explored alternatives only by talking with her boyfriend and friends. As soon as she heard about an opportunity that might result in a big gain, she stopped exploring options and made her decision. In short, she "jumped to a conclusion" without careful thought.
- I. Maria's decision-making approach was much higher in quality than Tracey's, as demonstrated in the answers to Parts A-H above. Notice, however, that in this case Tracey earned a higher return than Maria. When people hear that someone like Tracey earned a big gain, they often use it as evidence to argue that a higher quality decision making process is not needed. "If we can earn a big gain by finding a start-up company with a great product," they ask, "then why should we invest in something like a mutual fund, which has a lower average return?" In this investment decision, there is also a risk and return trade-off. Maria intentionally chose a lower level of risk, so she would not expect to earn an exceptionally high return. Tracey, on the other hand, was apparently willing to assume a higher level of risk (even though she might not have realized it), which on average might lead to a higher rate of return. However, Tracey did not carefully investigate her investment. If the company had not been acquired, she might have lost all or most of her investment. She now owns stock in only one company; her risk is not diversified. If the company does poorly in the future, then she may not be able to realize a large gain. Over time, people who use better decision making processes are more likely to obtain good results.

1.49 Integrating across the Curriculum (Auditing): Information Quality, Diagnostic Controls, Relevant Information to Auditors – Aden, Inc.

Note to Instructor: This problem will be very difficult for most students. It requires them to think complexly about the quality of evidence.

- A. *Note:* According to Exhibit 1.13, higher quality evidence is more certain, complete, relevant, timely, and valuable.
1. The ratio of defective televisions returned to the number of televisions sold is relevant for measuring the proportion of defective products sold to customers. This measure can be calculated fairly accurately, assuming that sales and service department records are accurate. However, it might under-report total product defects because customers might not return all defective televisions and some televisions may fail after the warranty period. It could also over-report total product defects if a single television is returned more than one time. This measure is not very timely; defect problems will not be detected until sometime after production problems have occurred. Ideally, the company would like to avoid selling defective products to customers.
 2. The monthly defective unit warranty costs recorded in the general ledger are relevant in monitoring product defects, and they should be measured accurately (assuming they are accurately recorded in the general ledger), but this measure does not provide timely information about production problems.
 3. The number of defects discovered during routine tests at the end of manufacturing is relevant in measuring defects that are discovered by testing procedures. The accuracy of this measure depends on the accuracy of the production records and on the accuracy of the tests. This measure is likely to under-report defect problems because it is difficult to design tests that will identify all possible defects. However, this measure is timely; it identifies defects at the end of production rather than after products are sold to customers.
 4. Customer survey responses are relevant in measuring customer perceptions about product quality. However, this survey is sent only to repeat customers, who are more likely than average customers to favor the company's products. Thus, the survey results are probably biased. In addition, managers may have difficulty interpreting the results unless findings are analyzed across time or compared to competitors. This measure is not as timely as measures that are captured during production.

MINI-CASE 1.49 (Continued)

B. Aden's managers might want to learn many things from monitoring product defects as part of a diagnostic control system. Below are several possibilities:

- Determine whether targeted defect rates or reductions in defect rates are achieved
- Determine whether targeted warranty costs or reductions in warranty costs are achieved
- Evaluate production employee performance
- Calculate bonuses or other awards that are tied to defect rate or warranty cost goals

C.

1. Aden's auditor must assess the reasonableness of the recorded warranty liability. The liability is estimated based on historical experience, updated for anticipated changes. Information about product defects would be relevant in assessing whether future warranty liabilities are likely to be higher or lower than in the past.
2. Aden's auditor must consider whether inventory should be written down. Product defects are relevant in making this assessment because they can cause the net realizable value of inventory to drop below cost.
3. Aden's auditor must consider whether the allowance for doubtful accounts receivable is reasonable. Product defects may be relevant to this assessment if major quality problems occur after products are sold and then customers refuse to pay.

1.50 Integrating across the Curriculum (Technology and Information Systems): Internal and External Information, Internal Reports, Business Risk – RFID Technology

- A. Information from RFID tags is internally generated. The information is about inventory levels and sales, and tracks loss of product through shop-lifting and employee theft.
- B. Walmart's in-store research on the RFID technology was most likely used to support organizational strategies. The company was probably testing the technology to evaluate its feasibility and usefulness. The company had not yet implemented the technology as part of its operating plans, which also means that the tests occurred before usual monitoring and motivating activities would be established.
- C. Walmart was probably testing the RFID technology to learn how well it would track inventory receipts and sales and reduce shop-lifting. Given this purpose, it was better for customers to be uninformed that a test was taking place. The test would provide more useful results if customers behaved in a normal manner. On the other hand, Walmart received significant negative publicity after news was released that a test had taken place. Consumer advocate groups were concerned that Walmart could use the technology to track where products go after they leave the store, invading customer privacy. The lack of disclosure was viewed as evidence of impropriety by Walmart. Thus, Walmart faced business potentially negative political and social reactions to its conduct.
- D. Walmart was not planning to use the RFID information to analyze individual consumer behavior. Instead, it was analyzing trends that would help improve operational efficiency. Individual consumers would not be affected by the practice. On the other hand, the company could potentially use the information for other purposes in the future. The possibility that individual behavior could be studied would be viewed as an invasion of privacy by some customers.

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