

The Role of Accounting Information in Ethical Management Decision Making

in brief

Managers use cost accounting information to make different types of decisions, which include developing long-term strategies and creating short-term operating plans. Managers achieve higher-quality decisions by using higher-quality relevant information and decision-making practices. Accounting information systems often focus on the data needed for financial reporting rather than for management decision making, so managers need to appropriately identify the relevant information for internal decisions. Cost accounting information is also used as part of an organization's control systems, to measure and monitor organizational performance and to motivate employees to take actions consistent with organizational strategies. Some controls ensure that operations proceed according to planned strategies and others help managers determine whether strategies should be altered. Controls also include codes of conduct, values statements, and other mechanisms to ensure ethical behaviour. Although ethical behaviour can be improved through control systems, it ultimately depends on the ability of individuals to recognize ethical dilemmas and consider the well-being of others and society when making decisions. ■

After studying this chapter, you should be able to do the following:

L01

Describe the process of strategic management and decision making

L02

Identify the types of control systems that managers use

L03

Explain the role of accounting information in strategic management

L04

Explain the information systems and information that are relevant for decision making

L05

Describe how business risk affects management decision making

L06

Appreciate how biases affect management decision making

L07

Determine how managers make higher-quality decisions

L08

Explain the importance of ethical decision making

Good Ethics Makes Good Business



© Pixellover RM 10/Alamy Stock Photo

Like many electronics companies, **Apple Inc.** moved its manufacturing overseas to lower its labour costs. But the cost-cutting strategy backfired by hurting Apple's reputation when stories came to light about poor working conditions at factories owned by its contract manufacturer, **Foxconn Technology Group**, in China. Allegations of Foxconn employees being forced to work long hours with low pay, in factories with poor health and safety records, caused a public backlash against Apple, one of the world's richest companies.

Apple responded by joining the Fair Labor Association (FLA) and agreeing to submit some of the Foxconn factories to an FLA audit. When the audit uncovered that the factories did not comply with the FLA's Workplace Code of Conduct and violated some Chinese labour laws, including those regarding working hours and pay, Apple and Foxconn vowed to comply. Apple now produces an annual Supplier Responsibility Progress Report to document the steps it's taken to improve working conditions at its contract factories in China and 18 other countries, including implementing programs to educate workers, stepping up the monitoring of working hours, and increasing the number of audits of working conditions.

Facing its own international scrutiny, Foxconn—China's largest private employer—raised its employees' wages. That resulted in two other of its tech giant clients—**Hewlett-Packard** and **Dell Inc.**—warning that they may need to raise the price of their consumer goods to cover increased supply chain costs. Apple didn't indicate whether it would do the same. There was speculation in the news media that Apple could absorb higher production costs due to its relatively high profit margin compared with competitors.

Apple's efforts to improve working conditions at Foxconn still met with disapproval from some observers. This included a securities analyst whose concerns over unethical business practices spurred him to write a note advising investors to sell their shares in Apple (along with shares in retail giant **Amazon.com, Inc.**, which he criticized for treating warehouse workers poorly, and cigarette maker **Philip Morris International**, which he took to task for making a dangerous product). While the analyst's recommendation didn't seem to affect those companies' share prices, it did succeed in gaining more publicity for the role of ethics in business decision making.

Growing public awareness of the need for corporate social responsibility, including the treatment of workers, means that management accountants need to consider possible effects on their employer's reputation when making cost decisions. The possibility of consumer boycotts or stock analysts' devaluation in reaction to possible unethical behaviour are just two of many factors that need to be taken into account in management decision making. Saving money by making a publicly unpopular decision might not be worth it in the long run.

SOURCES: D. Jeffries, "Is Apple Cleaning Up its Act on Labour Rights?," *The Guardian*, March 5, 2014; A. Lewis, "Analyst Shunned after Knocking Apple, Amazon for Ethics," *Marketwatch.com*, January 15, 2014; J. C. Hyatt, "Apple, Foxconn, Promise Improvements for Workers," *Business-ethics.com*, March 29, 2012; K. Eaton, "Apple and Foxconn's Ethics Hit Your Gadget Prices," *FastCompany*, February 24, 2012; Apple Inc. corporate website, www.apple.com.

Strategic Management and Decision Making

L01

Describe the process of strategic management and decision making

People at different levels within an organization continually make many different kinds of decisions that range from the broad and long-term, such as which markets the organization will pursue, to detailed and short-term, such as how to respond to a customer on the telephone. All decisions, no matter how large or small, influence an organization's ability to achieve its overall purpose. Exhibit 1.1 presents an overview of the strategic management process. To better understand the flow of information and decision making, we consider how each part of Exhibit 1.1 relates to the strategic management of **Netflix**, one of the world's largest online entertainment subscription service.¹

Organizational Vision

The most far-reaching decisions managers make identify and shape the organization's vision. The **organizational vision** is a core purpose or ideology that guides the organization's overall direction and its approach regarding various stakeholder groups.

In his 2008 letter to shareholders, Reed Hastings—the chief executive officer, president, and co-founder of Netflix—described the company's vision through the following statements:²

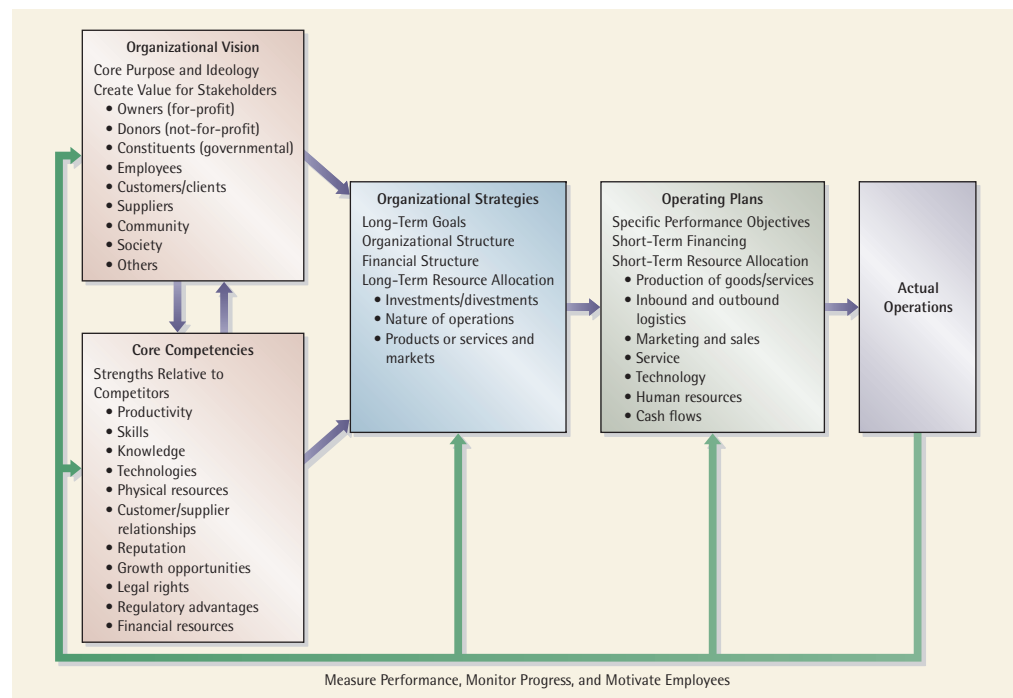
- ▶ We combine a superior value proposition with an outstanding customer experience, and we continually improve our product offering through investments in our website, content, distribution, and customer care.
- ▶ We remain focused on our long-term goals: To be a great Internet movie service by combining DVD-by-mail with Internet streaming . . .

Organizational Core Competencies

Organizational core competencies are the organization's strengths relative to its competitors', which creates value for stakeholders. Exhibit 1.1 presents many different areas of potential organizational strength. Managers typically identify core competencies by studying the organization's strengths, weaknesses, opportunities, and threats, an exercise called a **SWOT analysis**.

EXHIBIT 1.1

Overview of Strategic Management Process



¹ Netflix Inc., 2008, Fact Sheet, downloaded from ir.netflix.com in December 2009.

² Excerpts from Letter to Shareholders, Netflix 2008 Annual Report, pp. 5–9.

Organizational Vision		
Core Purpose and Ideology Create Value for Stakeholders		
• Owners (for profit)	• Employees	• Community
• Donors (not-for-profit)	• Customers/clients	• Society
• Constituents (governmental)	• Suppliers	• Others

➤ **EXHIBIT 1.2**

Organizational Vision

Organizational Core Competencies		
Strengths Relative to Competitors		
• Productivity	• Physical resources	• Legal rights
• Skills	• Customer/supplier relationships	• Regulatory advantages
• Knowledge	• Reputation	• Financial resources
• Technologies	• Growth opportunities	

➤ **EXHIBIT 1.3**

Organizational Core Competencies

➤ **BUSINESS PRACTICE****The Vision of Cara Operations Ltd.**

Cara owns many of Canada's favourite restaurants, including Swiss Chalet, Harvey's, Kelsey's, Montana's Cookhouse, and Milestone's Grill & Bar, as well as Cara Airline Solutions, an airline caterer. Cara's vision is "To be Canada's leading branded restaurant and airline services company."

Its five principles are

1. Quality
2. Responsibility
3. Integrity
4. Efficiency
5. Independence

Source: Cara Operations Limited website, www.cara.com.

The organizational vision (Exhibit 1.2) and core competencies (Exhibit 1.3) are closely related, and the vision should build on existing and achievable strengths.

In its 2008 annual report, Netflix's managers identified the following competitive strengths:³

- ▶ Comprehensive library of titles
- ▶ Personalized merchandising
- ▶ Size of subscriber base
- ▶ Convenience, selection, and fast delivery

Organizational Strategies

Organizational strategies (Exhibit 1.4) are the tactics that managers use to take advantage of core competencies, while working toward the organizational vision. Strategies guide long-term decisions, such as the proportion of financing through debt and equity, types of goods and services offered, and investments in property, plant, and equipment. Some of these decisions are made and then rarely reconsidered (e.g., form of business organization). Other strategic decisions, such as goods and services offered, are re-evaluated periodically. Managers also establish long-term goals, such as market leadership or high-quality customer service.

Netflix's managers have announced the following strategies for long-term growth:⁴

- ▶ Provide compelling value for subscribers.
- ▶ Utilize technology to enhance subscriber experience and operate efficiently.
- ▶ Build mutually beneficial relationships with entertainment video providers.

These strategies have guided Netflix managers' long-term decisions, such as the following:

- ▶ Utilize proprietary technology to efficiently deliver DVDs and stream content over the Internet.
- ▶ Establish ties with movie and television series video providers.

³ Competitive Strengths, Netflix Inc., Form 10-K, filed with the United States Securities and Exchange Commission, year ended December 31, 2008, p. 3.

⁴ Excerpts from Letter to Shareholders, Netflix 2008 Annual Report, pp. 5–9.

> EXHIBIT 1.4

Organizational Strategies

Organizational Strategies	
Long-Term Goals Organizational Structure Financial Structure	Long-Term Resource Allocation • Investments/divestments • Nature of operations • Products or services and markets

> EXHIBIT 1.5

Operating Plans

Operating Plans		
Specific Performance Objectives Short-Term Financing Short-Term Resource Allocation		
• Production of goods/services • Inbound and outbound logistics • Marketing and sales	• Service • Technology	• Human resources • Cash flows

- ▶ Create an extensive database of customer movie preference data.
- ▶ Acquire over 100,000 movie titles.
- ▶ Establish a nationwide network of shipping centres.
- ▶ Develop and maintain a website to enhance subscription signup and management and personalized customer service.
- ▶ Register and enforce intellectual property rights (e.g., patents, trademarks, copyrights, and confidentiality agreements).

Operating Plans

Operating plans (Exhibit 1.5) involve specific short-term decisions that shape an organization's day-to-day activities, such as drawing cash from a bank line of credit, hiring an employee, or ordering materials. These plans often include specific performance objectives, such as budgeted revenues and costs.

Netflix's managers make plans for numerous day-to-day and other short-term objectives; examples include the following:

- ▶ Launching advertising promotions (e.g., online, television, radio, and direct mail).
- ▶ Shipping and receiving DVDs to/from customers.
- ▶ Delivering content via the Internet.
- ▶ Monitoring third-party contracts for the collection of customers' monthly subscription fees.
- ▶ Randomly testing customer service levels.
- ▶ Maintaining the website and customer database.
- ▶ Managing inventory of over 72 million DVDs.
- ▶ Hiring and training employees.
- ▶ Producing and updating accounting records.

> INTERNATIONAL

Chrysler launched a strategy to cut costs by sharing parts across its Mercedes, Chrysler, and Mitsubishi brands. This strategy led to quality deficiencies in Mercedes vehicles, the company's most valuable brand.⁵ It's not known how much this contributed to Mercedes reverting ownership back to **Daimler-Benz** in 2007, or to Chrysler's bankruptcy proceeding in 2009 that saw it become controlled by Italian automaker **Fiat**.

Actual Operations

Actual operations are the various actions taken and results achieved over a period of time. These include customer orders received, revenues earned, number of employees hired, costs incurred, units of goods or services produced, cash received and paid, and so on. Data about actual operations are collected and measured by the organization's information system and then used to monitor and motivate performance.

⁵G. Edmondson and K. Kerwin, "Stalled," *BusinessWeek*, September 29, 2003, pp. 54–56.

Measuring, Monitoring, and Motivating Performance

The feedback loop in Exhibit 1.1 encompasses the systems and routines that managers use to increase the likelihood of organizational success. These systems are often called **management control systems**. For example, managers need information about costs to help decide whether to sell a particular product. They also need information to measure actual operations so that they can monitor the success of their decisions and motivate employees to work toward the organizational vision. Decisions are monitored by comparing actual operating results against plans, such as budgets, and against long-term goals. Desirable employee behaviour is often motivated by tying employee performance evaluation and pay to long-term or short-term results. An organization's information system can be designed to measure and report information used for decision making as well as for monitoring and motivating, as shown in Exhibit 1.6.

Management control systems include planning, monitoring, and motivating, as well as controlling and measuring performance. Managers use management accounting information to facilitate a management control system. Budgets help to quantify planning and accounting, and cost reports help to guide control and performance evaluation. The learning from the process provides feedback for organizations to improve planning, control, and performance. Exhibit 1.7 shows how the management control systems and management accounting interconnect to help managers implement company strategy.

EXHIBIT 1.6

Measuring Performance, Monitoring Progress, and Motivating Employees

Measuring Performance, Monitoring Progress, and Motivating Employees			
Compare Actual Operating Results	Reward Employees	Report to Stakeholders	Provide Information for Evaluation of Organizational
• Specific performance objectives • Progress toward long-term goals	• Performance evaluation • Bonuses or other compensation	• Internal reporting • External reporting	• Vision • Core competencies • Strategies • Operating plans

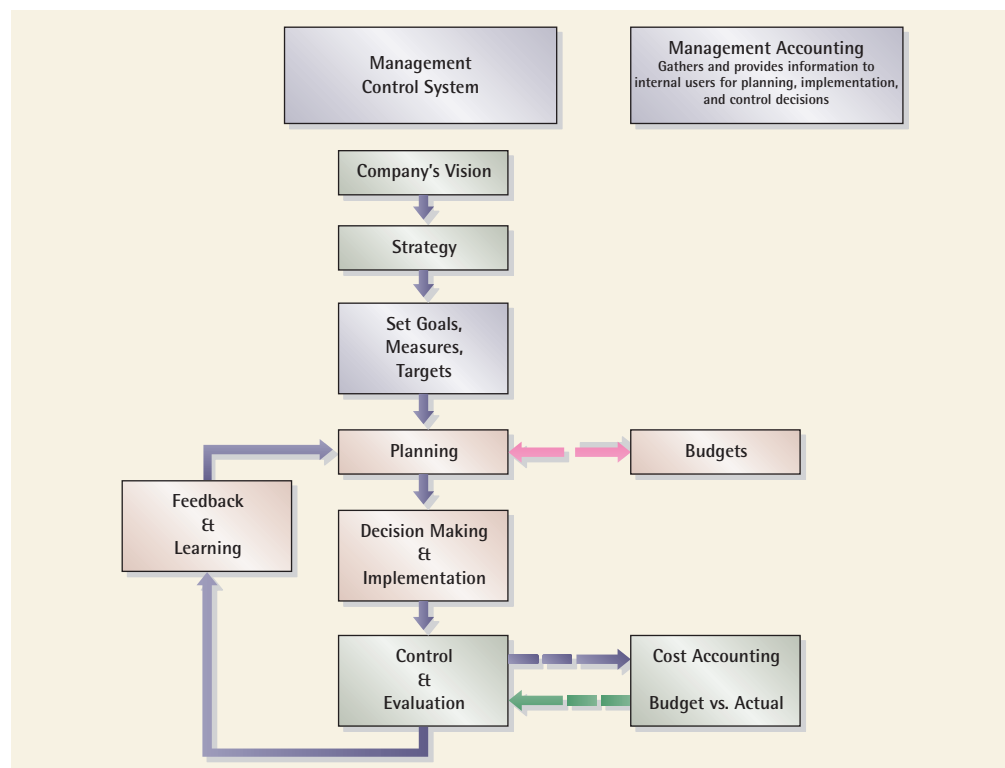


EXHIBIT 1.7

The Role of Management Control Systems and Management Accounting in Strategy

Levers of Control

L02

Identify the types of control systems that managers use

According to Robert Simons, a professor at Harvard University and corporate consultant, managers use four levers of control to measure and monitor organizational performance and motivate employees to take actions consistent with organizational strategies.⁶ Some controls ensure that operations proceed according to planned strategies, and other controls help managers determine whether strategies should be altered. Managers select and use these four systems to control business strategy, including compliance with organizational plans and guidelines, as well as for empowerment of employees in envisioning and adapting to changing economic conditions.

Belief Systems

Organizational success increases when employees understand the organization's core values and work collectively to achieve them. **Belief systems** inspire and direct employees to take actions that are consistent with the organizational vision. Managers may communicate belief systems using one or more formal statements, which may vary from organization to organization. In general, a **vision statement** is a theoretical description of what the organization should become. A **mission statement** is a high-level declaration of the organization's purpose. A **core values statement** is a summary of the beliefs that define the organization's culture. Some managers publish additional statements, such as the organization's social or environmental responsibilities.

Netflix does not appear to publish formal vision, mission, core values, or other statements. The organizational vision is, instead, communicated through various declarations made by top management, such as the excerpts quoted above from CEO Reed Hastings's 2008 Letter to Shareholders.⁷

Boundary Systems

Every organization faces risks that should be avoided. For example, unethical or illegal behaviours compromise an organization's position with investors, regulators, customers, and suppliers. Extremely risky investments expose the organization to financial disaster. The launching of unauthorized projects diverts financial resources and management attention from projects that are more likely to achieve strategic goals. **Boundary systems** establish limits on individual behaviour. Common boundary systems include codes of conduct and budgets, which limit specific behaviours, and also include procedures for ensuring compliance. For example, approval may be required for capital expenditures or investments that exceed certain limits, and internal auditors may investigate possible violations of operational procedures or ethical rules.

EXHIBIT 1.8

Four Levers of Control

Belief Systems	Boundary Systems	Diagnostic Control Systems	Interactive Control Systems
Create core values which enhance employees shared values to achieve the organization's goals.	Establish limits on individual behaviour to avoid organizational risks.	Measure, monitor, and motivate employees to achieve the organization's preset goals.	Require managers to communicate interactively and stimulate debates when the organization faces strategic uncertainties.

⁶ R. Simons, *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal* (Boston: Harvard Business School Press, 1995).

⁷ Additional information can be found in the company's Fact Sheet; the company's annual Form 10-K, filed with the United States Securities and Exchange Commission; and other information available at ir.netflix.com.

Netflix publishes a code of ethics and an insider trading policy on its website. The code of ethics addresses matters of honesty, conflicts of interest, compliance with laws and regulations, internal reporting of ethical violations, and disciplinary actions.⁸ The insider trading policy is designed to prevent officers, directors, employees, and others from violating securities laws by trading on nonpublic information affecting the company's stock price.⁹

Diagnostic Control Systems

Managers establish **preset goals** that must be achieved for the organization's strategy to be successful. These goals are set for variables—such as income, market share, and manufacturing output—that are critical to success. Progress toward preset goals is monitored and reported. For example, Netflix's top managers have probably established a variety of long-term and short-term goals for variables such as subscriber growth, subscriber retention, customer satisfaction ratings, DVD delivery time, and financial gross margins. **Diagnostic control systems** measure, monitor, and motivate employees to achieve preset goals.

Managers throughout an organization regularly analyze reports relating to preset goals to determine whether operations are proceeding according to plan. They must decide whether actions should be taken to bring operations back under control. Common diagnostic control systems include budgets and variances (Chapters 10 and 11), performance evaluation measures and rewards (Chapter 15), and balanced scorecards (Chapter 16).

To motivate managers and employees to achieve planned results, diagnostic control systems are often used for personnel evaluation. Bonuses or other forms of compensation are often based on achieving or exceeding budgets or other preset goals. Such rewards can, however, encourage **suboptimal decisions** and actions that benefit the employees or their business units at a cost to the organization. Suppose Netflix employees are rewarded for quickly processing returned DVDs. The employees may fail to notice that a particular DVD is damaged and should not be sent out again, as customers become dissatisfied when they receive damaged DVDs too frequently. In a manufacturing setting, poor-quality work by one group of employees can have a ripple effect through the rest of the production process.

▶ ALTERNATIVE TERMS

Preset goals are sometimes called *critical performance variables* or *performance targets*.

▶ CHAPTER REFERENCE

Chapters 17 and 18 discuss performance measures and their intended and unintended consequences.

Interactive Systems

Organizations typically operate in dynamic and uncertain business environments that threaten current strategies or cause them to become obsolete. For example, Netflix operates in an environment of continual change, such as the introduction of Blu-ray DVDs and increased use of Internet video streaming. Although Netflix managers know about the existence of these shifts, they cannot know how quickly a shift will occur, which DVD and download technologies will ultimately prevail, or how competition will change. **Interactive control systems** are recurring sets of information that demand attention from managers at many levels. The information requires them to communicate interactively and stimulates debates about what the information means, leading to new insights about strategic challenges and opportunities. For example, Netflix managers could review monthly reports about market share, customer base, and competitor's actions, and then discuss the information in meetings across employee levels as part of an interactive control system.

Controls—such as budgets, variances, and balanced scorecards—might operate as either diagnostic or interactive control systems, depending on their use. Information from interactive systems focuses manager attention on strategic risks, encourages discussions between managers and subordinates, and promotes reconsideration of the entire process shown in Exhibit 1.1—organizational vision, core competencies, strategies, and operating plans.

⁸Netflix Inc., Code of Ethics, ir.netflix.com/documentdisplay.cfm?DocumentID=73.

⁹Netflix Inc., Insider Trading Policy, ir.netflix.com/documentdisplay.cfm?DocumentID=74.

Cost Accounting and Decision Making

LO3

Explain the role of accounting information in strategic management

What is cost accounting, and how does it relate to the ideas of measuring, monitoring, and motivating? **Cost accounting** involves the process of tracking, recording, analyzing, and determining the cost of an organization's project, process, or activity. Cost accounting helps managers understand the costs of operating a business so that they can use the information to make sound business decisions, particularly to reduce the company's costs and to improve its profitability and productivity.

Management Accounting and Financial Accounting

Cost accounting information is used for both management and financial accounting activities. **Management accounting** is the process of gathering, summarizing, and reporting financial and nonfinancial information used internally by managers to make decisions. Because the information gathered is mainly for internal uses, management accounting is not bound by International Financial Reporting Standards (IFRS) or Canadian Accounting Standards for Private Enterprises (Canadian ASPE). Management accounting information helps managers plan, control, and measure performance. It is future oriented and concerned with reporting on a segment of an organization. An example of cost accounting information that is also management accounting information is a breakdown of customer service costs by both product line and average cost per customer service call.

Financial accounting is the process of preparing and reporting financial information that is used most frequently by decision makers outside the organization, such as shareholders and creditors. Due to the fact that the information is for external users, financial accounting must be prepared in accordance with IFRS or Canadian ASPE. The information gathered from financial accounting is historical fact and is primarily concerned with the organization as a whole. An example of cost accounting information that is also financial accounting information is the valuation of ending inventory shown on the balance sheet.

A Brief History of Cost Accounting

Cost-accounting techniques were first developed in the early 1800s. As organization size increased, the need for measuring, monitoring, and motivating performance grew. By the mid-1800s, cost accounting practices were well developed. For example, railroad accountants calculated the cost per ton-mile and operating expenses per dollar of revenue. One of the earliest detailed costing systems was developed for Andrew Carnegie's steel mills, for which material and labour cost information were produced daily. Then, in the early 1900s, organizations were required to provide external reports such as financial statements and tax returns. Because the cost of keeping two sets of books for separate information requirements was relatively high, cost accounting focused primarily on information for income tax returns and financial statements.

From the early 1900s until the mid-1970s, cost accounting practices changed very little. However, as the business environment became more global, competition increased, and, in turn, demand grew for more sophisticated cost accounting information. Recent technological innovation has enabled cost accountants to develop previously infeasible cost accounting systems. Today, cost accounting information is used for a variety of purposes, including internal decision making, measurement and monitoring of performance at all levels, and alignment of employee and stakeholder goals. Furthermore, managers now use cost accounting information to analyze the profitability of customers and to coordinate transactions with suppliers—extending traditional cost accounting beyond the walls of the organization.

➤ BUSINESS PRACTICE

In Canada, the accounting profession has been unified at the national level with the establishment of the Canadian Chartered Professional Accountant (CPA) designation and the formation of the Chartered Professional Accountants of Canada (CPA Canada). CPA Canada represents and provides professional development for accounting professionals across various industries and sectors. For more information, see its website at www.cpacanada.ca.

Strategic Cost Management

Cost accounting is often defined narrowly as relating to the measurement of costs within an organization. However, cost accounting information is increasingly being defined more broadly to include both financial and nonfinancial information, and to include items that do not relate strictly to the measurement of costs. From this trend, a new term has been introduced: **strategic cost management** refers to simultaneous focus on both reducing costs and strengthening an organization's strategic position.¹⁰ As strategic cost management gains in popularity, organizations are also adopting balanced scorecards. The **balanced scorecard** is a formal approach used to help organizations translate their vision into objectives that can be measured and monitored using both financial and nonfinancial performance measures.

The role of cost and managerial accountants is much broader today than it was in the past. In this text, therefore, we not only talk about techniques for generating cost accounting information but also discuss how to use that information in business decisions. You'll learn to recognize and work with information that is not perfect. Specifically, you'll learn how both uncertainties in cost accounting information and decision-maker bias can result in poor decisions.

> CHAPTER REFERENCE

See Chapter 19 for a complete discussion of the balanced scorecard.

Information Systems and Relevant Information in Management Decision Making

Managers use many types of information to help make decisions. Information can be gathered formally or informally. Formal methods include point-of-service optical character readers, such as those used when customers purchase merchandise at retail stores. Such systems track inventory levels, geographic distribution of sales, trends, relationships between prices and sales, and so on. Informal methods of collecting information, from both inside and outside an organization, are also important. For example, individuals inside a company often gather product pricing information by reading industry trade journals or examining competitors' websites.

Most organizations have many databases that contain information collected formally or informally from internal or external sources. Access to database information is often restricted to specific individuals. In addition, much valuable information is not readily accessible because it is not formally captured by an information system but held in the minds of employees. This information is called *intellectual capital*. Thus, it is difficult for decision makers, even within an organization, to gain access to all the information they might wish to use. It is easy to argue that managers should obtain more and better information to help make decisions. However, the benefit must exceed the cost of generating information.

L04

Explain the information systems and information that are relevant for decision making

Internal and External Reports

To facilitate decision making and meet external reporting requirements, accounting departments use software to generate a variety of internal and external reports that summarize or highlight information. An **internal report** is a document that presents information for use only inside an organization. An **external report** is a document that presents information for use outside an organization. Exhibit 1.9 summarizes common types of internal and external reports.

Internal reports are designed to provide information for the types of management decisions introduced in Exhibit 1.1 and to support the control systems shown in Exhibit 1.8. Some internal reports, such as monthly sales summaries, are issued regularly, while others, such as the analysis of a potential business acquisition, are generated for one-time use.

> BUSINESS PRACTICE

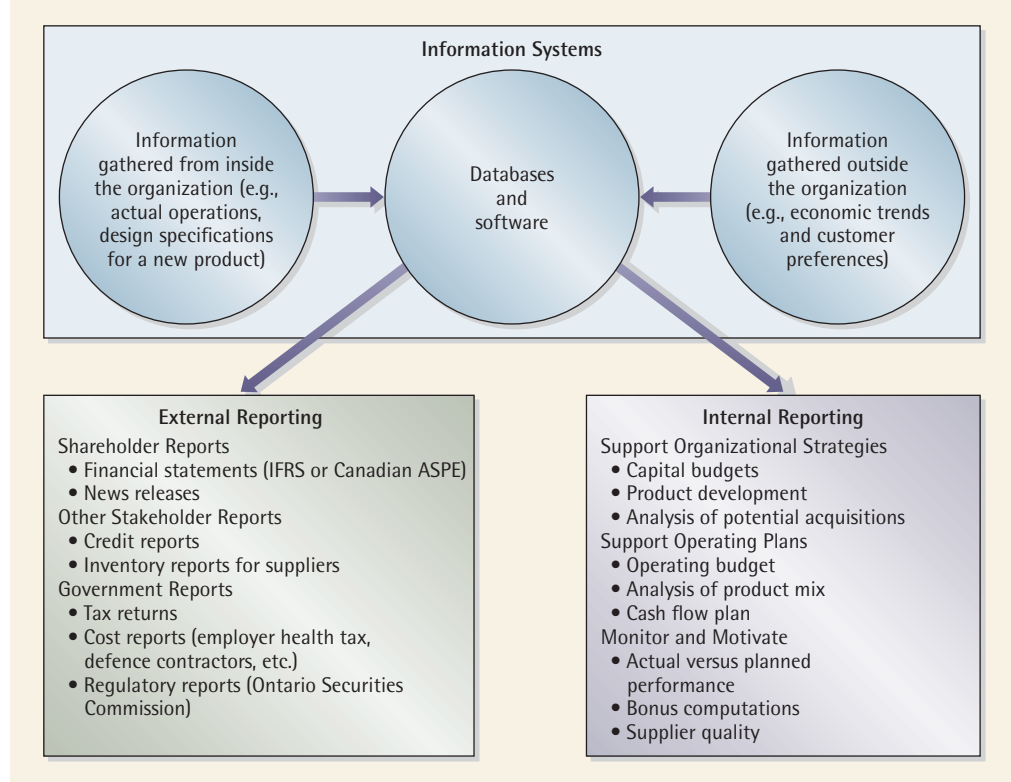
U.S. hospital managers analyze reports on the percentage of receivables exceeding 90 days. This information helps them quickly learn about and correct patient billing errors, insurance claim difficulties, and other revenue problems.¹¹

¹⁰ See R. Cooper and R. Slagmulder, "The Scope of Strategic Cost Management," in James Edwards (ed.), *Emerging Practices in Cost Management* (Boston: Warren, Gorham & Lamont, 1999).

¹¹ E. Guyton and C. Lund, "Transforming the Revenue Cycle," *Healthcare Financial Management*, March 2003, pp. 72–78.

EXHIBIT 1.9

Examples of Internal and External Reports



External reports can be distributed to different constituencies for many purposes. Some external reports, such as income tax returns, are required, while others, such as a news release about a joint venture agreement, are discretionary. Some reports, such as financial statements given to a supplier to obtain credit, facilitate business activities.

Although reports are developed for a specific audience, they may be used for other purposes at the same time. For example, internal reports such as quarterly sales data can be shared with people outside the organization. Similarly, external reports such as financial statements are sometimes used within the organization. In addition, organizations use reports prepared outside the organization (e.g., by consultants or vendors) for internal decision making.

Improvements in Information for Management Decision Making

BUSINESS PRACTICE

In 2008, **IBM** bought **Cognos**, a Canadian company, as part of a strategy to expand IBM's vision as the leading business intelligence (BI) and performance management provider. The acquisition of Cognos enabled IBM to provide its customers the ability to operate "multiple non-IBM technologies, solutions, and services in heterogeneous environments."¹²

The detail and quality of organizational data have improved in recent years. Historically, an organization used one accounting system that gathered data for financial statements. These data, prepared using IFRS or Canadian ASPE, were used for both external and internal reporting. This type of information was not always ideal for management decision making, and as a result, resources were often poorly allocated, leading to operating and investment inefficiencies.

Business Intelligence and Process Management Systems

Business intelligence (BI) and **business process management (BPM)** are software products that help managers reduce costs, improve profitability, and control operations. BI creates integrated systems across an organization or between an organization and its customers and suppliers to improve management of employee teams, customer service, and supply chains.

¹²Global Partner Community Supports IBM Acquisition Of Cognos, www.businesswire.com/news/home/20080206005813/en/Global-Partner-Community-Supports-IBM-Acquisition-Cognos#.Vd4Oy3nbLDc.

BI systems may be used for strategic planning, budgeting, financial consolidation, decision support, and reporting to support diagnostic and interactive controls. BPM software supports the design, execution, and monitoring of repetitive, day-to-day business processes. For example, BPM systems might track the status of customer orders or monitor direct material usage and trigger purchases at the optimal time. BPM systems can also create data, such as product defect rates or customer processing time, which are used in diagnostic or interactive control systems.

Relevant Information for Decision Making

Managers make more efficient and higher-quality decisions when they carefully identify information that is relevant to a given decision. **Relevant information** helps decision makers evaluate and choose among alternative courses of action. It concerns the future and varies with the action taken. On the other hand, **irrelevant information** does not vary with the action taken and, therefore, is not useful for decision making. Although the information may be accurate, it simply does not help the decision maker evaluate the alternatives. Whether a given type of information is relevant or irrelevant depends on the decision being made and other factors.

Relevant and Irrelevant Cash Flows

Cash flows are commonly used as information in management decisions. Thus, managers often need to distinguish between relevant and irrelevant cash flows. **Relevant cash flows** are **incremental cash flows**; that is, they occur under one course of action or decision alternative but not under another. Such cash flows are also called **avoidable cash flows** because they are avoided if the course of action or decision alternative is not taken. They are relevant because they help managers distinguish among alternatives. Suppose management is deciding between two courses of action: whether to lease or build office space. The costs of constructing the building are avoidable cash flows if management chooses the lease alternative. Therefore, the costs of constructing the building are relevant to the lease-or-build decision.

Irrelevant cash flows, also called **unavoidable cash flows**, occur regardless of which course of action or decision alternative is chosen. They are irrelevant to a specific decision because they do not help managers choose among alternatives. Whether the organization leases or builds office space, it will still incur electrical costs for lighting. Therefore, electrical costs are an unavoidable cash flow, making them irrelevant to the lease-or-build decision.

Relevance of Income Statement Information

Because financial statements are readily available, managers tend to use income statements to help them identify relevant information. However, the information in income statements may or may not be relevant for a given decision.

Costs in an income statement are categorized as product and period costs. For a manufacturer, **product costs** are the total manufacturing costs of units that are sold during the period, usually called **costs of goods sold** on the income statement. Other operating costs, such as marketing, advertising, and administration, are called **period costs**. Product costs include the costs of direct materials, direct labour, and manufacturing overhead. Following are examples of these costs for a snowboard manufacturer. Direct materials include the lumber for each board's base, metal strips for the edges, and fibreglass coatings. Direct labour is the labour required to put these materials together. Manufacturing overhead consists of all manufacturing costs other than direct materials and direct labour.¹⁴ For a snowboard manufacturing plant, equipment costs, salaries for supervisors, and many costs related to operating the physical plant are categorized as manufacturing overhead costs and are assigned to each board or batch of boards using one of many allocation methods that we will learn in later chapters of this textbook.

► BUSINESS PRACTICE

An **International Data Corporation (IDC)** study indicates that the Canadian financial services sector is adopting business intelligence (BI) and analytics software applications to help manage risk, regulatory compliance, competition, and to understand customer behaviour.¹³

► CHAPTER REFERENCE

Chapter 2 provides formal definitions and more details about direct materials, direct labour, manufacturing overhead, fixed costs, and variable costs.

¹³The Role of Business Intelligence and Analytics in the Canadian Financial Services Sector: An Analysis of Trends, Challenges, and Strategies, International Data Corporation (IDC), www.idc.com/getdoc.jsp?containerId=CA1BD14.

¹⁴For more information about snowboard manufacturing, see B. Fox, *Revolution Snowboard Factory Tour*, video available at vimeo.com/3913183.

Some costs are variable—their total amounts increase or decrease in proportion with production volumes. For example, each board requires a thin strip of wood as the base and a metal strip for the edges. Therefore, the total cost of lumber and metal increases in proportion to the number of boards manufactured. Other product costs are fixed—they do not increase or decrease proportionately with changes in production volume. For example, the supervisor's salary and factory building depreciation are fixed costs.

For many business decisions, relevant information includes the incremental cost to produce additional units of a product. Managers tend to estimate this cost using the cost per unit from their income statements. However, accountants calculate cost of goods sold by combining fixed and variable manufacturing costs and calculating an average cost for each unit. Therefore, cost of goods sold includes fixed costs, which are often irrelevant for decision making. In addition, relevant costs might include some period costs, which managers may overlook. The following illustration provides an example of the problems encountered when the income statement is used to make a decision about internal operations.

example

snow-blade snowboards

IDENTIFYING RELEVANT COSTS

Snow-Blade Snowboards manufactures and sells snowboards. Recently, a representative from a sporting goods distributor in Finland contacted Kris Kransky, the general manager, about purchasing 1,000 snowboards at \$100 each. The distributor does not currently sell snowboards and would like a one-time special price to avoid a large loss if snowboard sales are slow. This offer is much lower than Snow-Blade's normal selling price of \$250 each. Kris would like to accept the order, but she is sure that this sale will result in a loss. The owner of Snow-Blade monitors financial performance at the end of each year and will require a full explanation for any unexpected decreases in income.

To estimate the loss on this sale, Kris examines last year's income statement.¹⁵

Snow-Blade Snowboards: Traditional Income Statement	
Revenue	\$12,500,000
Cost of goods sold	<u>6,500,000</u>
Gross margin	6,000,000
Selling and administration	<u>3,750,000</u>
Operating income	<u>\$ 2,250,000</u>

She knows that cost of goods sold is the manufacturing cost for the units sold last year. She divides this cost by 50,000 (the number of snowboards sold) and finds that the cost is \$130 per board. Therefore, she estimates that the company would lose \$30 per board, or a total of \$30,000 for the order. However, she wants to accept the order because the distributor promised to place a larger order at a higher price if the boards sell well.

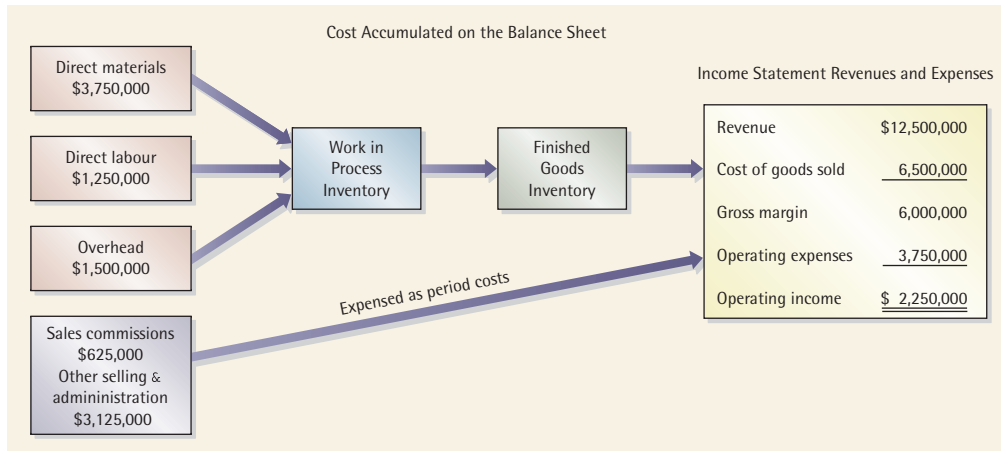
Before Kris makes the decision, she checks with the company's accountant, Senad Mustafic, who tells her that cost of goods sold on the income statement includes both relevant and irrelevant costs for this decision. He draws the picture given in Exhibit 1.10, showing Kris the flow of costs in Snow-Blade's accounting system. The company sells all boards as they are produced, so none of the costs remained in inventory.

Senad explains that the direct materials costs include the cost of wood and laminate for each board. Direct labour cost reflects the time employees use to finish each board, and production workers are paid on an hourly basis. These costs increase proportionately with each board manufactured, so they are relevant. However, the overhead costs include the salary

¹⁵The income statements presented in this chapter assume that no beginning or ending inventories exist. In Chapter 14, the effects on income of balance sheet inventory levels are explored thoroughly.



abassaka/iStockphoto



example

EXHIBIT 1.10Accounting for Costs at
Snow-Blade Snowboards

of the plant supervisor, depreciation on equipment, property taxes, and other similar costs. These costs are irrelevant because they are fixed and these costs will be incurred regardless of whether or not this special order is taken. Next, Senad checks the current capacity levels in the plant. He finds that the plant is operating at about 60% capacity; maximum operating capacity is around 80,000 boards. Therefore, accepting the order should not affect plant capacity-related costs or displace other orders. He also confirms that this year's prices for materials and wages for labour are the same as last year's.

Senad then organizes costs in a variable cost income statement format that separates variable and fixed costs. Kris can use this statement to develop information for internal decisions. She needs to be able to identify costs that increase proportionately with units produced and costs that generally do not change with volume changes. Kris and Senad discuss the following information.

Snow-Blade Snowboards: Variable Cost Income Statement	
Revenue	\$12,500,000
Variable costs:	
Direct materials	3,750,000
Direct labour	1,250,000
Sales commissions	<u>625,000</u>
Total variable costs	<u>\$ 5,625,000</u>
Contribution margin	6,875,000
Fixed costs:	
Manufacturing overhead	1,500,000
Selling and administration	<u>3,125,000</u>
Operating income	<u><u>\$ 2,250,000</u></u>

Senad asks Kris if she will pay a sales commission for the units sold to the Finnish distributor. Because the distributor contacted her directly and no salespeople were involved, no commission will be paid. Therefore, relevant costs for the decision include only direct materials (\$3,750,000) and direct labour (\$1,250,000), which vary with production. Total relevant costs are \$5,000,000 for last year's production volume of 50,000 snowboards, or \$100 per board. Thus, the best estimate of incremental cost for units sold to the Finnish distributor is \$100 per board. With a selling price of \$100, Kris would expect no effect on operating income. Kris is very happy with this new information and asks Senad to provide her with both traditional income statements and variable cost income statements in the future. ■

Importance of Identifying Relevant Information

As you can see from the Snow-Blade Snowboards example, it is important for decision makers to identify the relevant (incremental) cash flows. Failure to do so often leads to poor decisions. Identifying relevant information is a useful skill that requires practice. We will work on developing this skill throughout this textbook.

1-1 self-study problem Relevant Costs

L04

Micro-Fan Manufacturer produces one model of mini-fan that sells for \$9 each. Direct labour workers are paid on an hourly basis and work only when needed. “Other” manufacturing overhead costs do not vary with changes in production levels. During November, 50,000 fans were produced and sold, and the company incurred the following costs.

Direct materials	\$ 50,000
Direct labour	100,000
Manufacturing overhead:	
Supervisor's salary	40,000
Utilities	10,000
Depreciation	25,000
Other	5,000
Selling and administration costs	
Advertising	30,000
Sales commissions	20,000
Administration	115,000

required

- Prepare a traditional income statement with product costs categorized as cost of goods sold.
- Prepare a variable cost income statement with product costs separated into fixed and variable categories.
- The accountant at Micro-Fan wants to estimate costs for next year's operations and believes that fan sales will increase to 53,000 units. This volume of production is within current capacity levels. Prepare an estimate of total costs at that level of volume. (*Hint:* Remember that fixed costs do not change with changes in volumes, but variable costs change proportionately.)

See the solution on page 28.

Business Risk

L05

Describe how business risk affects management decision making

In a perfect world, managers would be able to perfectly foresee the future and use accounting information to make “correct” decisions. But the world is not perfect! **Business risk** is the possibility that an event could occur that interferes 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 fall out of control. The degree of business risk varies across organizations, industries, geographic regions, and time periods.

Risk Management

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. Because business risks may be unknown and often interact to create even larger risks, experts advise managers to continually identify, assess, mitigate, and monitor relevant business risks in a comprehensive and integrated way, a process referred to as **enterprise risk management (ERM)**. Managers often use one or more of the four levers of control (see Exhibit 1.8) to ensure that management's risk policies are followed, and to monitor the environment for changes in business risk. Because of their knowledge of risk assessment, control, and measurement, accountants often play a key role in enterprise risk management.¹⁶

¹⁶ Perhaps the most commonly used framework for enterprise risk management was published by the accounting profession: Committee of Sponsoring Organizations of the Treadway Commission, *Enterprise Risk Management—Integrated Framework*, 2004.

> EXHIBIT 1.11**Examples of Business Risks**

Economic and Financial	Political and Social	Reputation	Weather
• Economic collapse • Changes in credit, interest, and currency markets • Strategic risks (e.g., change in customer tastes, unanticipated competition, joint venture/alliance relations, change in technology) • Change in cost/availability of labour or other resources	• Government policy or regulation change • Confinement or imprisonment of employees or families • Lawlessness and hostile demonstration • Civil war or military coup • Expropriation or forced renegotiation of royalties • Tax law changes • Foreign market protectionism	• Perceived quality • Product obsolescence • Government and/or regulatory investigation • Public boycott/condemnation • Human rights abuses • Class action lawsuits • Rumours, gossip, libel, slander • Noncompliance with laws, regulations, internal policies	• Hurricane, typhoon, tornado, waterspout • Earthquake • Flood • Wildfire • Mudslide • Extreme heat or cold • Climate change • Lightning • Sinkhole
Environmental and Man-made	Psychopathic, Criminal and Terrorist	Informational and Operational	People, Legal, Health, and Other
• Chemical, biological, radioactive, or nuclear release • Fire or explosion • Noise or dust pollution • Carbon dioxide, other hazardous gas, or liquid emission • Building, mine, facility condemnation or collapse • Damage from water, asbestos, or mould • Animal/insect infestation	• Product tampering • Terrorist acts • Arson or explosion • Sabotage, kidnapping, extortion, vandalism • Fraud, theft, embezzlement • Workplace violence • Economic espionage • Product counterfeiting	• Theft or other loss of proprietary/confidential data • Poor information quality • Technology failure • Key customer or supplier loss • Insufficient capacity • Technology obsolescence • Project management failure • Sourcing failures • Poor sales strategy/execution • Failure to innovate • Logistics disruptions • Uncompetitive cost structure	• Disease or health epidemic • Transportation accident • Loss of key personnel • Corporate governance issues • Labour slowdown or strike • Sexual harassment, workplace discrimination, wrongful dismissal, or labour law noncompliance • Executive misdeeds, bribes, or other conduct violations • Accidents, errors, omissions • Inability to attract talent

Adapted from G. S. Lynch, *At Your Own Risk: How the Risk-Conscious Culture Meets the Challenge of Business Change*, Hoboken, NJ: John Wiley and Sons, 2008, Exhibit 1.1: Risk Triggers, p. 19.

Although good risk management practices reduce the likelihood of negative consequences, it is impossible to ensure that all risks have been properly identified and mitigated. Even highly competent managers may be caught unaware. Looking south of our border, for example, between June 2006 and March 2009, homes in Phoenix, Arizona, lost an average of 53% in value.¹⁷ In 2006, 12.8% of Phoenix jobs were in construction, compared to 8% in the rest of the country.¹⁸ As these jobs were lost, other industries were also affected. Bankruptcy filings in Phoenix increased 91% from April 2008 to April 2009, while in the rest of the U.S. filings had increased 36%.¹⁹ The business landscape in Phoenix changed

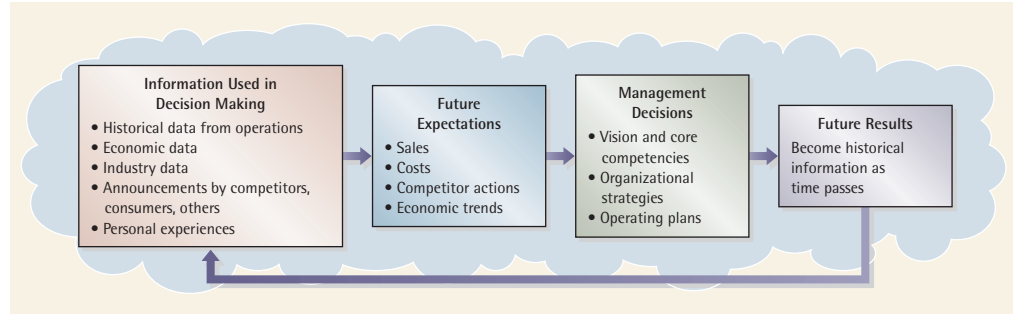
¹⁷ D. Whitford, "Real Estate: What Happened in Phoenix," *Fortune Magazine*, June 12, 2009, pp. 62–68.

¹⁸ B. Beard, "Valley Still Struggling from Recession as Other Areas Heal," *The Arizona Republic*, December 15, 2009, at www.azcentral.com/business/articles/2009/12/14/20091214biz-brookings1215.html.

¹⁹ R. Wiles, "Phoenix-Area Bankruptcy Filings Jump 91%," *The Arizona Republic*, May 6, 2009, at www.azcentral.com/business/articles/2009/05/06/20090506biz-Bankruptcy0507.html.

EXHIBIT 1.12

Management Decisions Clouded by Business Risk



radically and quickly, forcing business owners and managers to reconsider operations and make difficult choices. These risks were magnified in Phoenix but were part of a worldwide shift in economic conditions.

Business Risk and Cost Management

Why are we learning about business risk in Chapter 1 of a cost management textbook? Management accounting information is used to help managers make business decisions, which almost always involve business risk. In the Snow-Blade Snowboards example, the general manager estimated the cost of producing and selling additional snowboards based on prior-year costs. The manager could not be certain that costs would remain unchanged, and it might not have been possible to foresee all possible costs—including the potential indirect effects of selling to a customer at a deeply discounted price. In other words, virtually all business decisions are clouded by business risk, as illustrated in Exhibit 1.12. Because the future cannot be seen, and even historical information is imperfect, decision makers cannot perfectly predict future results.

1-2 self-study problem Business Risk

L05

Top Flight Surveillance Company was developing a very small video camera system that would allow flight officers to monitor and record passenger behaviour from the cockpit of any airplane. The research and development costs began to increase at an alarming rate, and managers decided to stop developing the product.

required

- Identify as many business risks as you can in evaluating the viability of this new video product.
- Pick one of the items you identified in part (A) and explain why managers cannot completely eliminate the risk.

See the solution on page 29.

Decision-Making Biases

L06

Appreciate how biases affect management decision making

Managers are likely to make poor decisions when they fail to recognize and correct for biases. **Biases** are systematic distortions in judgment. Three types of bias are particularly troublesome in management decision making:

- ▶ **Information bias:** Errors in judgment caused by data that are consistently overestimated, underestimated, or misrepresented.
- ▶ **Cognitive bias:** Errors in judgment caused by the way people's minds process information.
- ▶ **Predisposition bias:** Errors in judgment caused by preferences, attitudes, or emotions that prevent objective analysis.

Look for a “Risk of Biased Decisions” box in each chapter to learn about a range of biases that cause poor decisions. This chapter’s box introduces nonrational 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.

●●➤ RISK OF BIASED DECISIONS : NONRATIONAL ESCALATION OF COMMITMENT

Sometimes managers make a poor decision and then commit to using more resources based on the original investment for that decision. Economists call this behaviour **nonrational escalation of commitment**. Behavioural researchers find that it is difficult for people to exclude irrelevant past expenditures, called *sunk costs*, when making decisions. Managers tend to inappropriately escalate commitment in situations such as the following:

1. Managers may look for evidence that confirms their belief that the first decision was appropriate and ignore disconfirming evidence. They do not recognize that further investment is likely to result in further poor performance.
2. If losses are incurred as a result of the first decision, managers tend to increase investment, hoping to recoup losses from the first decision.
3. Managers do not want others to know that a poor decision was made and may believe that further investment will hide the poor decision from others.
4. When managers are bidding against another company to buy a target firm, competitive irrationality may cause them to offer a price that is higher than the value of the target firm.

To reduce this tendency, managers should seek the opinion of a neutral third party as part of their decision-making process before investing more funds in a poor-performing project.

1-3 self-study problem Decision Bias

L06

Todd Emeril’s sister is deciding whether to open a small restaurant near the local university. Todd developed a spreadsheet to estimate the sales volume his sister could expect at the restaurant. Todd believes that his sister’s cooking is exceptionally good and that students will flock to the restaurant, particularly for dinner when meal prices are higher. To test his assumption that students would enjoy his sister’s recipes, Todd invited a number of his friends to eat dinner at his sister’s home. A few of his friends were not that impressed with the food, but Todd assumes they would be in the minority when he estimates the sales volume.

required

- A. In what ways does Todd appear to be biased?
- B. How could Todd recognize and control for his biases?

See the solution on page 29.

Quality of Management Decision Making

Decision quality refers to the characteristics of a decision that affect the likelihood of achieving a positive outcome. Uncertainty and bias reduce decision quality. On average, higher-quality decisions have more positive outcomes resulting from better information as well as better decision processes. Organizations often use complex and sophisticated information

L07

Determine how managers make higher-quality decisions

systems to gather and organize information for decision making. Because of this sophistication, some decision makers are mistakenly confident that the information they use is correct, and they ignore uncertainty and risk. Other decision makers, recognizing that uncertainties and risk always cloud decisions, go to the other extreme; instead of relying on imperfect information, they believe it is sufficient to use only their intuition to make important business decisions. Neither of these approaches is optimal.

Exhibit 1.13 summarizes the path to higher-quality decisions. First, higher-quality information has fewer uncertainties, is more complete, and is directly relevant to the decision. It is timely, helping managers as they make decisions, not after the fact. In addition, it has value: the benefits exceed the cost of generating the information. An important role of accounting or other information systems is to capture higher-quality information and report it in a way that improves its usefulness for decision making. Secondly, higher-quality reports are more directly relevant to the decision. They are easily understood and readily available to decision makers. Thirdly, a higher-quality decision-making process is more thorough and unbiased. It is more clearly focused on organizational priorities and encourages strategic, creative, and visionary thinking.

Ethical Decision Making

L08

Explain the importance of ethical decision making

We are each responsible for our own behaviour. Furthermore, managers and accountants are responsible for the behaviour of the organizations they manage. For this reason, ethical behaviour is both an individual and an organizational obligation. A process for **ethical decision making** is presented in Exhibit 1.14.

The unethical behaviour of a few accountants and managers has greatly affected investor beliefs and the value of the stock market. When investors lose faith in information produced by organizations, they are unwilling to invest, and market downturns occur. These events happen because accountants and managers fail to practise ethical decision making.²⁰ Ethical behaviour is required of every employee within an organization.

EXHIBIT 1.13

Path to Higher-Quality Management Decisions

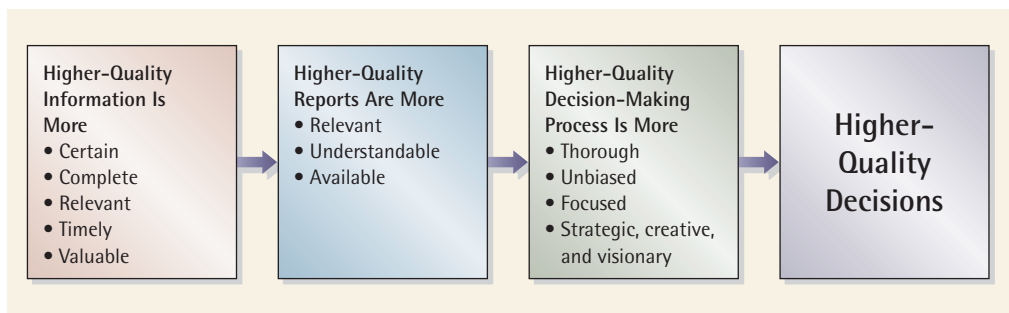
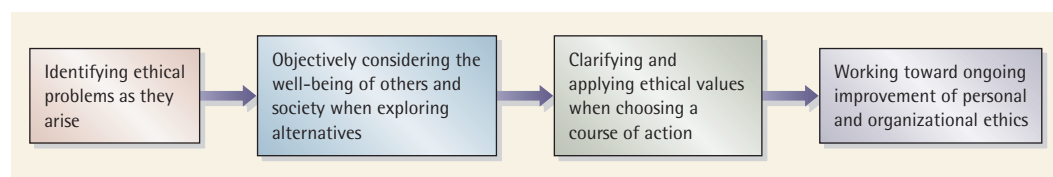


EXHIBIT 1.14

Process for Ethical Decision Making



²⁰ See, for example, I. J. Dugan, "Before Enron, Greed Helped Sink the Respectability of Accounting," *The Wall Street Journal*, March 14, 2002, p. A1; and "High Profiles in Hot Water," *The Wall Street Journal*, June 28, 2002, p. B1.

**FOCUS ON ETHICAL DECISION MAKING:****ETHICAL CONSIDERATIONS IN OUTSOURCING DECISIONS**

During the 2000s, Canadian companies outsourced many products and ingredients from global suppliers. When external vendors supply products and services, it becomes more difficult for the purchasing firms to detect ethical and legal problems that affect quality. Manufacturers and retailers often do not know that problems in the outsourced goods exist until customers begin to complain or the popular media exposes ethical dilemmas. In the last decade, outsourced products created problems for firms in a number of industries. As discussed more fully in Chapter 4, these problems can be characterized as follows:

- Recalls and payments for injuries and deaths resulting from unsafe products and ingredients used in industries that manufacture, distribute, and sell prepackaged food, children's toys, and pet food.
- Labour controversies regarding the reduction in Canadian manufacturing and service jobs, and the low wages and poor working conditions for labour in developing countries.
- Loss of control over environmental quality and sustainability policies and practices when products are manufactured in other countries.

REPUTATION EFFECTS OF SUPPLIERS' UNETHICAL ACTIONS

To avoid potential ethical and legal problems associated with the behaviour of suppliers, management accountants need to address a variety of ethics-related questions: What are the ethical values of outsource partners? Do suppliers behave honestly and with integrity? What are their labour and environmental practices? Is their product quality reliable? What is the potential loss of reputation from suppliers' unethical actions? Should control systems be used to prevent ethical and legal problems?



Denis Kovin/Shutterstock

Conflicting Interests

It is common in business situations for the interests of various parties to be at odds. For example, if one division's products compete successfully, another division may lose sales and then receive fewer of the organization's resources. If one person is promoted to the position of chief financial officer, someone else is not promoted, and that person may leave the firm in search of better opportunities elsewhere. If a company invests funds in an environmental protection program, less money may be available for shareholder dividends.

Motive for Ethical Behaviour

Do we expect people to resolve conflicts of interest by making choices in their own best interests? If so, this expectation raises another question: What do we mean by "best interests"? Do we necessarily mean greed, selfishness, and insensitivity? Although our society is based on capitalism, we do not believe that anything goes. More is at stake than financial gain or other supposed rewards. Integrity, reputation, self-respect, and social welfare are compelling rewards for ethical behaviour.

As discussed earlier in the chapter, organizations often use codes of ethics or other formal policies in their boundary control systems to encourage ethical behaviour. Similarly, governments establish laws, a type of boundary system, to prevent certain types of unethical behaviour. Boundary or diagnostic control systems could be used to prevent or more quickly identify the outsourcing ethics problems described in the Focus on Ethical Decision Making box.

Analyzing the Ethics of a Decision

One way to improve our ethical decision making is to apply the decision-making process in Exhibit 1.14 to a situation with ethical implications. The following discussion demonstrates analysis of ethical issues.

Identifying Ethical Problems As They Arise. Sometimes ethical problems are identified easily because they relate to clearly unacceptable behaviour. For example, most people agree that employees should not steal cash or other assets from an employer. Similarly, people agree that accountants should not falsify business records. However, some ethical problems are less obvious without careful thought or further investigation.

Sometimes biases prevent identification of an ethical problem. Although the controversy over outsourced labour has been publicized for many years, few problems with the ingredients in prepackaged human and pet food had arisen in the past. Managers probably held a predisposition bias by believing that outsource partners would hold similar values about food quality and apparently did not monitor their suppliers closely. A problem with bias and conflict of interest currently exists in the Canadian auditing profession. Although auditors generally believe they can remain objective while auditing the financial statements of managers who hire them, people increasingly perceive this as an unacceptable conflict of interest.

Even when an issue is seen as an ethical problem, the next course of action—what to do about it—may still be ambiguous. Should manufacturers discontinue outsource relationships when problems arise, or ask outsource partners to address the problem and monitor the process more closely? Similarly, disagreement exists about how auditor conflicts of interest should be resolved. When addressing an ethical problem, it helps to brainstorm about possible alternative courses of action. Sometimes decision makers close in too quickly on one solution when another alternative might be even better.

Objectively Considering the Well-Being of Others and Society. People are more likely to make ethically appropriate decisions when they objectively consider the effects of their actions on others. As discussed earlier in the chapter, biases can interfere with this aspect of ethical decision making. Decision makers should consider whether they might be biased, even if they are unaware of a bias, when evaluating the effects of their actions on others. According to Harvard Business School professor Max Bazerman, we can “recognize that honesty does not resolve the problem of conflicts of interest—even honest people are biased.”²¹

Clarifying and Applying Ethical Values When Choosing a Course of Action. People often make decisions without carefully identifying the values they use. For example, managers may value cost reductions over quality implications in outsource decisions and not collect information about the effects of quality problems on overall costs.

Decision makers can improve ethical decision making by first clarifying their own ethical values and then ensuring that they consistently apply those values. Professional organizations often assist in the identification of ethical values. For example, the Chartered Professional Accountants (CPA) Canada has identified ethical conduct, fiduciary duty, integrity and due care, and objectivity as overarching principles that are essential to the ethical behaviour of management accountants (see the Business Practice box on the next page). Similarly, organizations often adopt a code of ethics to clarify acceptable ethical values for employees. To ensure ethical decision making, these types of ethical values should be prioritized as more important than other factors.

Working Toward Ongoing Improvement of Personal and Organizational Ethics. As instances of ethical wrongdoing have mounted over time, it has become increasingly clear that ethical behaviour is the responsibility of both individuals and organizations. In 2002, the U.S. Congress passed the Sarbanes-Oxley Act, which requires public company managers and boards of directors to assume greater legal responsibility. Managers are now required to self-assess internal controls and financial reporting risks. An organization's board of directors and its audit committee are required to increase their oversight of managers and auditors. The process of implementing the new requirements is an opportunity for organizations to reassess their policies and culture. The best organizations actively seek ways to learn from past behaviours and to continuously work toward becoming more ethical.²²

²¹ M. H. Bazerman, *Judgment in Managerial Decision Making*, 6th ed. (New York: John Wiley & Sons, 2006) p. 130.

²² Protiviti Inc., *Insights on Today's Sarbanes-Oxley and Corporate Governance Challenges: Survey of Chief Financial Officers with 300 Publicly Held U.S. Companies* (white paper), September 2003.

Professional Conduct and Ethical Behaviour

APPENDIX 1A

■ BUSINESS PRACTICE

The Chartered Professional Accountants of Canada (CPA Canada) represents highly qualified professionals who demonstrate an ongoing commitment to providing the highest standards of accounting, ethics, and best business practices. The organization and its affiliates have rules of professional conduct. For example, the Chartered Professional Accountants of Ontario (CPA Ontario) specifies the rules of professional conduct including an accountant's responsibilities regarding:

- characteristics of a profession
- fundamental principles governing conduct
- ethical conflict resolution
- fiduciary duty
- personal character and ethical conduct
- application of the rules
- principles governing the responsibilities of firms, and
- interpretation of the rules

In addition, CPA Ontario's Rules of Professional Conduct outline the general rules: standards of conduct affecting the public interest, relations with fellow members and with non-members engaged in public accounting, organization and conduct of a professional practice, and rules of professional conduct applicable only to firms.

For more information, refer to the CPA Ontario website, www.cpaontario.ca.

Source: Chartered Professional Accountants of Ontario, *Rules of Professional Conduct*, February 2014. Accessed at www.cpaontario.ca/Resources/Membershandbook/1011page2635.pdf.

Steps for Better Thinking: A Decision-Making Process

APPENDIX 1B

Few management decisions can be made with absolute certainty. However, managers can improve the quality of decisions by using a higher-quality decision-making process. Steps for Better Thinking, presented in Exhibit 1B.1, is an example of a decision-making process that leads to higher-quality decisions.

Steps for Better Thinking is a process for addressing **open-ended problems**—those with no single “correct” solution due to significant uncertainties, such as business risks. The decision maker's task for open-ended problems is to find the best, not the only, possible solution. Most management decisions are open ended; Steps for Better Thinking will improve your ability to address them.

Steps for Better Thinking is portrayed as a series of increasingly difficult skills that are needed for higher-quality decisions. Exhibit 1B.1 is portrayed as a set of steps, because strong performance in the lower-level skills sets the stage for strong performance in the higher-level skills. Conversely, if the lower-level skills are weak, then the entire structure will also be weak.

Knowing. The foundation of Steps for Better Thinking consists of the knowledge and basic skills needed to deal with a problem. To launch a project an organization would need to have knowledge in many areas, including the following:

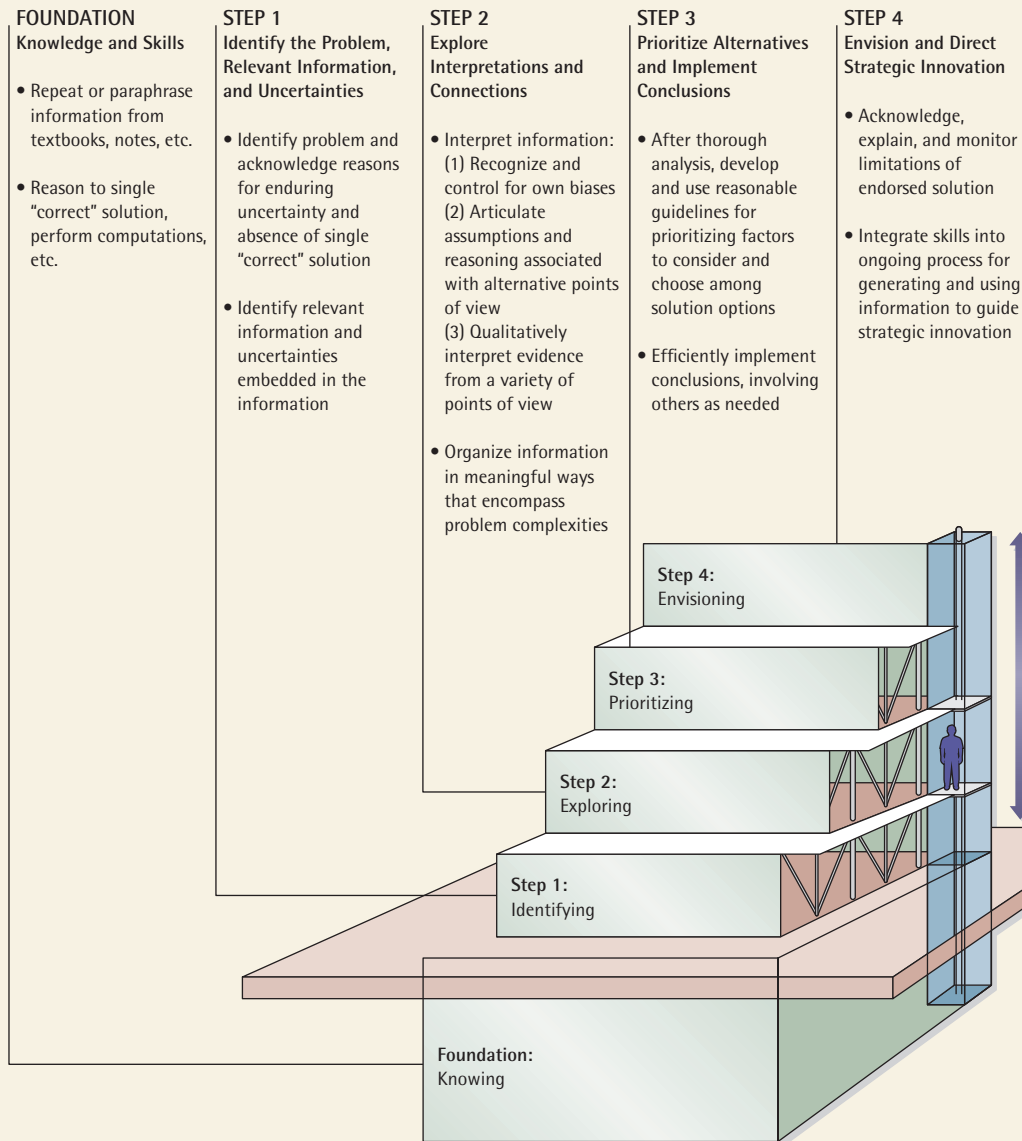
- ▶ Tablet, social media, and satellite communications
- ▶ Consumer markets and distribution methods

L07

Determine how managers make higher-quality decisions

EXHIBIT 1B.1

Steps for
Better Thinking:
A Decision-Making
Process



Source: © 2002, S. K. Wolcott, "Steps for Better Thinking: A Developmental Problem-Solving Process." Available at www.WolcottLynch.com.

- ▶ Research and development methods
- ▶ Technical knowledge and expertise for development of new technology
- ▶ Production processes and costs
- ▶ Sales and marketing strategies

Step 1—Identifying. This step involves identifying relevant information and uncertainties. Recognizing business risks, as highlighted in Exhibits 1.11 and 1.12, is also an extremely important part of managerial decision making. It usually requires much practice to become adept at this part of the process. There were many business risks in launching a new project, including customer preferences and the size of the customer market. Managers sometimes fail to adequately identify major risks. This failure, in turn, causes them to make decisions without adequate analysis, or to be overly confident in their decisions.

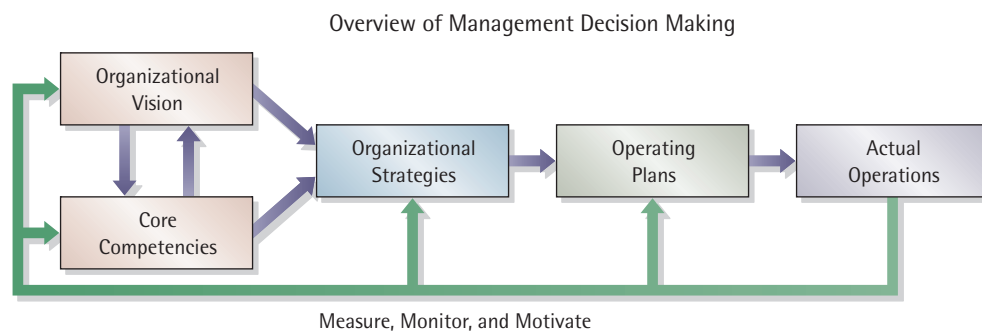
Step 2—Exploring. This step includes recognizing and controlling biases and more thoroughly considering uncertainties such as business risks, as emphasized earlier in exhibits 1.11 and 1.12, and also interpreting information from different viewpoints. For this kind of assessment, we must be adept at recognizing and evaluating assumptions, gauging the quality of information, and putting ourselves “in others’ shoes.” We can think of Step 2 as analyzing the strengths and weaknesses of different alternatives. Adequate performance of Step 2 is often the most time-consuming and important when addressing open-ended problems. Too often, decision makers are hasty and fail to thoroughly analyze the information related to a problem; they jump to a conclusion. Careful attention to Step 2 activities increases the probability of making the best decision. Very often, biases cause the managers to discount problematic issues.

Step 3—Prioritizing. Step 3 involves making trade-offs and choosing the best possible alternative, and then efficiently implementing it. For managers, these activities include ensuring that the organization’s values, core competencies, and strategies are adequately considered. Managers must also ensure that business risks are adequately managed to achieve the organization’s risk appetite. Efficient implementation includes motivating performance within the organization. Any weaknesses at Steps 1 and 2 automatically lead to weaknesses at Step 3. It is not possible to reach a high-quality decision when there are major unmitigated business risks or when managers are biased toward a course of action.

Step 4—Envisioning. This step is necessary because open-ended problems cannot be solved with absolute certainty and because the economic environment changes. Management decisions require monitoring, and possibly revision, during implementation and as new events occur over time. The most gifted decision makers act strategically to recognize change and new threats, and also to visualize new opportunities.

SUMMARY

L01 Describe the process of strategic management and decision making



SWOT ANALYSIS

Identify core competencies through study of strengths, weaknesses, opportunities, and threats

L02 Identify the types of control systems that managers use**MANAGEMENT CONTROL SYSTEMS**

Systems and routines to increase the likelihood of organizational success

Belief Systems	Boundary Systems	Diagnostic Control Systems	Interactive Control Systems
Create core values which enhance employees shared values to achieve the organization's goals.	Establish limits on individual behaviour to avoid organizational risks.	Measure, monitor, and motivate employees to achieve the organization's preset goals.	Require managers to communicate interactively and stimulate debates when the organization faces strategic uncertainties.

L03 Explain the role of accounting information in strategic management**TERMINOLOGY**

- ▶ Cost accounting
- ▶ Management accounting
- ▶ Financial accounting
- ▶ Strategic cost management
- ▶ Balanced scorecards

USES FOR WHICH ACCOUNTANTS GATHER DATA FROM INSIDE AND OUTSIDE THE ORGANIZATION

Creating external reports for

- ▶ Government
- ▶ Shareholders
- ▶ Other stakeholders

Creating internal reports for

- ▶ Evaluating and updating organizational strategies
- ▶ Communicating and monitoring operating plans
- ▶ Measuring, monitoring, and motivating performance

L04 Explain the information systems and information that are relevant for decision making

RELEVANT INFORMATION

Helps decision makers evaluate and choose among alternative courses of action by

- ▶ Being concerned about the future
- ▶ Varying with the action taken

Includes incremental (avoidable) cash flows

IRRELEVANT INFORMATION

Not useful for decision making

Includes unavoidable cash flows

FINANCIAL STATEMENT COSTS

Product costs/Cost of goods sold

Period costs

L05 Describe how business risk affects management decision making

BUSINESS RISK

Possibility that an event could occur and interfere with ability to meet strategic goals or operating plans

RISK APPETITE

Overall acceptable level of risk

EFFECTS OF BUSINESS RISK

Reduces the quality of decisions

ENTERPRISE RISK MANAGEMENT (ERM)

Continually identifying, assessing, mitigating, and monitoring relevant business risks in a comprehensive and integrated way

L06 Appreciate how biases affect management decision making

EFFECTS OF BIASES

Create barriers to high-quality of decisions

BIASES INHIBIT

- ▶ Recognition of business risks
- ▶ Thorough analyses
- ▶ Consideration of alternative viewpoints

- ▶ Critical evaluation of priorities
- ▶ Continuous improvement

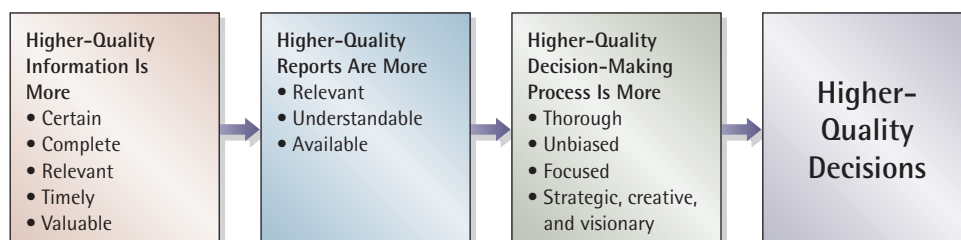
BIAS CATEGORIES

- ▶ Information bias
- ▶ Cognitive bias
- ▶ Predisposition bias

SUMMARY

L07 Determine how managers make higher-quality decisions

Path to Higher-Quality Decisions



L08 Explain the importance of ethical decision making**PROCESS FOR ETHICAL DECISION MAKING**

- ▶ Identify ethical problems as they arise
- ▶ Objectively consider the well-being of others and society when exploring alternatives
- ▶ Clarify and apply ethical values when choosing a course of action
- ▶ Work toward ongoing improvement of personal and organizational ethics

REWARDS FOR ETHICAL BEHAVIOUR

- ▶ Integrity
- ▶ Reputation
- ▶ Self-respect
- ▶ Social welfare

INDIVIDUAL AND ORGANIZATIONAL OBLIGATION

- ▶ Honest people may be unaware of unethical behaviour

APPENDIX 1A Professional Conduct and Ethical Behaviour**CPA ONTARIO RULES OF PROFESSIONAL CONDUCT:**

- ▶ Ethical Conduct
- ▶ Fiduciary duty

- ▶ Integrity and due care
- ▶ Objectivity

APPENDIX 1B Steps for Better Thinking: A Decision-Making Process

Foundation—Knowing

Step 1—Identifying

Step 2—Exploring

Step 3—Prioritizing

Step 4—Envisioning

1-1 solution to self-study problem

- A. Because the company sold all units produced, all of the product costs are included in cost of goods sold: $\$50,000 + \$100,000 + \$40,000 + \$10,000 + \$25,000 + \$5,000 = \$230,000$. Period costs include all of the selling and administration costs: $\$30,000 + \$20,000 + \$115,000 = \$165,000$.

Micro-Fan Manufacturer: Traditional Income Statement

Revenue	\$450,000
Cost of goods sold	<u>230,000</u>
Gross margin	220,000
Selling and administration	<u>165,000</u>
Operating income	<u>\$ 55,000</u>

- B. Variable costs include direct materials, direct labour, and sales commissions. All of the manufacturing overhead costs are assumed to be fixed: $\$40,000 + \$10,000 + \$25,000 + \$5,000 = \$80,000$. (Note: Utility costs might be partly variable.) Advertising and administrative costs are fixed: $\$30,000 + \$115,000 = \$145,000$.

Micro-Fan Manufacturer: Variable Cost Income Statement

Revenue	\$450,000
Variable costs:	
Direct materials	50,000
Direct labour	100,000
Sales commissions	20,000
Total variable costs	<u>170,000</u>
Contribution margin	280,000
Fixed costs:	
Manufacturing overhead	80,000
Selling and administration	145,000
Operating income	<u>\$ 55,000</u>

- C. The only costs that are expected to change with changes in production levels are the variable costs. At the original volume of 50,000 units, total variable costs were \$170,000 (from part B), or \$3.40 per unit. At production of 53,000 units, total variable costs are estimated to be \$180,200 ($53,000 \times \3.40). Total fixed costs of $\$80,000 + \$145,000$ are not expected to change. Therefore, total costs for 53,000 units are expected to be \$405,200 ($\$180,200 + \$80,000 + \$145,000$).

1-2 solution to self-study problem

- A. When answering this question, think about how circumstances might change, and review the risks listed in Exhibit 1.11. Some possible business risks for this problem include the following: Other types of security devices, such as impenetrable doors, might reduce the need for the videos. Airline companies might not want this type of product. Other possible uses for the camera might not be available. It might be difficult to estimate the additional time and money needed to develop the product. Competitors might be working on a similar product. Government regulations might prevent use of the product.

If it was difficult for you to identify more than two business risks, you should practise this skill. Look for questions at the end of each chapter that ask about business risk.

- B. Knowing why managers cannot completely eliminate a risk will help you understand the difficulty of making decisions in the business world. Here is an example of an explanation for why managers cannot know whether competitors will be working on similar products. Product development is very secretive, so we do not usually know about similar new products until they are released. Product development may be happening all around the globe. If a small company were to release a similar product in a foreign country, news might not reach Top Flight Surveillance Company.

1-3 solution to self-study problem

- A. Todd believes that his sister's cooking is good, and he ignores his friends' opinions that the cooking is not that good. If he does not account for this bias, the actual volume of sales at the restaurant will likely be lower than his estimate. In addition, he believes that students will buy dinners more often than lunches, so he could be overestimating cash inflows. He does not seem to know whether lunches or dinners contribute more to

solution to self-study problem

1-3

profits, on average. He does not explore the effects of competitors' prices and menus. He fails to consider whether students would be the best customers to attract.

- B. It is usually easier to recognize someone else's biases than to recognize and control one's own biases! Todd might begin by asking himself whether he has a preference about opening the restaurant. If so, then he should carefully watch for bias as he develops the sales estimate. One way to control for bias is to use more formal methods for collecting and analyzing information. For example, Todd could ask potential customers to eat a meal and fill out a survey that has numerical ratings. When Todd tallies these ratings, he will probably be less biased in interpreting the results. Also, he could ask an independent person to interpret the survey findings. He could ask friends to compare the value of the meals his sister cooks with the value of meals from other restaurants by giving them price information with the free meals.

QUESTIONS

- 1.1** Explain the importance of the following types of management decisions: organizational vision, organizational core competencies, organizational strategies, and operating plans.
- 1.2** Why do managers need to measure, monitor, and motivate performance?
- 1.3** List three types of internal reports and explain how each is used. List three types of external reports and explain how each is used.
- 1.4** What types of information in addition to cost accounting are needed for management decisions?
- 1.5** Explain why avoidable (incremental) cash flows are relevant. Explain why unavoidable cash flows are irrelevant.
- 1.6** What are business risks, and how do they affect the quality of management decisions?
- 1.7** What are biases, and how do they affect the quality of management decisions?
- 1.8** In your own words, explain the path to higher-quality decisions (Exhibit 1.13).
- 1.9** Explain why it is important for both individuals and organizations to behave ethically.
- 1.10** In your own words, define ethical behaviour. Why do accountants have a professional responsibility to behave ethically?
- 1.11** In your own words, define nonrational escalation of commitment. Can you think of situations where you or people you know have inappropriately escalated their commitment to a decision or course of action?
- 1.12** Define belief systems and boundary systems in your own words, and describe the similarities and differences in the parts they play in the four levers of control.
- 1.13** Define interactive control systems in your own words, and explain the part they play in the four levers of control.
- 1.14** Define diagnostic control systems in your own words, and explain the part they play in the four levers of control.
- 1.15** Explain how the four levers of control are used together to increase an organization's strategic 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.
- 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.
- 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 that avoids the exposure of wrongdoing.
 - d. Work toward ongoing improvement of personal and organizational ethics.

1.19 Which of the following statements is *not* true?

- a. Monitoring and motivating are 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.

1.20 Which of the following characteristics is *not* true of high-quality information?

- a. Timely
- b. Relevant
- c. Complete
- d. Circumventing

EXERCISES

1.21 Types of Manager Decisions Suppose that each of the following is an activity conducted by Microsoft Corporation.

L01

REQUIRED Identify whether each activity is most likely part of (1) organizational strategies; (2) operating plans; (3) actual operations; or (4) measuring, monitoring, and motivating. For each item, explain why.

- A. Comparing the timeliness of the development steps of a new release of Windows® with the timeline that was laid out to guide development.
- B. Developing a timeline for release of new Windows and Microsoft Office® products over the next year.
- C. Debugging the next version of Windows.
- D. Providing technical support to customers who are having problems with Microsoft Office.
- E. Estimating cash expenditures for the next year.
- F. Comparing budgeted costs to actual costs, and discussing major differences with department managers.
- G. Deciding whether to construct a new building on the Microsoft campus.

1.22 Types of Personal Decisions Many of the ideas in this chapter relate not only to what organizations do but also to your personal life.

L01

REQUIRED For each of the following, give an example related to your personal life.

- A. Vision
- B. Core competencies
- C. Long-term strategies
- D. Short-term planning
- E. Actual results
- F. Measuring, monitoring, and motivating

1.23 Relevant Costs Avery Car Rental charges its customers \$26 per day plus \$0.20 per kilometre. Its competition rents cars for \$35 per day and \$0.08 per kilometre.

L04

REQUIRED How many kilometres would a customer need to drive on a four-day rental so that the cost of the two alternatives would be the same?

1.24 Relevant Costs Suppose the current average cost per kilometre for operating a car is \$0.40. Susan is required to drive to a client's office that is 50 kilometres away (100 kilometres round-trip). She can use her own car and be reimbursed \$0.30 per kilometre or use a company-owned vehicle.

L04

REQUIRED A. What costs would be included in the current average cost per kilometre that might be irrelevant to Susan's decision to drive 100 kilometres?
B. Suppose Susan determined that the cost of gasoline and maintenance for her car is about \$0.25 per kilometre. Which alternative is better?

1.25 Relevant Costs, Other Relevant Factors Netflix is a service that allows subscribers to rent three DVDs at a time for \$21.95 per month. As soon as a customer returns one DVD, Netflix sends another. Customers can return as many movies as they want during a month, and they can keep each DVD for as long as they want.

L04

REQUIRED A. How many DVDs do you need to rent per month to be indifferent between the cost of renting movies from a video store at \$3.95 each and subscribing to Netflix?
B. What factors other than cost would influence your decision?

1.26 Levers of Control, Ethics Organizations sometimes suffer financially or go out of business because of fraudulent financial statements and unethical and illegal behaviour. Answer the following questions about such organizations.

LO2, LO8

REQUIRED



- A. Some organizations may prioritize financial goals as part of their core values, and their corporate cultures may encourage managers to overlook unethical behaviour in meeting these goals. Which lever of control is most likely to address this problem? List two specific types of control used in this system that would help reduce unethical behaviour.
- B. In some corporations, unethical behaviour is viewed as a risk to be avoided. Identify the lever of control that addresses such risks and describe two specific types of control used in this system.

1.27 Effects of Biases Suppose you own a small fast-food store in a large shopping mall. You hired a manager six months ago so that you could open another store in a new location. The financial performance over the last six months has not been as good as it was when you managed the outlet. The manager, who seems to be overly optimistic about the store's performance, has given you a spreadsheet forecasting large increases in sales and decreased costs over the next six months.

LO6

REQUIRED

- A. In your own words, describe information bias, cognitive bias, and predisposition bias.
- B. Are the manager's forecasts of sales and costs likely to be biased? Explain.
- C. Identify ideas for checking the reliability of the revenue and cost estimates.

1.28 Master Data Management, Control Systems, Quality of Information Most organizations do not have a single, centralized system that shares data across all transaction processes. Instead, organizations tend to have different systems for different processes or different systems across business units. This practice makes it difficult to generate organization-wide reports or to share data that are needed by multiple units. To address this problem, Warren Thornthwaite of the Kimball Group recommends creating a data governance function to facilitate and maintain an enterprise-wide database. The data governance function would also ensure that common rules are used throughout the organization to enter data into the database.

LO2, LO3,
LO7

Source: W. Thornthwaite, "Kimball University: Pick the Right Approach to MDM," *Intelligent Enterprise*, February 2007, available at www.intelligententerprise.com.

REQUIRED

- A. Describe how an enterprise-wide database might be used in an organization's (1) diagnostic control systems and (2) interactive control systems.
- B. Why is it useful for common rules to be used throughout an organization to enter data into an enterprise-wide database? How does this practice improve the quality of information in a diagnostic or interactive control system?

1.29 Ethics, Culture, Belief, and Boundary Systems Based on results of a 2005 national survey on ethics sponsored by Ethics Resource Center and Working Values, Amber Seligson and Laurie Choi made the following recommendation:

LO2, LO8



Organizations that dedicate substantial resources to the communication of ethical values may find that resources are better spent encouraging leadership to set a good example of ethical behavior, establishing organizational trustworthiness in keeping promises, and helping employees to make ethical decisions. (p. 5)

Source: A. L. Seligson and L. Choi, "Critical Elements of an Organizational Ethical Culture," Ethics Resource Center and Working Values, 2006, available at www.ethics.org/resource/critical-elements-organizational-ethical-culture.

REQUIRED

- A. Explain how an organization's culture can enhance or weaken employee ethical behaviour.
- B. Are ethical values part of an organization's belief system, boundary system, or both? Explain.

1.30 Pace of Change, Historical Data, Control Systems In the past, organizations have often used 20 to 30 years of historical data to help develop strategic plans for the next 5 to 10 years. However, the fast pace of change in today's business world causes historical data to become irrelevant more quickly. Data Vault founder Dan Linstedt argues that managers should develop strategic plans that allow for more agile decision making in response to changing conditions.

LO1, LO2,
LO3, LO4,
LO5

Source: D. E. Linstedt, "Competitive Decision Time Is Shrinking," Blog, December 13, 2005, available at www.b-eye-network.com/blogs/linstedt/.

REQUIRED

- A. Explain why rapid change causes historical data to become irrelevant more quickly.
- B. When economic conditions are changing rapidly, explain why diagnostic control systems become less useful for organizational success.
- C. Describe how interactive control systems can help managers adapt to changing economic conditions.

1.31 Relevant Costs, Uncertainties Toys for Boys has 10,000 toy cars painted a grey colour that are not selling well. The selling price of the cars could be reduced from the current price of \$8.00 to \$5.00 each. Alternatively, the cars could be painted red at a cost of \$2.00 each and sold for \$8.00. Red cars sell very well.

LO4, LO5

- REQUIRED**
- Should Toys for Boys paint the cars? Show your calculations.
 - Which option seems to have less uncertainty? Discuss.

1.32 Relevant Costs, Risks, Other Relevant Factors, Bias This semester, you moved to an apartment 8 kilometres from campus and will commute to classes three times a week. This decision will let you achieve significant savings. However, you have not yet decided whether to use your car or ride the bus to get to campus. You estimate the following costs for each alternative:

LO4, LO5, LO6, LO7

Driving Your Car

Monthly payments on your car of \$220.00

Maintenance expenses of \$37.00 per month. (This cost is an average and reflects oil changes, car washes, and lubricants.)

University parking fees of \$150.00 per semester (four months)

Approximately \$60.00 in gasoline per month. (You estimate a total of 600 kilometres driven every month, which includes approximately 200 kilometres per month for three trips per week to campus—approximately 12 round trips per month.)

Riding the Bus

You have two alternatives regarding the purchase of bus tickets:

- You may buy a semester ticket with unlimited rides for \$225.00 per semester (Bus A).
- You may purchase each ticket individually for \$2.00 each way (Bus B).
If you decide to buy the semester bus pass, you estimate that you will ride the bus quite often and replace approximately 200 kilometres from your car's monthly allowance of 600 kilometres.

- REQUIRED**
- Based only on cost, which alternative would you choose? Show your calculations. Assume that a semester lasts four months and that you will always ride the bus to campus if you choose one of the bus options.
 - Discuss uncertainties about your calculations for Part A.
 - List factors that could affect your decision but that cannot be valued in dollars.
 - Suppose that you had never ridden a bus. Would you be biased against the bus option? Explain.

PROBLEMS

1.33 Risks You have been admitted to the College of Business at your university. You decide to become an accounting major and are now planning the sequence of classes that you would like to take over the next two years.

LO6

- REQUIRED**
- List several uncertainties about your class sequence. Include in your list the uncertainties at the beginning of your accounting program, as well as uncertainties that might occur as you register for courses each term.
 - Choose one of the items you identified in Part A and explain how it affects your planning.

1.34 Relevant Information, Bias Suppose you are responsible for ordering a replacement for your office photocopy machine. Part of your job is to decide whether to buy it or lease it.

LO4, LO6, LO7

- REQUIRED**
- Describe something that could be considered relevant information in this decision and explain why it is relevant.
 - Describe something that could be considered irrelevant information in this decision and explain why it is irrelevant.
 - Explain why it was important to distinguish between relevant and irrelevant information in this problem.
 - Suppose the copy machine service person is paid a commission on all of the parts he sells. Would this compensation method bias his recommendations about the quality and number of parts that you should purchase? Explain.

1.35 Business Risk, Degree of Risk, Risk Appetite Community Children's Hospital can invest in one of two different projects. The first project is to purchase and operate a hotel that is located two blocks from the hospital. The CEO of the hospital has no experience operating a hotel, but the hospital does provide rooms for inpatients, and so she is familiar with cleaning requirements and managing housekeeping staff. However, the hospital does little advertising and does not have a large public relations staff. In addition, the hospital and hotel are located in a part of town that is deteriorating.

LO5

The other investment opportunity is to replace the heart monitors in the neonatal intensive care unit (critical care for newborns and infants). The new monitors would provide a range of functions, including monitoring the body temperature and blood pressure of infants, as well as monitoring heart functions. Each monitor can be used for up to four infants, with information about each infant forwarded to one computer that is monitored by a special technician. The current monitors are bedside monitors that need to be read every 10 minutes by nursing staff.

- REQUIRED**
- Prepare a list of uncertainties the CEO faces if she buys the hotel.
 - Prepare a list of uncertainties the CEO faces if she replaces the heart monitors.
 - Which scenario appears to have a greater degree of uncertainty? Why?
 - Explain how the hospital's risk appetite might affect this decision.

1.36 Decision-Maker Bias Gene Horita is choosing a major in his second year. He enjoys the accounting classes

LOG, LO7

at his university but also finds the information systems classes to be interesting. Gene's father is an accountant and has been pressuring Gene to choose an accounting major. Gene has always resented the fact that his father was not home very much during income tax season and was unable to go to most sporting events in which Gene participated in high school. Gene is uncertain whether he would want that lifestyle in the future when he has a family. He is leaning toward information systems as a major because he thinks he can get a job with more regular working hours with this major.

- REQUIRED**
- In what ways does Gene appear to be biased?
 - How could Gene recognize and control for his biases?

1.37 Identifying Risk We have defined business risk as the possibility that an event could occur that interferes with an organization's ability to meet strategic goals or operating plans.

LO5

- REQUIRED** Identify and briefly explain business risks for each of the following decisions.

- The managers of **Flow Systems**, an irrigation equipment manufacturer, are considering the purchase of new welding equipment that will reduce labour costs. In addition, the equipment is much safer than the equipment it would replace. The added safety is expected to reduce Flow System's insurance costs by half.
- Amira Salazar needs to choose between two summer internship offers she recently received. If she accepts a summer internship with **IBM** in its finance department, she will be located in Canada and work in the strategic planning department. If she accepts an internship with **Hewlett-Packard**, she will be located in the United States and work on a special costing project for a new printer design.

1.38 Relevant Information, Bias, Recommendations Francisco owns a camper and loves to visit national parks with his family. However, the family takes only two one-week trips in the camper each year. Francisco's wife would rather stay in motels than the camper. She has presented him with the following itemization of the cost per trip, hoping that he will sell the camper and use motels instead:

LO4, LO5, LO6

Camper:	Cost per Trip
Cost: \$20,000	
Usable for 10 seasons, 2 camping trips per season	\$1,000
Transportation expense:	
1,000 kilometres @ \$0.37 per kilometre	370
Includes:	
\$0.15 per kilometre for gasoline, oil, tires, and maintenance	
\$0.22 per kilometre for depreciation and insurance	
Groceries	250
Beverages	100
Cost per trip	\$ 1,720
Cost per person (\$1,720 ÷ 5 family members)	<u>\$ 344</u>

- REQUIRED**
- What are the relevant costs for deciding whether the family should go on one more camping trip this year?
 - What are the relevant costs for deciding whether Francisco should sell the camper? Assume that the family will take the same vacations but stay in motels if the camper is sold.
 - What factors other than costs might influence the decision to sell the camper? List as many as you can.

- D. Consider your own preferences for this problem. Do you expect Francisco's preferences to be the same as yours? How can you control for your biases and consider this problem from Francisco's point of view?
- E. Francisco asks you to help him decide what to do. Do you think he should sell the camper? Why or why not?

1.39 Income Statement Information, Solve for Unknowns Following is a traditional income statement for Mouse Max, a company that manufactures cordless mice for computers.

L03, L04,
L07

Revenue	\$2,500,000
Cost of goods sold	<u>1,220,000</u>
Gross margin	1,280,000
Selling and administration	<u>1,150,000</u>
Operating income	<u>\$ 130,000</u>

This income statement reflects sales of 100,000 mice. Direct materials cost \$5.00 per mouse, direct labour was \$1.00 per mouse, and sales commissions were \$1.50 per mouse. Advertising costs totalled \$200,000. All manufacturing overhead costs are fixed.

- REQUIRED**
- A. Develop a variable cost income statement.
- B. Why do traditional income statements have to conform to accounting rules such as IFRS or Canadian ASPE?
- C. Managers sometimes divide cost of goods sold from a traditional income statement by the quantity of units sold to calculate an average production cost per unit. They then multiply the average cost per unit by an estimated future production volume to estimate incremental future costs. Why is this method likely to produce a poor-quality cost estimate?

1.40 Strategic Management Process Suppose you decided to start a new fast food restaurant business to compete with **McDonalds**.

L01, L02,
L03

- REQUIRED**
- A. Describe your organizational vision and list two core competencies.
- B. Describe your general strategy. For example, would you try to compete based on low cost? On quality of service? How does your general strategy relate to the core competencies you listed in part (A)?
- C. Identify two ways in which the strategy you described in part (B) might influence your operating plans.
- D. Explain why it would be useful to use accounting information to compare actual operations to the operating plans for your company.

1.41 Strategic Decision Quality, Business Risk In 2007, **Starbucks** CEO Jim Donald issued a memo criticizing some of the company's past decisions, including the installation of automatic espresso machines. He pointed out that the espresso machine decision was "probably right at the time" because it increased the speed of service and improved efficiency. However, he argued that the decision overlooked the "romance and theatre" of the customer barista experience. He emphasized that the company needed to return to its core to ensure the loyalty of Starbucks customers.

L01, L06,
L07

Source: J. Donald, "The Commoditization of the Starbucks Experience," memo, February 14, 2007, available as "Text of Starbucks Memo," *The Wall Street Journal Online*, February 24, 2007.

- REQUIRED**
- A. How does "romance and theatre" relate to Starbucks' vision and core competencies?
- B. What are some of Starbucks' business risks?
- C. How is it possible for a decision to be "right at the time" but incorrect in terms of a company's overall strategy?

1.42 Steps in Decision-Making Process (Appendix 1B) Refer to the information in Problem 1.41.

L07

- REQUIRED** Using the Steps for Better Thinking model in Appendix 1B, describe Steps 1, 2, and 3 of the Starbucks' decision to install automatic espresso machines. In other words, what factors might the managers have considered as they made this decision?

1.43 Ethical Decision Making, Relevant Information, Risks, Biases In two of his classes, Larry's professors said that he could work homework problems with other students as long as he turned in his own answers. In another class, the professor said that students could not work with other students, and each time the professor collected homework, students were required to write a statement at the bottom of their assignment that assured the professor that the homework had been the student's own effort.

L04, L05,
L06



Half an hour before class, Larry's girlfriend Annie asked if he would help her finish the last three homework problems so she could hand them in on time. Larry asked her how she would feel about signing the statement if he helped her.

REQUIRED

- A. What is the ethical issue here?
- B. What alternatives are available to Larry?
- C. If the professor discovers that Annie and Larry's answers are similar in ways that reflect the fact that they worked together, what might happen? What risks are involved?
- D. What information is relevant to Larry's decision?
- E. Is this an open-ended problem? Why or why not?
- F. Explore this problem from different perspectives:
 1. Annie's
 2. Larry's
 3. The professor's
- G. How important is it for students to behave ethically?
- H. By exploring the ethics of this situation, what could Larry and Annie learn about professional ethics?

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

LO4, LO6,
LO7

ProTrain is a training company that specializes in leadership and team-building programs. Recently, ProTrain hired Rico Du, a business graduate, as a general manager in hopes of expanding its business. Rico learned a lot about risk management in school and believes that managers need to have sufficient training in risk management. He gathers the financial information for the two types of existing training programs from the accounting department:

Revenue	\$550,000
Cost of Delivery	<u>357,500</u>
Gross Margin	192,500
Marketing	82,500
Administration	<u>44,000</u>
Operating Income	<u>\$66,000</u>

He estimates that the new risk management program will generate revenue of \$150,000, of which 72% is the cost of delivery. Marketing expenses will be 20% of the revenue; however, he expects that administration expenses will remain the same.

REQUIRED

- A. Identify the relevant information for adding the new risk management program to the existing business.
- B. Will the new risk management program add value to the existing business? If so, how much operating income will this new program add to the existing operating income?
- C. What are the possible biases that Rico may have when he estimates the financial information for the risk management program?
- D. If you were Rico's boss, what additional information that you would like Rico gather in order to control for his biases?

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

LO4, LO7,
LO8

A National Accounting Case Competition is being held at a conference in Calgary, Alberta this year. You and the other two members of your team were selected to represent your school in the competition. To obtain funding for your 4-day trip, your team is preparing a budget to submit to your school for approval. Your team has listed the following expense items for 3 people for 4 nights:

Items	Cost
Flight \$500/person	\$1,500
Parking on campus ¹	12
Taxi (to and from Airports)	120
Hostel \$40/night per person	480
Residence ²	300
Food on campus ³	240
Food during conference ⁴	480

¹ One of the team members pays \$90/month for a parking pass on campus. Four days of parking cost on campus is \$12.

² Three team members live on campus and pay rent of \$750/month. Four days of residence rent for 3 members for 4 nights away is \$300.

³ Three team members pay for a campus meal plan of \$600/month. No refund will be reimbursed to students who miss their meals.

⁴ The team estimates the food cost will be \$40/day for 3 meals.

- REQUIRED**
- Identify the relevant and irrelevant items for preparing your budget.
 - Based on (A), prepare your budget to be submitted.
 - One of your team members questions whether food on campus should be included in your budget. He argues that they should get money back from the meals not consumed during the 4 days at the conference. He suggests that instead of listing two food costs on the budget, the food costs should be combined and listed as \$720. Do you agree with him? Is there any ethical issue in his suggestion? How do you resolve the issue here, if you disagree with his approach?

MINI-CASES

1.46 Relevant Information, Risk Janet Breton is deciding where to live during her second year in college. During her first year, she lived in the university residence. Recently, her friend Rachel asked her to share an off-campus apartment for the upcoming school year. Janet likes the idea of living in an apartment, but she is concerned about how much it will cost.



To help her decide what to do, Janet collected information about costs. She would pay \$400 per month in rent. The minimum lease term on the apartment is six months. Janet estimates that her share of the utility bills will be \$75 per month, and she also estimates that groceries will cost \$200 per month. Janet spent \$350 on a new couch over the summer, and if she lives in the residence she will put the couch in storage at a cost of \$35 per month. Janet expects to spend \$7,500 on tuition for the year and \$450 on books each semester. Room and board at the residence would cost Janet \$2,900 per semester (four months). This amount includes a food plan of 20 meals per week, and the cost is nonrefundable if the meals are not eaten.

ANALYZE INFORMATION:

Questions A to G will help you analyze the information for this problem. Do not turn in your answers to these questions unless your professor asks you to do so.

- Use **ONLY** the cost information collected by Janet for the following tasks.
 - List all of the costs for each option. *Note:* Some costs may be listed under both options.
 - Review your lists and cross out the costs that are irrelevant to Janet's decision. Explain why these costs are irrelevant.
 - Calculate and compare the total *relevant* costs of each option.
 - Given the cost comparison, which living arrangement is the better choice for Janet? Explain.
- Identify risks associated with the costs collected by Janet.
 - Determine whether each cost is likely to be (i) known for sure, (ii) estimated with little uncertainty, or (iii) estimated with moderate or high uncertainty.
 - For each cost that is known for sure, explain where Janet would obtain the information.
 - For each cost that must be estimated, explain why the cost cannot be known.
- List additional information that might be relevant to Janet's decision (list as many items as you can).
 - Costs not identified by Janet.
 - Factors (including risks) other than costs.
- Explain why conducting a cost comparison is useful to Janet, even if factors other than costs are important to her decision.
- Consider your own preferences for this problem. Do you expect Janet's preferences to be the same as yours? How can you control for your biases as you give Janet advice?
- Think about what Janet's priorities might be for choosing a housing arrangement. How might different priorities lead to different choices?
- Describe how information that Janet gains over this next year might affect her future housing arrangements.

REQUIRED Suppose Janet asks for your advice. Turn in your answers to the following.

- Use the information you learned from the preceding analyses to write a memo to Janet with your recommendation and a discussion of its risks. Refer in your memo to the information that would be useful to Janet.
- How did you decide what information to include in your memo to Janet? Write one or two paragraphs explaining your thought process.

1.47 Ethical Decision Making, Relevant Information, Risks, Biases You are an entry-level accountant at City Hall. You work for the accounting department, but have been loaned out to the department responsible for building and maintaining roads while the managers develop their annual budget. The director of the department is in the





middle of a nasty divorce. He asks you to work on a Saturday to finish up details of the budget. When you arrive, he asks you to work on a schedule for his personal financial information for the upcoming divorce court case. When you finish the task, he tells you to record your hours as overtime and bill them to the city.

REQUIRED



- A. What is the ethical issue here?
- B. What are your alternatives?
- C. If you do as the director asks and your boss finds out, what might happen? What risks are involved?
- D. What information is relevant to your decision?
- E. Is there only one correct solution to this problem? Why or why not?
- F. Explore this problem from different perspectives:
 1. Your own
 2. The department director's
 3. Your boss's
 4. The taxpayers'
- G. How important is it for you to behave ethically?
- H. Based on your analysis of the situation, write a short "script" for how you would respond to the department director.
- I. Suppose you decide not to do what the director asks. Discuss the issues you would consider as you decide whether to report this incident to your boss.



1.48 Quality of Decisions, Risk Appetite, Bias Maria and Tracey became good friends while working at the same company.

LO4, LO5,
LO6, LO7



Two years ago, they both decided to increase their savings so that they could eventually purchase homes. Each began by putting a portion of every paycheck into a savings account. At the end of the first year, they had each accumulated \$4,000. Because their savings accounts paid a very small interest rate, they decided to invest the savings to earn a higher rate of return. Maria and Tracey both hoped to save enough money to buy homes within five years.

Maria decided to take an investment course offered through the company. The course taught her about different types of investments and strategies for investing. She then purchased and read an investment book to learn more. She learned that some investments are riskier than others, and that investors must balance risk against desired return. Higher risk leads to higher returns, on average; however, higher risk could also lead to low returns or even loss. She also learned that investment advisors recommend diversifying risky investments. One way to diversify is to invest in mutual funds, which invest in many different organizations. Maria decided that she was willing to assume some risk, but was not comfortable with a high level. She decided to invest her \$4,000 in a stock market mutual fund. She read *Consumer Reports* to learn about different mutual funds and selected a fund that invests conservatively in fairly stable companies. However, the stock market did not do well in the first year. The value of her mutual fund at the end of a year was \$4,050.

Tracey talked with her boyfriend and other friends about how they invest. Her boyfriend's cousin recommended investing in a start-up company that sells video games. He told her that the games were very hot with teenagers and that the company would probably be acquired, resulting in big gains for investors. This opportunity sounded good to Tracey, so she decided to invest her entire \$4,000 in the company's stock. After 10 months, she was excited to learn that the company was being acquired. She received stock in the acquiring company in exchange for her original stock. At the end of the year, the market value of her stock was \$8,200.

REQUIRED

Evaluate the quality of the investment decisions made by Maria and Tracey. (*Hint:* Refer to Exhibit 1.13.)

- A. List the information used by Maria in making her investment decision.
- B. List the information used by Tracey in making her investment decision.
- C. Did Maria appear to use high-quality information? Explain.
- D. Did Tracey appear to use high-quality information? Explain.
- E. Describe Maria's decision-making process. What did she do to explore her options? Did she appear to be biased? What were her priorities and her risk appetite? How did she reach a conclusion?
- F. Describe Tracey's decision-making process. What did she do to explore her options? Did she appear to be biased? What were her priorities and her risk appetite? How did she reach a conclusion?
- G. Did Maria appear to use a high-quality decision-making process? Explain.
- H. Did Tracey appear to use a high-quality decision-making process? Explain.
- I. Given your analyses of the information and decision-making processes used by Maria and Tracey, which investor made a higher-quality decision? Explain.

1.49 Integrating across the Curriculum (Auditing): Information Quality, Diagnostic Controls, Relevant Information to**LO1, LO2,
LO7**

Auditors Aden, Inc. is a manufacturer of television sets. The company recently revised its production processes and invested in new equipment to reduce labour costs.

REQUIRED

- A.** Following are possible measures that Aden could use to monitor product defects. Discuss the quality of information provided by each measure. (*Hint:* See Exhibit 1.13.)
1. Ratio of defective televisions returned to the number of televisions sold (data from customer service department records and sales department records).
 2. Monthly defective unit warranty costs incurred (data from the general ledger).
 3. Monthly number of defects discovered during routine tests of televisions at the end of the manufacturing process (data from production records).
 4. Customer survey responses to the question, "How satisfied are you with the quality of your television set?" on a scale from 1 (very satisfied) to 5 (very unsatisfied). Surveys are mailed to 1% of randomly selected repeat customers from sales records.
- B.** List ideas about what Aden's managers might want to learn from monitoring product defects as part of a diagnostic control system.
- C.** The measures used by managers to monitor operations are often used by auditors when auditing financial statements. Explain why information about product defects might be relevant to Aden's auditors when they audit the following:
1. Warranty liabilities
 2. Lower of cost or market adjustment for inventory
 3. Allowance for doubtful accounts receivable

1.50 Integrating across the Curriculum (Technology and Information Systems): Internal and External Information,

Internal Reports, Business Risk Managers continually seek ways to improve productivity and reduce costs. Many manufacturers and retailers incur large costs to track inventory. To reduce these costs, managers began to consider the use of radio frequency identification (RFID) tags to replace bar codes that were currently being used to track inventory receipt, movement, and sale. When embedded in individual products, RFID tags allow companies to use radio signals to track every product item. For retailers such as **Walmart**, RFID technology was expected not only to reduce the cost of tracking inventory, but also to reduce losses from theft.

To further investigate the use of RFID, Walmart and **Procter & Gamble** secretly launched a research project in a suburban Tulsa, Oklahoma, Walmart store. Researchers monitored the movement of a particular lipstick product using RFID tags in the lipstick packaging, electronic readers concealed in the store shelves, and webcams. A sign on the lipstick display informed customers about the use of closed-circuit television and electronic security at the store.

When news of the testing became publicly known, consumer advocacy groups raised alarms about the potential loss of privacy from RFID tags. They claimed that proliferation of RFID technology could eventually allow retailers to track their products after customers buy them and leave the store. These concerns prompted a California state senate subcommittee to hold public hearings on RFID. Similar actions were likely to be taken in other states.

Sources: J. Donald, "Chipping Away at Your Privacy," *Chicago Sun-Times*, November 9, 2003; H. Wolinsky, "P&G, Walmart Store Did Secret Test of RFID," *Chicago Sun-Times*, November 9, 2003; E. Shein, "Radio Flier: Walmart Presents its Vendors with an Offer They Can't Refuse," *CFO Magazine*, November 5, 2003; and J. Black, "Playing Tag with Shoppers' Anonymity," *Business Week Online*, July 21, 2003.

REQUIRED

- A.** Would the information from RFID tags be considered internally or externally generated information? (See Exhibit 1.9.) Explain.
- B.** Information gathered by Walmart from its in-store research on the RFID technology was most likely summarized in one or more internal reports. Were these internal reports most likely used to (1) support organizational strategies, (2) support operating plans, or (3) monitor and motivate? Explain.
- C.** Describe the business risk associated with Walmart's decision to conduct research on its customers without explicitly informing them.
- D.** Provide arguments for and against Walmart's decision to conduct research on its customers without explicitly informing them.