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WILEY

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PREFACE

Management Accounting, third edition, combines the basic technical issues associated with cost management, management accounting and control with more recent and emerging themes and issues. This provides students of cost and management accounting with a more complete picture of the discipline. The text focuses on helping students to learn through the application of cost and management accounting methods to a variety of organisational settings, and by providing a diverse set of student tasks at the end of each chapter.

Hallmark features of the third edition include:

- management accounting cases and stimulus questions at the beginning of every chapter are used as a vehicle to introduce some of the issues explored within the chapter. These cases can also be used as a basis for class discussion and/or extension work and are based on settings relevant to students
- an introduction to the value chain framework in chapter 1 and the use of this framework as a vehicle to explore a range of management accounting issues
- a focus on management accounting information for decision making
- a student-friendly style with the use of diagrams for illustrative purposes and comprehensive examples within and at the end of chapters
- a chapter focused specifically on sustainability management accounting that is also linked to other chapters in the text.

Chapter focus

Part 1 Management accounting and cost management

Chapter 1 The role of accounting information in management decision making

Chapter 1 provides an overview of organisational decision making and introduces students to the use of management accounting information in decision making. A brief history of management accounting is provided, along with discussion of the emerging Uber-style value networks and key influences on management accounting system designs. Techniques for identifying and using relevant information are reviewed. A model for developing higher quality decisions is introduced. We then provide an introduction to some key terms and detail the value chain as a framework for consideration of a range of management accounting issues.

Chapter 2 Cost concepts, behaviour and estimation

We first review accounting terms that relate to cost behaviour and explain the cost function. At this point we also discuss limitations of the information produced by cost functions and problems with uncertainties and bias in developing cost functions. This focus allows students to consider the quality of information as they learn cost accounting methods. We present and illustrate cost estimation techniques that are used to describe cost behaviour (engineered estimates, analysis at the account level, the two-point method and regression analysis). Scatterplots and regression analysis are introduced as a way to provide additional information about cost behaviour. Linear and nonlinear (for example, learning curve) cost functions are presented.

Chapter 3 A costing framework and cost allocation

In this chapter we first explore the concepts of cost objects, and direct and indirect costs. We then outline a costing framework and use this framework to explore cost allocation issues with a particular focus on service entity settings. We then use the costing framework in a support department setting by exploring

the direct, step-down, and reciprocal methods of allocation. Finally, we discuss some of the limitations, or risks, of allocated cost information.

Chapter 4 Cost–volume–profit (CVP) analysis

We first highlight the meaning of cost–volume–profit analysis and its importance in decision making. Then, single and multiple product examples are used to explore the development and use of CVP information, before and after taxes. The margin of safety and operating leverage are introduced and used to analyse risk of operations. Examples show the use of CVP information for both decision-making and monitoring purposes. Examples of spreadsheets with input sections and cell referencing are introduced in the appendix so that students can easily perform sensitivity analysis. Additional information is provided on the use of spreadsheets in performing CVP analysis.

Chapter 5 Planning — budgeting and behaviour

This chapter emphasises the strategic nature of planning and budgeting through a consideration of planning mechanisms to test alternative courses of action (strategic budgeting), planning issues in cost centres and contemporary approaches to budgeting, including the re-invigoration of zero-base budgeting to reign in corporate excesses. Other techniques such as program budgeting and Beyond Budgeting principles are discussed. The dysfunctional and behavioural implications of budgeting are highlighted.

Chapter 6 Operational budgets

Budgeting issues are explored as a tool for both short-term and long-term planning. We outline the role of the master budget and demonstrate the compilation of key components of the master budget. We then describe and illustrate the role of the cash budget, followed by the use of budgets as performance benchmarks through the application of static and flexible budgets.

Chapter 7 Job and process costing systems

This chapter explains how organisations use absorption costing to determine the full (inventoriable) cost of their products or services. The first part of the chapter demonstrates the flow of costs through the manufacturing process and calculates the inventoriable product cost for customised products. Actual versus normal job costing methods are compared, and calculations for over- and under-applied overhead are explained. We also include a discussion of the costs of spoilage, rework and scrap in job costing, describing opportunity costs that arise from poor quality. Behavioural implications of the accounting methods used to record spoilage are explored.

We then explore process costing using FIFO and weighted average methods. We develop a single format that is used to calculate equivalent units for both the FIFO and weighted average methods and help students understand the difference between the two methods. In addition, accounting methods for the spoilage, rework and scrap that arise in mass production are illustrated. Finally, we discuss the uses and limitations of process cost information.

Chapter 8 Flexible budgets, standard costs and variance analysis

The development and use of direct and overhead cost standards and variances are presented in this chapter. We explore how standards are established and how variances are calculated and then analysed. The use of standards allows the ‘flexing’ of the static budget to enable actual performance to be assessed against a budget for the actual level of activity.

Chapter 9 Variance analysis: revenue and cost

This chapter further explores the revenue and cost variances introduced in chapter 8. The variances are further broken down to provide more insight into the variance, whether this is due to market conditions or operating processes. To further explore the variances between actual sales and budgeted sales, the revenue variances are further broken down into market size, market share and product mix variances. The focus on operating activities is seen in the analysis of the direct cost and overhead cost variances into price and efficiency components.

Chapter 10 Activity analysis: costing and management

Activity analysis for costing and management are introduced in this chapter. As a costing tool, comparisons are drawn between activity-based costing (ABC) derived costs and conventionally derived costs. We introduce the ABC cost hierarchy and explore the benefits, cost and limitations of ABC and activity-based management. With a focus on more recent developments in costing, we illustrate time-driven ABC. We use both service-entity and manufacturing settings within the chapter.

Chapter 11 Relevant costs for decision making

Non-routine decisions such as special order, make or buy, keep or drop, product emphasis and maximising constrained resources are covered in the first half of this chapter. As the chapter progresses, we consider the impact of uncertainties and limitations of non-routine operating decisions as well as information quality issues. The second half of the chapter discusses and illustrates issues associated with joint costing using physical volume, sales at the split-off point, net realisable value and constant gross margin NRV methods.

Part 2 Management accounting, extending performance measurement and strategy

Chapter 12 Strategy and control

This chapter introduces and reinforces the links between strategy and the management accounting/control system. We explore management accounting in a 'flat' world, and a number of existing frameworks of strategy and control including those proposed by Otley (1999), Simons's (1995) levers of control framework, Kaplan and Norton's (2008) strategy map framework, Ittner and Larcker's (2001) value-based management framework and Flamholtz's (1996) control system framework. These provide alternative ways of viewing the strategy and control relationship. We conclude the chapter with a discussion of management responsibility and accountability practices.

Chapter 13 Capital budgeting and strategic investment decisions

Net present value analysis, internal rate of return and other capital budgeting techniques (payback and accounting rate of return) are described and compared and contrasted in this chapter. These are explored in the context of a process for addressing capital budgeting decisions. Examples with increasing complexity develop capital budgeting with income taxes. Uncertainties, sensitivity analysis and bias in capital budget information are emphasised in this chapter. The chapter also explores strategic considerations for capital investment decisions which impact traditional models for capital investment decisions. Inflation effects are considered in the appendix using both the real rate and nominal rate methods.

Chapter 14 The strategic management of costs and revenues

Chapter 14 explores a range of issues relating to the strategic management of costs and revenues, including value chain analysis and continual cost improvement, customer profitability analysis, target costing and kaizen costing, life cycle costing, alternative pricing methods and revenue variance analysis. Each of these is explored as tools to achieve longer-term efficiency gains and profitability improvement.

Chapter 15 Strategic management control: a lean perspective

The focus of this chapter is the concept of lean accounting, which is explored in some detail. Other topics explored in the chapter include the theory of constraints, total quality management (TQM) and costs of quality, and issues associated with just-in-time manufacturing (JIT). Overall the focus is on practices that utilise forward-looking techniques to reduce inventories, streamline processes and eliminate waste.

Chapter 16 Responsibility accounting, performance evaluation and transfer pricing

In this chapter, we initially explore issues associated with responsibility accounting and responsibility centre classification. We then explore the use of income-based performance measures and compare use

of return-on-investment (ROI), residual income (RI) and economic value added (EVA) as key financial performance measures at the investment centre level. Transfer pricing issues are then addressed through a consideration and comparison of different transfer pricing methods.

Chapter 17 The balanced scorecard and strategy maps

This chapter firstly emphasises the role of strategy maps, particularly to operationalise strategy and as a tool to inform the development of balanced scorecards. The balanced scorecard is then introduced as a method that can be used to combine financial and non-financial performance measures to gauge progress and motivate employees. The strengths and weaknesses of the balanced scorecard are discussed, including uncertainties about the best choice of measures, mistakes in implementation and the effects of bias on performance measure choices.

Chapter 18 Rewards, incentives and risk management

We commence this chapter with a discussion of the relevance of agency theory to reward systems and incentives. We then focus on a range of issues associated with the incentive component of reward systems, including the key components of incentive plans, the advantages and disadvantages of cash and equity as key components of incentive plans, and how compensation is used to motivate performance. We then explore a number of emerging themes with respect to reward systems, including relative performance evaluation, pay-for-performance and the impact of government and regulatory authorities. The chapter concludes with an explanation of risk management and the role of performance measurement and incentives in risk management.

Chapter 19 Sustainability management accounting

Chapter 19 emphasises the relevance of strategic management accounting for a sustainability culture. The emerging and very real global sustainability landscape has increased the scrutiny on organisational, environmental and social practices. In this chapter, examples of how sustainability management accounting can provide managers with strategically relevant information for sustainability performance reporting and management decision making are provided. The aim is to increase student awareness of the global sustainability paradigm and the role that sustainability management accounting can play.

Chapter features

Management Accounting, third edition, uses a number of pedagogical features and a common structure in each chapter to enhance teaching and learning. Each chapter contains:

- a brief introduction and set of learning objectives, which also serve as the basis of the chapter summary at the end of each chapter
- management accounting cases at the start of each chapter to explore some of the issues to arise within the chapter. Each case has been specifically written for this text using local and international companies and organisations
- the use of illustrative examples within each chapter, with most containing one or more comprehensive examples
- a chapter summary at the end of each chapter
- self-study problems with suggested solution outlines for students to check their progress and understanding
- graded tasks at the end of each chapter, classified into discussion questions, exercises and problems.

PART 1

Management accounting and cost management

In part 1 of this text we introduce a range of management accounting/control techniques and practices, with an emphasis on cost-related techniques. The content of the chapters in part 1 comprises the foundation of any management accounting system in an organisation. Following an introduction to the value chain as a framework for management accounting in chapter 1, subsequent chapters explore a range of cost-related techniques. In part 2, we extend our coverage to a range of broader management accounting/control practices.

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1 The role of accounting information in management decision making

2 Cost concepts, behaviour and estimation

3 A costing framework and cost allocation

4 Cost–volume–profit (CVP) analysis

5 Planning — budgeting and behaviour

6 Operational budgets

7 Job and process costing systems

8 Flexible budgets, standard costs and variance analysis

9 Variance analysis: revenue and cost

10 Activity analysis: costing and management

11 Relevant costs for decision making

CHAPTER 1

The role of accounting information in management decision making

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- **1.1** recognise the types of decisions managers make for an organisation
- **1.2** discuss the role of cost and management accounting information in management decision making
- **1.3** communicate how managers can make higher-quality decisions using accounting information
- **1.4** describe the value chain framework and its applications in management accounting.

IN BRIEF

Managers use cost and management accounting information to help them make different types of decisions. These include developing organisational strategies, creating operating plans, and monitoring and motivating organisational performance. Higher-quality decisions are achieved by using higher-quality relevant information and decision-making practices. The value chain provides us with a suitable framework from which to explore a range of management decisions as well as a framework for many of the issues raised in the remainder of the text.

MANAGEMENT ACCOUNTING CASE

AWS cloud computing: enabling disruptive innovation

The idea for Amazon Web Services (AWS) cloud computing emerged when Amazon decided to invest in technology to support its increasing need to manage large volumes of data. Amazon CEO Jeff Bezos suggested that each interface be designed so the company could sell the additional infrastructure as a service. AWS has grown from strength to strength, almost doubling net sales (in billions) in just one year. AWS has over 1 million active customers, spread across more than 190 countries, using its massive global cloud infrastructure. This technology is now being used in transformative ways: cloud computing is enabling disruptive innovation.

For example, well known users of AWS include Uber, Airbnb and Pinterest Inc. Using AWS lets these internet-based companies avoid buying servers and making other up-front IT capital infrastructure expenditures. Instead they can operate with low variable costs from cloud computing services that scale with their business needs. The ability to create and leverage networks in minutes means start-up companies can quickly disrupt traditional businesses. Digital disruptors reduce barriers to entry, blur boundaries and stimulate innovators and entrepreneurs.

Some start-up internet companies are taking on the role of intermediary between the manufacturer and the individual retail stores or consumers themselves. At no point do they handle payments or products. Instead, the purchase is handled by the manufacturer or store, which then pays a commission to the online company. In this way, traditional value chains are being replaced with value networks. These are made up of evolving relationships that require flexible collaboration to manage supplier, partner, competitor and customer relationships. For example, Uber operates a mobile app-based transportation network for customers in many countries around the world. It is not a taxi business, in that it does not own any taxis or employ any taxi drivers, but it has disrupted the taxi industry. With an app, Uber matches a driver with a customer looking for a ride. Similarly, Airbnb does not own any hotels, but offers a website

for people who are willing to rent out lodgings. It has more than 800 000 listings in 33 000 cities and 192 countries. In this way, Airbnb is disrupting the hotel industry.[1]

Given the way disruptive organisations are reconfiguring traditional business models, accounting needs to play an important role in order to remain a useful tool. The ability for innovation and the relevance of accounting across all business environments is explored throughout this text.

MANAGEMENT QUESTIONS

1. Who are the customers, suppliers and producers in digital disruptor organisations?
2. How would accounting information be used to help measure, monitor and motivate?
3. Is accounting attention required across the entire design/production/distribution (value chain) processes?
4. What key factors drive organisational costs?
5. How does a company like Uber leverage itself through the creation of a 'value network'?

1.1 Management decision making

LEARNING OBJECTIVE 1.1 Recognise the types of decisions managers make for an organisation.

People at different levels within an entity continually make many different kinds of decisions. These range from long-term decisions, such as which markets and customers the organisation will pursue, to detailed operational and short-term decisions, such as how to respond to specific customer enquiries on a day-to-day basis. Figure 1.1 presents an overview of the decisions that managers make in organisations. It also suggests the role that information systems have in measuring, monitoring and motivating performance. We will briefly discuss each of the components illustrated in figure 1.1.

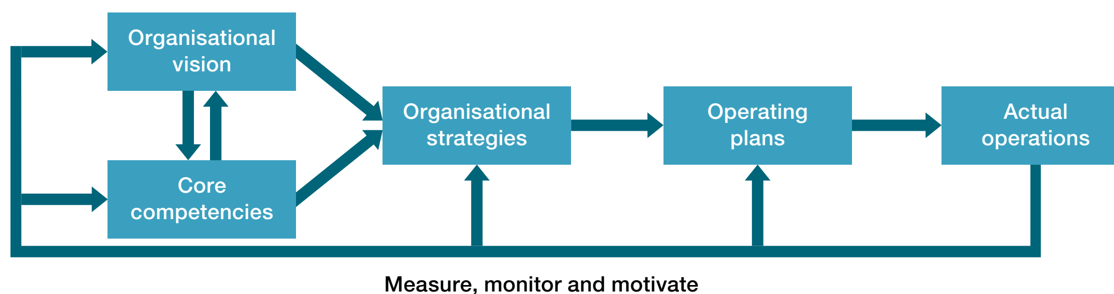

FIGURE 1.1 Overview of management decision making

Organisational vision

The most far-reaching decision managers make is to identify and shape the organisation's vision. The **organisational vision** is the core purpose and ideology of the entity, which guides the entity's overall direction and approaches toward its various stakeholder groups. Stakeholder groups include shareholders/owners, employees, customers, suppliers, lenders, local communities and the broader society. Organisational success increases when employees understand the organisational vision and work collectively to achieve it. To clarify and communicate the vision to employees and other stakeholders, managers sometimes divide the vision into one or more written statements. The definitions of these statements vary from entity to entity. In general, a vision statement is a theoretical description of what the organisation should become. A mission statement is a high-level declaration of the organisation's purpose. A core values statement is a summary of the beliefs that define the organisation's culture. Some managers also

publish codes of conduct or statements describing the organisation's social or environmental responsibilities. Of course, what is really important is that the beliefs and values underpin managerial action and are 'lived' rather than just being written in documents.

Organisational core competencies

Organisational core competencies are the entity's strengths relative to competitors. The organisational vision and core competencies are closely related. To create value for stakeholders, an organisation must have strengths relative to competitors. The vision should build on existing and achievable strengths. Of course, these core competencies need to be revisited from time to time as both the internal and external environments change.

Organisational strategies

Organisational strategies are the tactics that managers use to take advantage of core competencies while working towards the organisational vision. Although the term **strategies** can mean different things to different people and organisations, it commonly relates to providing direction and guiding long-term decisions. To monitor strategic progress, managers establish and monitor long-term goals such as market leadership or high-quality customer service.

Broad-based organisational strategies are commonly classified as:

- low-cost, where the emphasis is on competing on cost
- product differentiation, where the emphasis is on competing on points of difference such as quality of service or product attributes.

The strategy of the organisation is a key influence on the structure and nature of the organisation's information system and, in turn, the management accounting and control system.

Operating plans

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

Actual operations

Actual operations are the various actions taken and results achieved over a period of time. Actual operations 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 organisation's information system and then used to monitor and motivate performance.

Measuring, monitoring and motivating performance

Managers need information to help them make the types of decisions indicated in figure 1.1. For example, managers need information about costs to help them decide whether to sell a particular product or what price to set. They also need information to measure actual operations so that they can monitor the success of their decisions and motivate employees to work towards the organisational vision. Decisions are monitored by comparing actual operating results to plans (such as budgets) and to long-term goals. Desirable employee behaviour is often motivated by tying employee performance evaluation and pay to long-term or short-term results. An organisation's information system can be designed to measure and report information used for decision making as well as for monitoring and motivating.

While organisational information systems will commonly have a number of components, with each focusing on specific support (for example, human resources information, technology information,

marketing information, production information and accounting-related information), our focus in this text is on the role of cost and management accounting information.

We will revisit a number of these issues in chapter 12, which introduces the second part of the text.

1.2 Cost and management accounting for decision making

LEARNING OBJECTIVE 1.2 Discuss the role of cost and management accounting information in management decision making.

Cost accounting information is used for both management and financial accounting activities. The Institute of Management Accountants (IMA) defines **cost accounting** as 'a technique or method for determining the cost of a project, process, or thing'.[2] Cost accounting is commonly regarded as the precursor to the more recently developed term *management accounting*, which has a somewhat broader perspective.

Cost accounting information often serves as an input into broader management accounting and financial accounting systems. In this way, cost accounting is often viewed as a subset of management accounting in particular, and financial accounting to a limited extent. **Management accounting** is the process of gathering, summarising and reporting financial and non-financial information used internally by managers to make decisions. 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 used most frequently by decision makers outside of the entity, such as shareholders and creditors. An example of cost accounting information that is also financial accounting information is the valuation of ending inventory shown on the statement of financial position (also called the balance sheet).

Managers use many types of information to help them 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, the relationship between prices and sales, and so on. Informal methods are also important for collecting information from inside or outside the organisation. For example, individuals inside a company often gather product pricing information by reading industry trade journals or examining competitors' websites.

Most organisations 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 held in the minds of employees. This information, called *intellectual capital*, is not formally captured by the information system. Thus, it is difficult for decision makers, even within an organisation, to gain access to all of the information they might wish to use. It is easy to argue that managers should obtain more and better information to help them make decisions. However, the benefit must exceed the cost of generating the information.

To facilitate internal decision making (often a role for management accounting) and meet external reporting requirements (a key role of financial accounting), accounting departments within organisations use software to generate a variety of internal and external reports that summarise or highlight information. An **internal report** is a document that presents information for use only inside an organisation. An **external report** is a document that presents information predominantly for use outside an organisation. Figure 1.2 summarises common types of internal and external reports.

Internal reports are designed to provide information for a variety of management decisions. Some internal reports, such as monthly sales summaries, are issued regularly. Other internal reports, such as the analysis of a potential business acquisition, are generated for one-time use and commonly serve a special purpose.

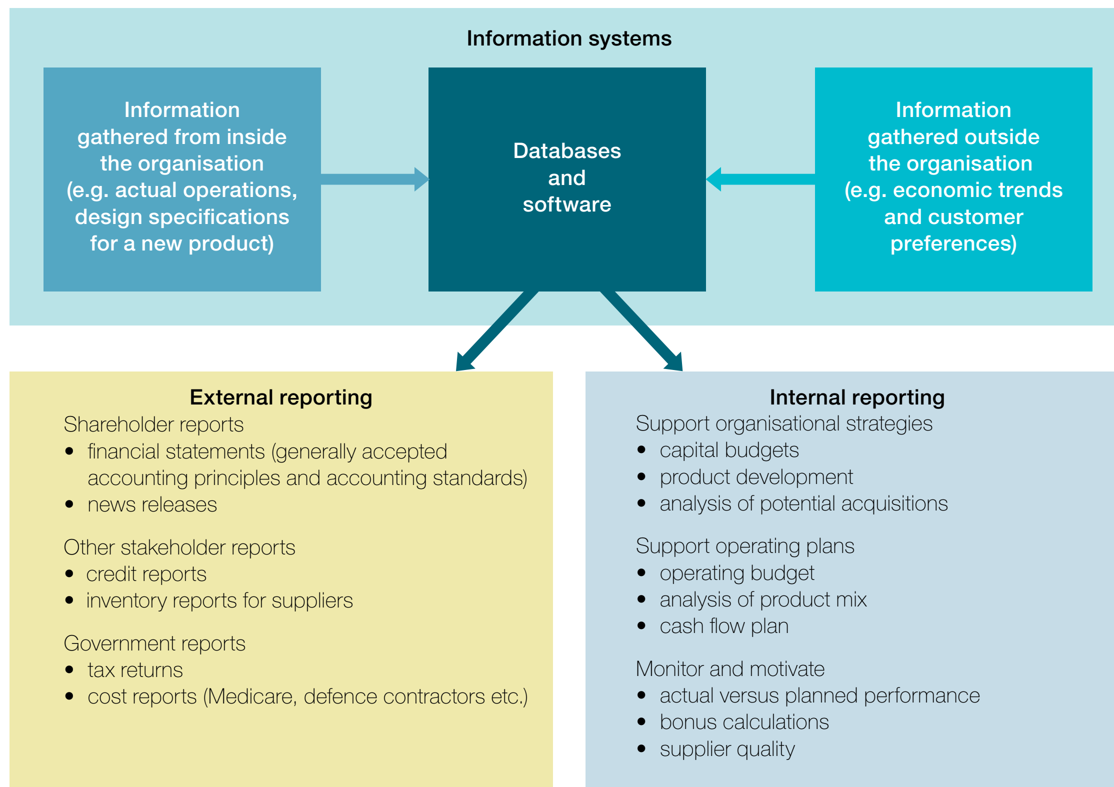

FIGURE 1.2 Examples of internal and external reports

External reports can be distributed to different constituencies for many purposes. Some external reports, such as income tax returns, are mandatory. Others are discretionary, such as a news release about a joint venture agreement.

Although reports are developed for a specific audience, they may be used for other purposes. For example, internal reports such as quarterly sales data can be shared with people outside the organisation. Similarly, external reports such as financial statements are sometimes used within the organisation. In addition, organisations use reports prepared outside the organisation (for example, by consultants or vendors) for internal decision making. With increasing demands for information both internally and externally, some might argue that the *differences* between internal and external information are becoming increasing blurred.

Key influences on management accounting system structure

Like any system, the management accounting system requires input, processing and output stages. The management accounting system is likely to be linked to the financial accounting system (as outlined earlier) but will commonly also have its own domain and reporting mechanisms to meet the needs of managers. While any management accounting system will comprise a number of components (such as costing, performance measurement and evaluation, and budgeting), some of the key influences on the nature of the management accounting system might include:

- organisational structure, which relates to such things as the level of centralisation versus decentralisation and how hierarchical or flat the structure is
- the availability of information technology and the use of that technology as part of the information system interface

- organisational strategies, such as the use of a low-cost strategy or differentiation strategy
- culture and organisational vision
- how the management accounting role is viewed within the organisation, which relates to whether management accounting assumes a proactive or reactive role, an information-provider-only role or an information-provider-and-decision-maker role
- the types of decisions managers are confronted with, such as long-term strategic decisions and short-term operating decisions
- external influences, such as environmental and other regulations.

The management accounting system will commonly be a combination of regular, routine reporting and one-off special studies or non-routine reporting. We would expect to find management accounting information performing a role in:

- developing strategies through the provision of information on alternative strategies and possible outcomes
- routine measuring, monitoring and feedback processes to managers relating to operations
- developing suitable cost and performance measures
- developing specific information databases to meet the needs of individual managers/departments
- participating in decision-making meetings as well as providing information for such meetings
- linking performance measures to incentive plans.

Cost and management accounting, yesterday and tomorrow

Cost accounting techniques date back to the industrial revolution and became popular in the early 1800s. As organisation size increased, the need for measuring, monitoring and motivating performance grew. By the mid 1800s, cost accounting practices were well developed. For example, in the United States, 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 the steel mills of Andrew Carnegie (US steel manufacturer and philosopher), for which material and labour cost information was produced on a daily basis. Then, in the early 1900s, organisations 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 seemingly changed very little. However, as the business environment became more global, competition increased. In turn, demand grew for more sophisticated cost accounting information, and terms such as *management accounting* were used to encapsulate the range of activities now undertaken. Recent technological innovation has enabled cost accountants to develop previously infeasible cost and management accounting systems. Today, cost and accounting information is used for a variety of purposes, including internal decision making, measuring and monitoring performance at all levels of the organisation, and aligning employee and stakeholder goals. Furthermore, managers now use cost accounting information to analyse the profitability of customers and to coordinate transactions with suppliers — extending traditional cost accounting beyond the organisation's boundaries.

As organisations continue to change and adapt to their environment, management accounting will similarly need to adapt to the changing organisational environment. This is critical if management accounting as a function, and management accountants as professionals, are to continue to add value to their organisations. For example, there is an increasing demand for organisations to measure and monitor their environmental performance such as measuring carbon footprints. Management accounting and control has an important role to play within organisations for environmental performance and will be explained in depth in chapter 19. Throughout this text we explore a range of management accounting techniques, tools and practices relevant to organisations. Some of these techniques, tools and practices have been around for a long time (such as standard costing, cost–volume–profit analysis and capital

budgeting), while others are more recent developments (such as the balanced scorecard, activity-based costing and sustainability management accounting). Further developments in management accounting tools will undoubtedly surface. Ultimately, the challenge for management accountants and the management accounting function is to ensure that the organisational decision-making needs are appropriately matched with the available management techniques, tools and practices.

The detail and quality of organisational data have improved in recent years. Historically, organisations used one accounting system that focused on conformance to generally accepted accounting principles (GAAP), which were used for both external and internal reporting. This type of information was not always ideal for management decision making. More recently, enterprise-wide systems such as enterprise resource planning (ERP) and SAP systems have better combined financial and management accounting information. However, even with the availability of these ERP and specific-purpose management accounting tools, the organisation of the twenty-first century faces significant risks. The management of these risks is critical. Moreover, even the availability of high-quality information systems does not guarantee success. The global financial crisis of 2008–09, in which we witnessed the collapse or bailout of major banks and corporations around the world, is a reminder of the need to continually develop suitable decision-making systems and for organisations to be vigilant in their application.

Recent information system developments have focused on business intelligence and disruptive technologies and innovation. The internet and business intelligence software provide opportunities for managers to save costs and improve profitability in the following ways:

- integrating systems:
  - throughout an organisation
  - between an organisation and its customers and suppliers
- improving management of:
  - customer relationships
  - supply chains
  - work teams within an organisation
- disruptive purposes:
  - new start-up internet companies with innovative profit offerings
  - disrupting established markets and changing traditional roles for individuals.

We should make some distinction between management accountants as professionals within organisations and the management accounting function. Most organisations will have a management accounting function in one form or another. Even start-up internet companies would draw on a management accounting function. In some organisations, this function might be performed by a variety of differently qualified and trained staff such as accountants (financial or management), costing clerks, engineers, and other staff with management training or experience. In some cases, the label *management accountant* might not even be used, but the management accounting work is still performed as a function. More often, though, the label *management accountant*, or some similar label such as *resource analyst* or *internal management consultant*, might be used. Whatever the terminology adopted, the management accounting function needs to be performed. Much of this text relates to the techniques, tools and practices that commonly comprise the management accounting function.

Relevant information for decision making

A key focus of management accounting is the provision of information for decision making. This requires the ability to distinguish between information that is relevant to a decision and information that is not. **Relevant information** helps the decision maker to evaluate and choose among alternative courses of action. Relevant information 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. Managers are less efficient and make lower-quality decisions when they allow irrelevant information to inappropriately influence their choices.