

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.
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IN BRIEF

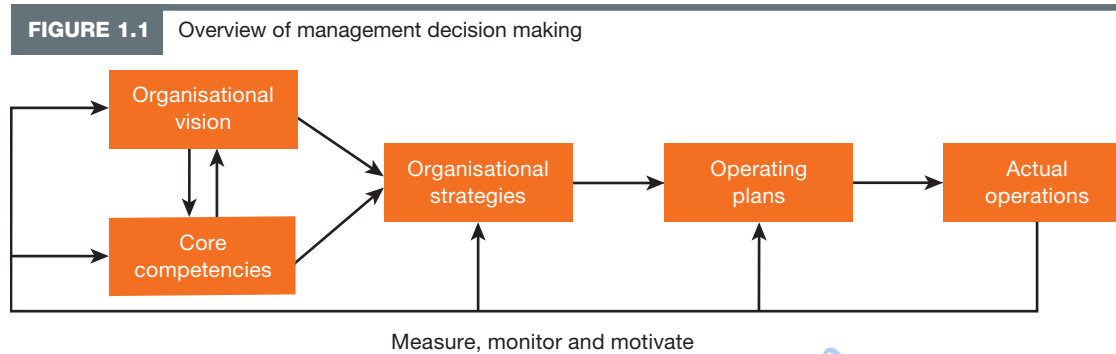
Managers use cost and management accounting information to help them make different types of decisions. These include developing organisational strategies, creating operating plans, and monitoring and motivating organisational performance. Higher-quality decisions are achieved by using higher-quality 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.



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.



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 14, 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’.¹ Cost accounting is commonly regarded as the precursor to the more recently developed term *management accounting*, which has a somewhat broader perspective.

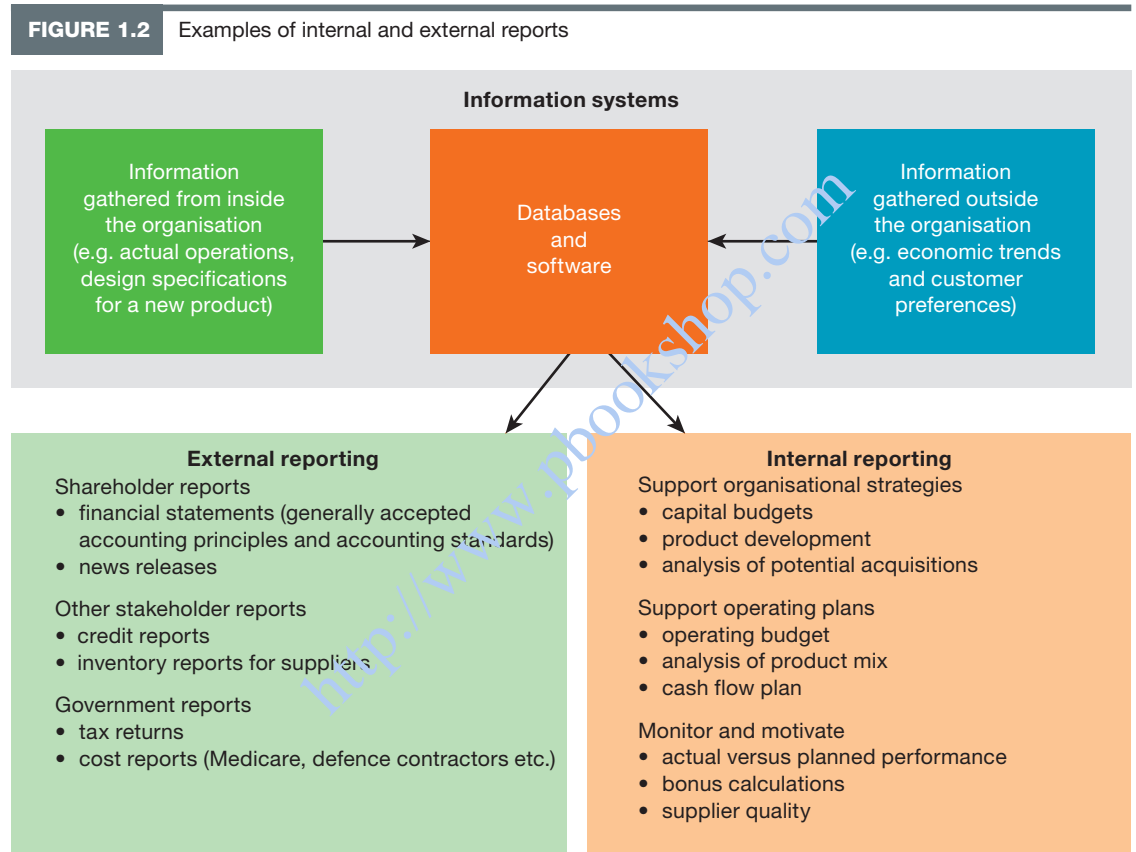
Cost accounting information often serves as an input into broader management accounting and financial accounting systems. In this way, cost accounting is often viewed as a subset of management accounting in particular, and financial accounting to a limited extent. **Management accounting** is the process 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.

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 increasingly 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 21. 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, 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 systems applications and products (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.

Whether a given type of information is relevant or irrelevant depends on the decision and other factors. Suppose a student is deciding whether to sign up for a particular university course. If the student has selected a degree program and wishes to graduate as quickly as possible, relevant information includes whether the course counts towards graduation. However, if the student’s goal is to take courses in a variety

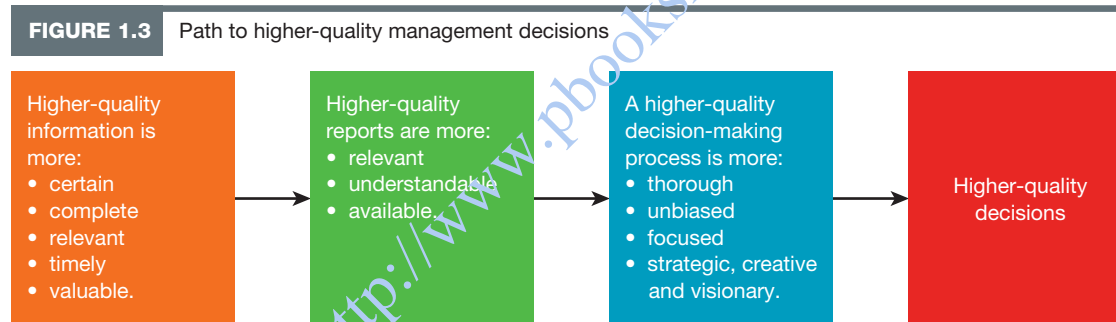
of disciplines to explore possible degree programs, then it might be irrelevant whether the course will help meet graduation requirements.

Throughout the text we will encounter a range of different types of decisions that require the identification of relevant information. For example, the concept of relevant costs is explored in a decision context in chapter 13, while the use of relevant cash flows is explored in chapter 15. Identifying relevant information is a useful skill that requires practice, and we will work on developing this skill throughout this text. We will also encounter different treatments of cost data in decision-making contexts. This is often referred to as *different cost for different purposes*, meaning the decision at hand and the nature of the cost object determine the cost data required and how such data might be used.

1.3 Management accounting information and the quality of decision making

LEARNING OBJECTIVE 1.3 Communicate how managers can make higher-quality decisions using accounting information.

Management accounting information is commonly used in decision making, and this raises two issues: (1) the quality and relevance of the management accounting information; and (2) the quality of the decision-making processes in use within the organisation. Higher-quality decisions result from better information as well as from better decision processes. Organisations often use complex and sophisticated information systems to gather and organise 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. Other decision makers, recognising that uncertainties always cloud decisions, go to the other extreme: instead of relying on imperfect information, they use only their intuition to make important business decisions. Neither of these approaches is optimal. Figure 1.3 summarises the path to higher-quality decisions.



Higher-quality information will generally have fewer uncertainties if it is based on viable assumptions. Nonetheless, it is still imperfect and may be in various forms, including financial and non-financial information. It should be complete, timely and directly relevant to the decision. Also, we cannot always operate in the ideal decision-making environment. Managers may confront decisions where information lacks certainty or completeness. In these circumstances, the decision context may be governed by the organisation’s attitude to risks. Two issues are worthy of specific mention here.

First, decision-useful information needs to have considered the impact of any opportunity costs on the decision and the associated risks. **Opportunity costs** are the benefits forgone when we choose one alternative over the next best alternative. Although such costs might be more difficult to quantify, they still need to be considered when evaluating alternative courses of action.

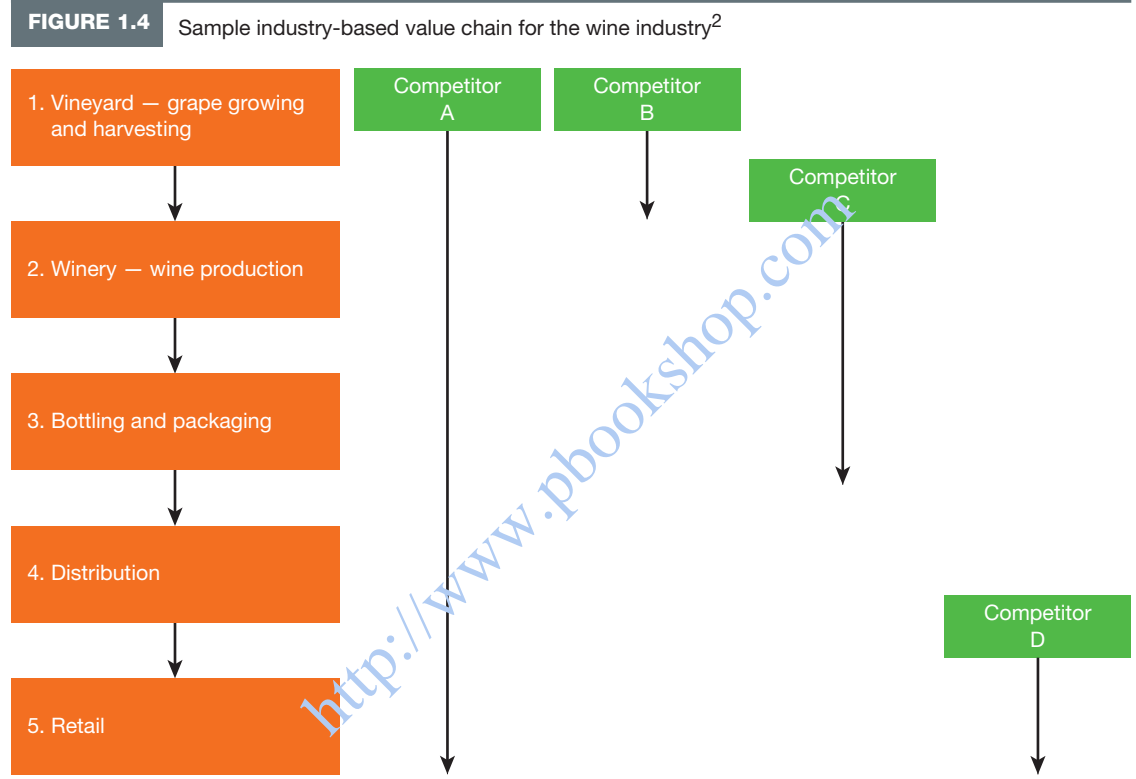
Second, the benefits derived from the information collected to support the decision-making process need to exceed the cost of collection. (The evaluation of such costs and benefits is commonly referred to as **cost–benefit analysis**.) This is particularly important when trying to make the information systems more complex, for example, in order to improve the reliability of product cost data. The extra precision derived from the increased complexity needs to warrant the cost of changes to the system.

1.4 Value chain analysis: a framework for management accounting

LEARNING OBJECTIVE 1.4 Describe the value chain framework and its applications in management accounting.

In the mid 1980s, Harvard Professor Michael Porter introduced the idea of the generic **value chain**. A value chain can be described as the key activities engaged in by the organisation or industry. We can view the value chain on two levels: at the industry level, and at the (more common) organisational level.

At the industry level, the value chain comprises the key industry components based on the key activities within the industry. Figure 1.4 shows a sample industry-based value chain for the wine industry. Particular organisations may choose to participate in the entire industry, in only part of the industry (for example, as a vineyard operator such as competitor B), or across most of the value chain (which would make it a vertically integrated entity such as competitor A).



The value chain at the organisational level is the more common view of the value chain. The organisational value chain is usually viewed as a combination of key and support activities. The value chain provides a suitable framework for considering a range of management accounting issues. The value chain:

- *Focuses on activities.* The central feature of the value chain is its focus on *activities and processes* rather than functions or departments. This makes identification of improvements across segments more likely.
- *Encourages a broader organisational view.* This is particularly so for management accounting staff and business unit managers. Management accounting staff are more likely to take a broader perspective if using a value chain framework when considering the consequences of decisions. With production activity as the central focus, we often talk of a consideration of upstream activities such as research and development, design and supply activities; and downstream activities such as warehousing, delivery and customer support.
- *Breaks down more traditional representations of organisational activity.* A value chain framework encourages higher levels of cross-fertilisation and communication between business segments, so that decisions are not confined by the traditional boundaries of functional areas.
- *Externalises thinking by incorporating suppliers and customers.* An organisation’s value chain encompasses not only customers and suppliers, but in some cases extends to the customers’ customers and the suppliers’ suppliers. Analysis of the value chain leads to improved relationships between the

organisation and others in the value chain, creating an extended organisation that can flexibly respond to dynamic and competitive environments. In other words, value chains explicitly recognise that no organisation operates in isolation from suppliers and customers.

- *Reflects value chain relationships in terms of costs.* Costs are transferred in every value-added activity. The end users (consumers) ultimately pay for the profit margins made throughout the value chain. The costs are calculated as cost of sales plus period costs (all other expenses incurred through the value chain).
- *Reinforces other initiatives such as activity-based costing (ABC).* With the focus on activities, a value chain framework provides a sound foundation for exploring activity-based costing (which is covered in chapter 12). ABC uses activities as the foundation of product and service costing. In this sense, activities are the fundamental cost object. We will explore cost objects and cost drivers in the next section. Moreover, a value chain framework complements other recent initiatives such as strategic cost management, which refers to the simultaneous focus on reducing costs and strengthening an organisation’s strategic position.³ This commonly involves taking a longer-term view of cost management and decision making.
- *Provides a foundation for outsourcing and strategic alliance decisions.* A value chain framework serves as the foundation for considering decisions such as outsourcing of particular parts of the value chain and for considering the formation of strategic alliances with, say, a distributor. In this way, the value chain serves as a strategic tool.
- *Supports initiatives such as supply chain analysis.* As organisations work to increase profitability, improving their relationships with suppliers becomes a priority. Improvements can be identified through supply chain analysis. The **supply chain** is the flow of resources from the initial suppliers through the delivery of goods and services to customers and clients. The initial suppliers may be inside or outside the organisation. Negotiating lower costs with suppliers is a straightforward way to reduce costs. Suppliers may be willing to reduce prices, particularly for organisations willing to sign long-term purchase commitments. Occasionally, organisations work with suppliers to help them reduce their costs so that the savings can be passed along.

Accountants analyse supply chains by determining inventory level requirements, starting with customer demand for products or services. Opportunities to reduce cost and improve quality are identified through tracking and analysing usage patterns of raw materials, supplies, finished goods and shipped goods. Vendors are included in inventory management decisions as part of this process. With close cooperation, inventory levels can be managed to reduce the quantitative costs of insurance and storage and the qualitative costs of quality changes and timeliness of delivery. In addition, there is increasing pressure for supply chain information from all participants. For example, suppliers may be credited by customers as to their performance in such areas as International Organization for Standardization (ISO) Standards relating to quality and environmental issues.

- *Enables financial measurement of downstream and upstream activities.* Ultimately, financial measurement of activities can be undertaken at each stage of the value chain:
 - evaluate profitability (profit/sales)
 - evaluate asset turnover (sales/assets)
 - evaluate returns on assets (income/assets).
- *Categorises activities as value-added and non-value-added.* Value chain analysis involves studying each step in the business process to determine whether some activities can be eliminated because they do not add value. This analysis extends to suppliers and customers, and includes shared planning, inventory, human resources, information technology systems, and even corporate cultures. Eventually, the analysis leads to business decisions for improving value.

Before activities in the value chain can be improved or eliminated, they must be identified and then categorised as value-added or non-value-added. A **value-added activity** is one that is necessary and that the customer/client is prepared to pay for, while a **non-value-added activity** is one that is wasteful (unnecessary) and that the customer/client would not normally be prepared to pay for. Some organisations use four categories, recognising both that it may be possible to improve value-added activities and that time may be needed to eliminate non-value-added activities. Figure 1.5 provides a sample value chain showing the key components.

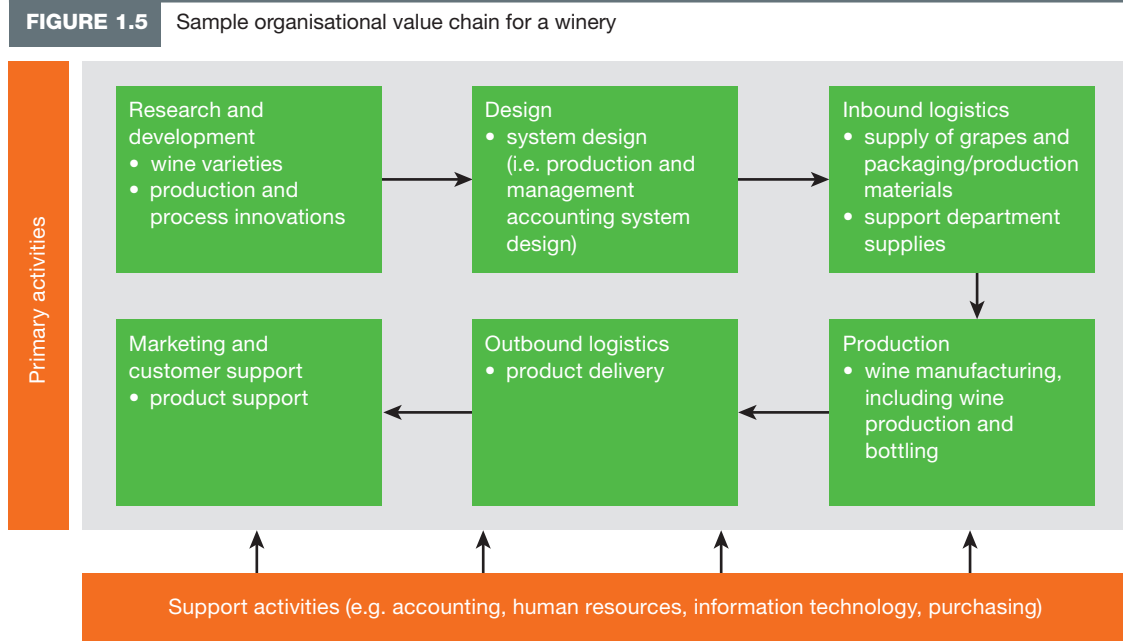


Figure 1.6 presents these four categories with examples of actions that managers could take to improve value. The process of analysing and categorising activities also improves communication, as individuals in each part of the process begin to share their abilities, needs and requirements with others in the value chain.

FIGURE 1.6 Classification of value-added and non-value-added activities

Activity classification	Action to improve value
A necessary activity that cannot be improved upon at this time	None
A necessary activity that could be changed to improve the process	Modify the process to improve value <i>Example:</i> Plant layout could be changed so that materials handling activities are reduced.
An unnecessary activity that can eventually be eliminated by changing the process	Eventually eliminate the unnecessary activity <i>Example:</i> Eliminate manual recording of employee hours using time cards. A new payroll system is eventually implemented. Plastic identity cards with magnetic strips are swiped through time clocks. The system electronically tracks hours worked and processes wages and salaries.
An unnecessary activity that can quickly be eliminated by changing the process	Immediately eliminate the unnecessary activity <i>Example:</i> In team manufacturing, inspection of units completed can be eliminated if each team member inspects each unit before it passes to the next team member.

Cost objects and cost drivers

Throughout this text, a range of new terms and their meanings as they relate to management accounting and decision making will be introduced. Two concepts that are relatively fundamental to much of the text are cost objects and cost drivers. A **cost object** is a thing or activity for which we measure costs. For example, it might be a product or service, a production activity, a customer, a project — or even the entire organisation. A knowledge of the costs of these cost objects can serve a range of different purposes, many of which we will explore throughout the text. **Cost drivers** are the inputs or activities that cause changes in the total cost of a cost object, and they can be defined according to the level within the organisation that is our point of interest. We will explore the role of cost drivers in cost allocation and product/service cost determination later. For now, our attention is on cost drivers at the organisational level. A number of

different classification models exist. We will explore one here that classifies cost drivers as structural or executional.⁴ Figure 1.7 contains a list of commonly identified structural and executional cost drivers.

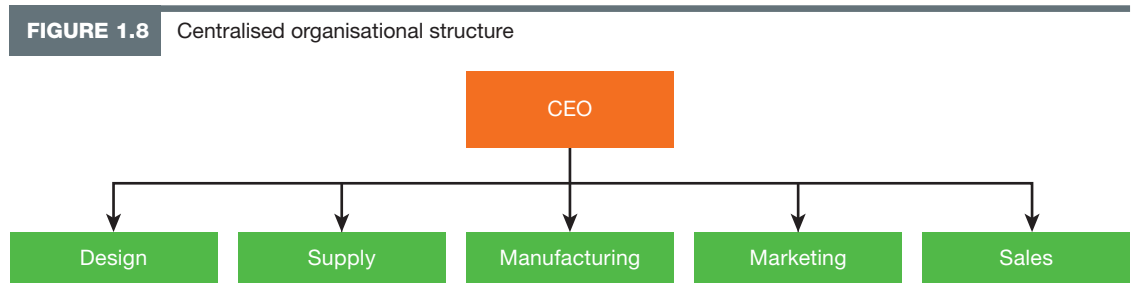
FIGURE 1.7 Classification of organisational-level cost drivers⁵

Structural cost drivers	Executional cost drivers
<i>Scale</i> — investment in key parts of the business such as research and development, manufacturing or marketing and customer support	<i>Workforce involvement</i> — a workforce commitment to continuous improvement (it is the responsibility of senior management to create and maintain such an environment)
<i>Scope</i> — degree of vertical integration or extent of involvement in the value chain	<i>Total quality management (TQM)</i> — a management and workforce commitment to product and process quality
<i>Experience</i> — levels of knowledge and experience relating to initiatives and organisational actions (i.e. have we done this before?)	<i>Capacity utilisation</i> — available capacity and how it is utilised
<i>Technology</i> — nature and extent of process technologies employed by the organisation	<i>Plant/process layout efficiency</i> — how well the plant or process technologies are designed and structured
<i>Complexity</i> — extent of the organisation's product/ service line	<i>Product configuration</i> — design or formulation of the product
	<i>Linkages with suppliers and customers</i> — how good the relationships are with customers and suppliers

Structural cost drivers are those that relate to the underlying economic structure of the organisation. Commonly, the status of each cost driver is determined by decisions taken by senior management, and each is likely to have a significant effect on organisational costs. Executional cost drivers relate to the ability of the organisation to do what it does successfully. For executional cost drivers, more is usually better — for example, the greater the level of workforce involvement, the better.

The value chain and organisational structure

Organisations may be structured in many ways, depending on their strategies and the goods or services supplied. Some companies might be more centralised; others might be structured in a more decentralised way. The larger the company and the more decentralised the company is the greater the organisational complexity (structural cost drivers) and the greater the need for accounting to help manage relationships within (and outside) the organisation (executional costs drivers). Figures 1.8, 1.9 and 1.10 provide examples of the different organisational structures. The first (figure 1.8) is centralised, with the CEO having direct oversight over all the functional value chain activities. The organisation becomes more decentralised when separate business units or divisions are created. Often this is done because the product offerings are associated with different industry value chains and duplication of the functional activities is necessary.



The second diagram (figure 1.9) demonstrates the distinction, with the industrial chemicals division selling to customers who are entirely different from the customers of the pharmaceutical chemicals or the food nutrition divisions. The decentralised structure, while it duplicates functional activities, provides a customer or market focus. Here business unit managers report to the CEO, who is not as close to the operational activities as they would be in a centralised structure. A more radical decentralisation is found in the matrix structure (figure 1.10), where a large international organisation might find the need to segregate geographically as well. Adding another geographical distinction further removes the CEO

from daily operations, as they now have geographical managers and industry/product managers reporting on activities. The manager of the European food and nutrition division would have two direct reports, or bosses, which can sometimes be difficult if the industry and geographical goals are not well aligned.

FIGURE 1.9 Decentralised organisational structure

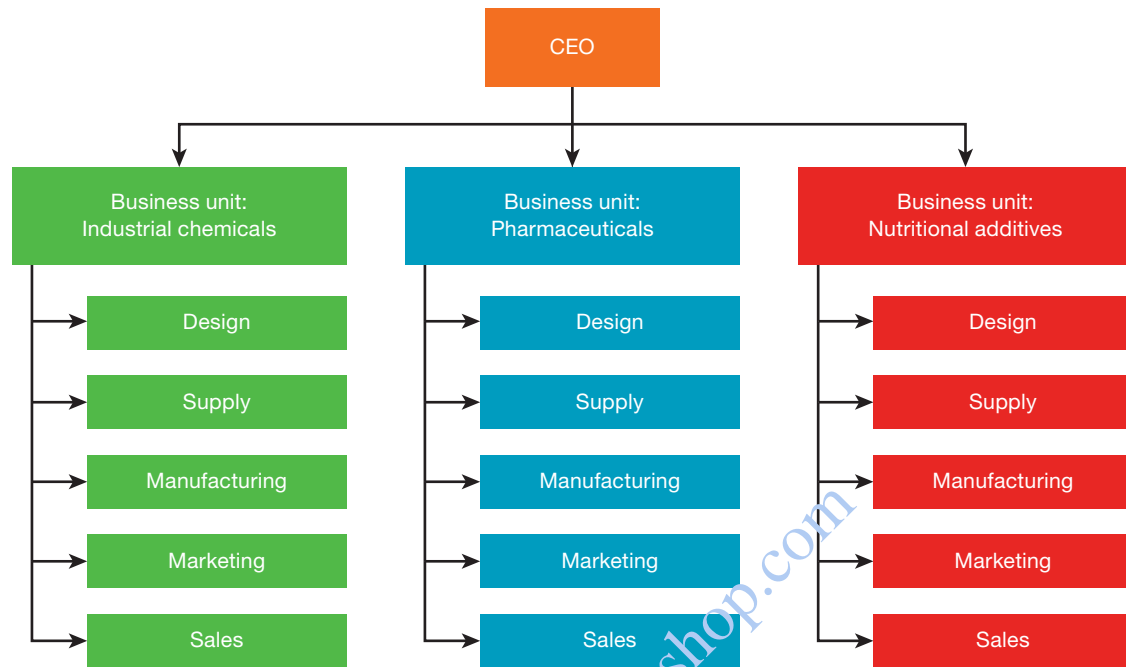
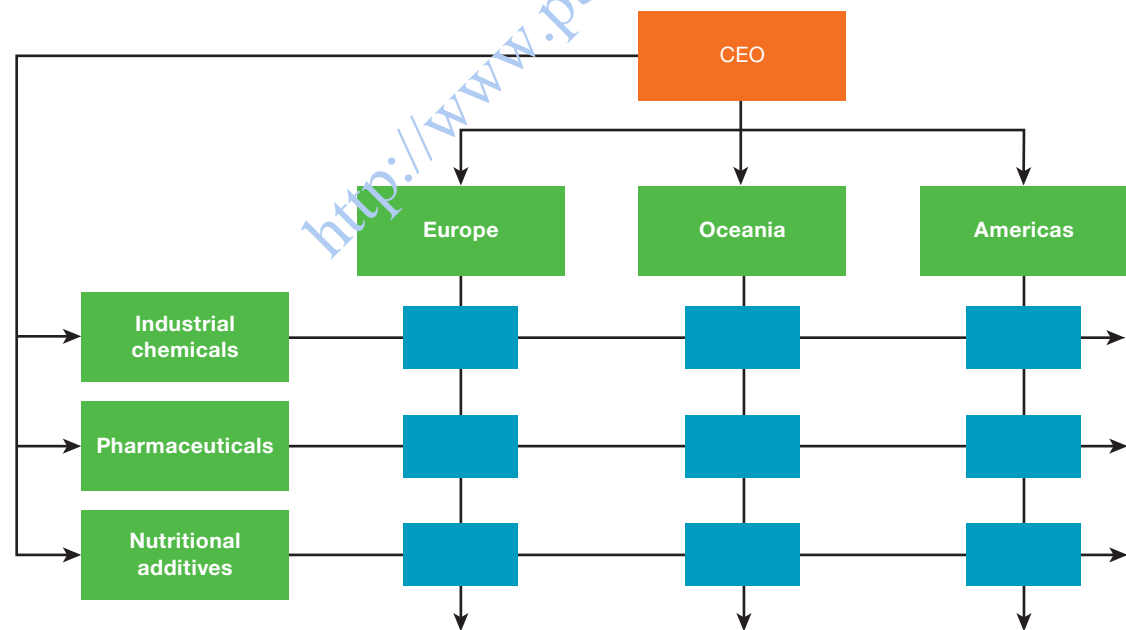


FIGURE 1.10 Matrix organisational structure

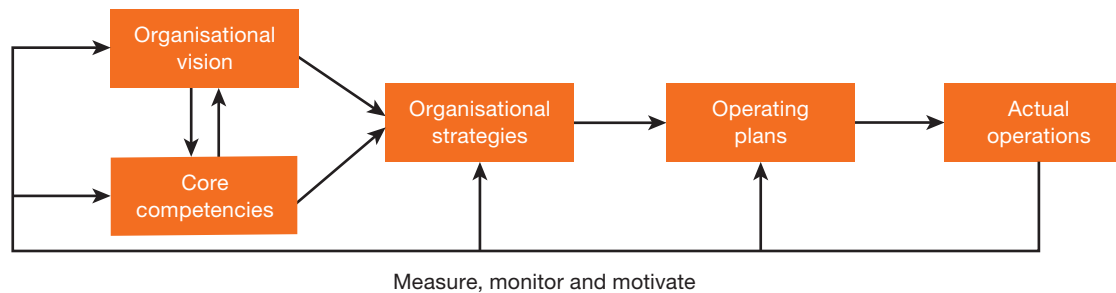


The first part of this text focuses on an introduction to a range of management accounting and control tools and practices that commonly form the foundation of any management accounting system within organisations. After obtaining a solid foundation of basic management accounting and control tools in the first part of the text, we extend our understanding of management accounting and control with emphasis on the behavioural aspects of information system design. We do this by reinforcing the role of strategy and the ways in which control system tools are influenced and used. Chapter 14 provides an overview of the second part of this text.

SUMMARY

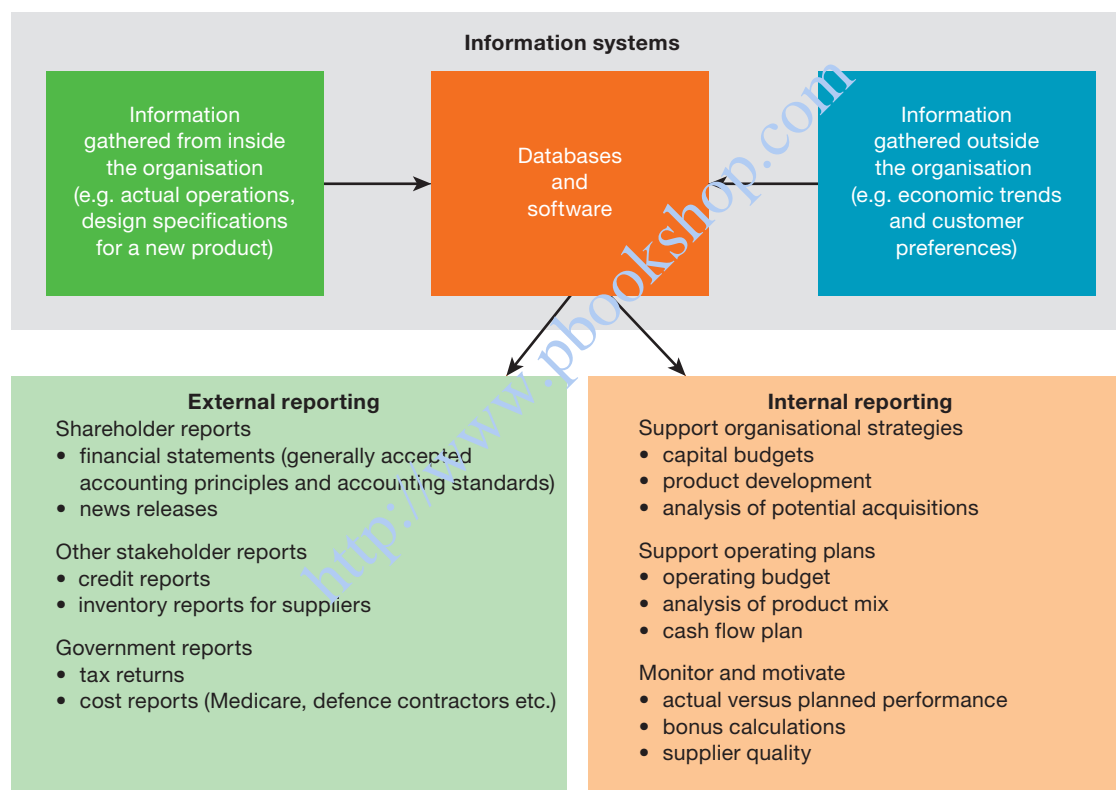
1.1 Recognise the types of decisions managers make for an organisation.

Overview of management decision making



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

(a) Internal and external reporting



(b) Key influences on management accounting system structure

Organisational structure, IT, organisational strategies, culture and organisational vision, view of management accounting, types of decisions, external influences

(c) Relevant information for decision making

Relevant information

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

- considering the future
- varying with the action taken.

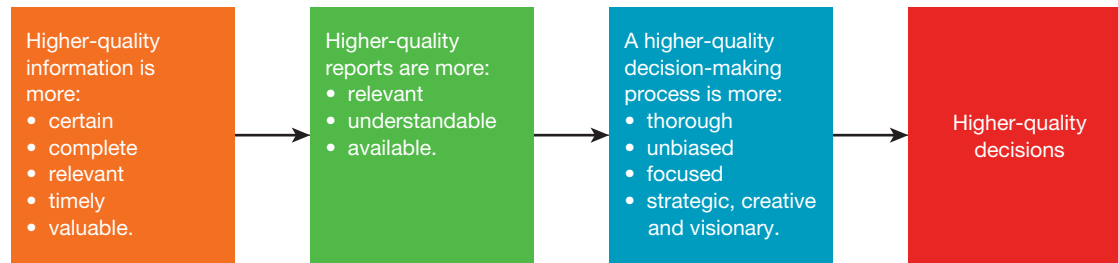
Includes incremental (avoidable) information (costs or cash flows).

Irrelevant information

- Not useful for decision making
- Includes unavoidable cash flows

1.3 Communicate how managers can make higher-quality decisions using accounting information.

(a) Path to higher-quality management decisions



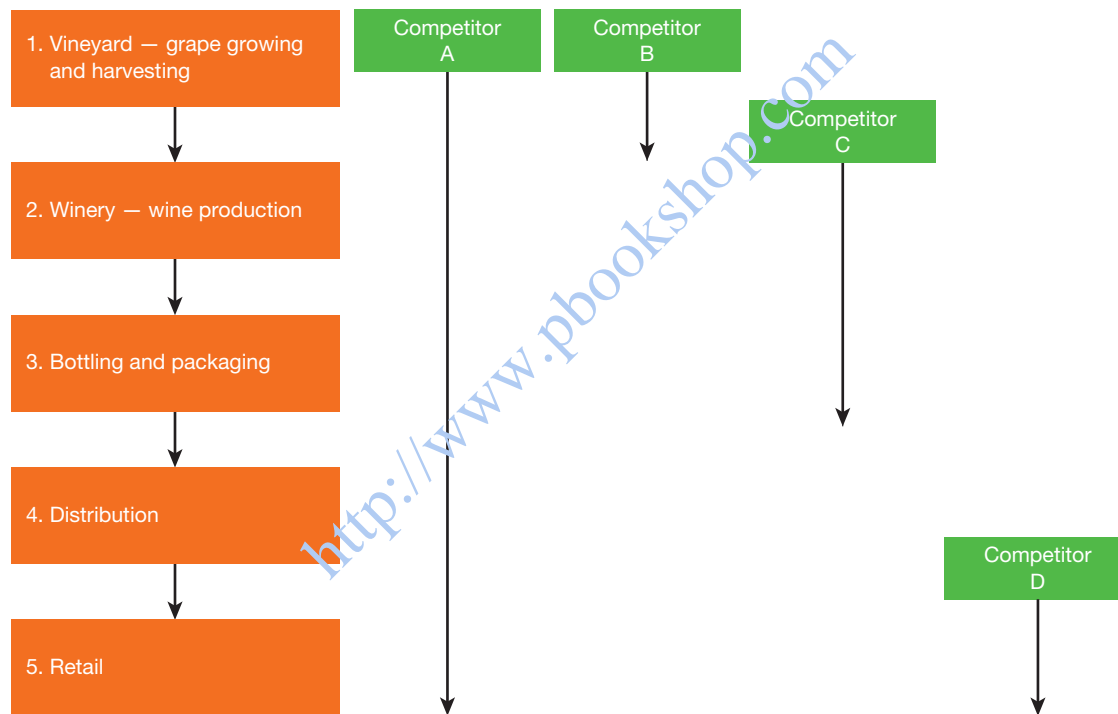
(b) Decision-useful information involves a consideration of:

- opportunity costs
- cost–benefit analysis.

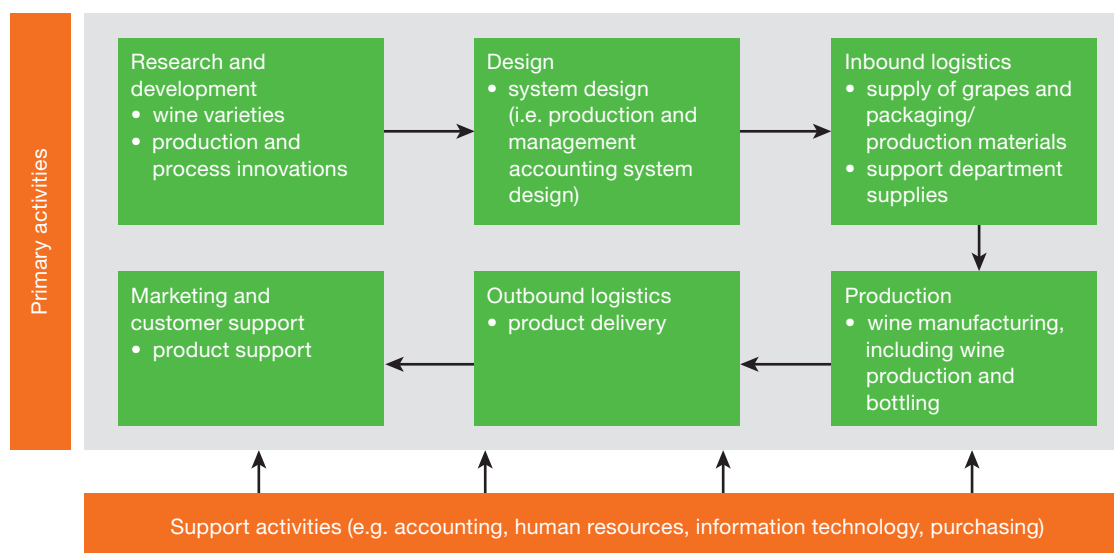
1.4 Describe the value chain framework and its applications in management accounting.

A value chain can be described as the key activities engaged in by the organisation or industry.

Sample industry-based value chain for the wine industry



Sample organisational value chain for a winery



A company’s structure, product offerings and value chain design are strongly related. Companies might operate in one industry or across multiple industry value chains and restructure accordingly.

KEY TERMS

actual operations The various actions taken and results achieved over a period of time.

cost accounting A technique or method for determining the cost of a project, process or thing.

cost–benefit analysis The evaluation of costs and benefits.

cost driver An input or activity that causes changes in total cost for a cost object.

cost object A thing or activity for which we measure costs, e.g. a product, service, customer, department, business unit or geographic region.

external report A document that presents information predominantly for use outside an organisation.

financial accounting The process of preparing and reporting financial information used most frequently by decision makers outside of the entity, such as shareholders and creditors.

internal report A document that presents information for use only inside an organisation.

irrelevant information Information that does not vary with the action taken and therefore is not useful for decision making.

management accounting The process of gathering, summarising and reporting financial and non-financial information used internally by managers to make decisions.

non-value-added activities Activities that are unnecessary and therefore wasteful, and that the customer/client would not normally be prepared to pay for.

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

opportunity costs The benefits forgone when one alternative is chosen over the next best alternative.

organisational core competencies The entity’s strengths relative to competitors.

organisational strategies The tactics that managers use to take advantage of core competencies while working towards the organisational vision.

organisational vision The core purpose and ideology of the entity, which guides the entity’s overall direction and approaches toward its various stakeholder groups.

relevant information Information that helps the decision maker to evaluate and choose among alternative courses of action.

strategies Tactics that relate to providing direction and guiding long-term decisions.

supply chain The flow of resources from the initial suppliers through the delivery of goods and services to customers and clients.

value-added activities Activities that are necessary and increase the worth of an entity’s goods or services to customers, and that the customer/client would normally be prepared to pay for.

value chain The key activities engaged in by the organisation or industry.

SELF-STUDY PROBLEMS

SELF-STUDY PROBLEM 1 Organisational value chain

Outline how an organisational value chain helps breakdown traditional organisational boundaries.

SOLUTION TO SELF-STUDY PROBLEM 1

An organisational value chain focuses on the key value-creating activities within an organisation. It is less concerned with the traditional functions of organisational boundaries, instead encouraging a wider perspective to be taken by both operational managers and support areas such as accounting. From a management accounting perspective, that would mean considering the wider implications of a decision rather than just the impact at the local level. The value chain illustrated in figure 1.5 would be adapted to the individual needs and circumstances of a specific organisation.

SELF-STUDY PROBLEM 2 Evaluation of performance across the value chain

New Zealand produces fine quality merino wool garments that are highly sought after by the fashion industry. Merino Designs is a fully integrated company that operates in this industry. It has one particularly popular product in its range, the Merino Jacket.

Merino Designs — The Merino Jacket			
Sheep farming			
Revenue (wool kg)	\$ 25.98		Profit/Sales = 24.6%
Costs: Operating costs	\$ 19.59		Sales/Assets = \$0.15
Margin	\$ 6.39		ROA 3.6%
Assets	\$175.97		
		+ \$0.52 handling cost	
Knitting mills			
Revenue	\$ 152		Profit/Sales = 8.2%
Costs: Wool	\$ 26.30		Sales/Assets = \$0.31
Colour dyeing	\$ 22.50		ROA 2.5%
Knitting	\$ 36.80	+ \$4.25 freight	
Accessories (buttons etc.)	\$ 8.60	+ \$2.96 tax	
SG&A	\$ 45.31		
Margin	\$ 12.49		
Assets	\$489.97		
Distributor			
Revenue	\$220.00		Profit/Sales = 11.3%
Costs: Knitted garments	\$159.21		Sales/Assets = \$3.87
Operating cost	\$ 35.98		ROA 43.7%
Margin	\$ 24.81		
Assets	\$ 56.86		
Retailer			
Revenue	\$450.00		Profit/Sales = 6.7%
Costs: Knitted garments	\$220.00		Sales/Assets = \$4.56
Operating costs	\$199.65		ROA 30.7%
Margin	\$ 30.35		
Assets	\$ 98.68		
The overall value chain			
Revenue	\$847.98		Profit/Sales = 8.7%
Profit	\$ 74.04		Sales/Assets = \$1.32
Assets	\$821.48		ROA 9.0%

Merino Design management would like to understand the performance of this jacket across the varying value chain activities. With reference to the value chain activities and figures shown in the table, provide an overview of the financial performance of the different value chain activities of Merino Designs.

SOLUTION TO SELF-STUDY PROBLEM 2

Merino Designs operates in all areas of the value chain. It farms sheep for wool, has its own woollen knitting mills and distribution department that ships to its Merino Designs stores throughout the world. As can be recognised in the different parts of the value chain, profitability might be higher or lower. Some areas of the value chain are more asset intensive, such as the knitting mills. Each contributes to the overall performance of the organisation. Using this information, managers might decide where activities are value-adding or non-value-adding and could potentially be outsourced. They might use this information to reward the individual managers for good performance.

QUESTIONS

- 1.1** Explain the value chain and list ways that value chain analysis benefits organisations. **L04**
- 1.2** Why do managers need to measure, monitor and motivate performance? **L01, 2, 3**
- 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. **L02**
- 1.4** What types of information in addition to cost accounting are needed for management decisions? **L01**
- 1.5** Explain relevant information in a decision-making context. **L01, 3**
- 1.6** What is a cost object? **L02**
- 1.7** In your own words, explain the path to higher-quality decisions. **L03**
- 1.8** Outline the meaning of structural cost drivers. **L04**
- 1.9** Identify two key influences on the nature of a management accounting system. **L02**

EXERCISES

- 1.10 Value-added and non-value-added activities** **L04**
Some activities add value to an organisation, while others do not.
Required
Determine whether each of the following activities is likely to be value-added or non-value-added, and explain your choice.
- Inspection activities
 - Moving materials to workstations
 - Manufacturing extra inventory to keep employees busy
 - Packing to fill a customer order
 - Product design initiatives
- 1.11 Internal and external reports** **L01, 2**
Classify the following reports as internal or external.
- Operating budget
 - Credit reports
 - Financial statements
 - Capital budget
 - Tax returns
 - Analysis of product mix
- 1.12 Management accounting function** **L02**
Differentiate between the management accounting function and the management accountant.
- 1.13 Types of manager decisions** **L01**
Suppose that the following are activities conducted by Microsoft Corporation.
- Comparing the timeliness of development steps of a new release of Windows with the timeline that was laid out to guide development.
 - Developing a timeline for the release of new Windows and Microsoft Office products over the next year.
 - Debugging the next version of Windows.
 - Providing technical support to customers who are having problems with Microsoft Office.
 - 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 site.

Required

Identify whether each activity is most likely part of:

- (a) organisational strategies
- (b) operating plans
- (c) actual operations
- (d) measuring, monitoring and motivating.

For each item, explain why.

PROBLEMS

1.14 Industry and organisational value chain

L04

With reference to Merino Designs in self-study problem 2, differentiate between an industry value chain and an organisational value chain.

1.15 Structural cost drivers

L04

- (a) With reference to Merino Designs in self-study problem 2, demonstrate the meaning of the structural cost drivers' scope, technology and experience.
- (b) Classify Merino Designs' likely strategy as low cost or product differentiation. Explain.

1.16 Relevant information

L01, 2, 3

Suppose you are responsible for ordering a replacement for your office photocopy machine. Part of your job is to decide whether to buy or lease the machine.

Required

- (a) Describe something that could be considered relevant information in this decision and explain why it is relevant.
- (b) Describe something that could be considered irrelevant information in this decision and explain why it is irrelevant.
- (c) Explain why it was important to distinguish between relevant and irrelevant information in this problem.

1.17 Uncertainties; degree of uncertainty

L03

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 in 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.

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

- (a) Prepare a list of uncertainties that the CEO faces if she buys the hotel.
- (b) Prepare a list of uncertainties the CEO faces if she replaces the heart monitors.
- (c) Which scenario appears to have a greater degree of uncertainty? Why?

1.18 Cost reduction; value chain analysis

L02, 4

Budget Cupboards produces kitchen and bathroom cupboards that incorporate unusual functions, such as specialty drawers for knives and kitchen tools, and kitchen appliance holders that pop up from under the counter top. Competition in this industry has recently increased. Budget's management wants to cut costs for its basic cupboard models and then cut prices.

Required

- (a) The following table lists potential areas for cost reduction. Two potential cost reductions are provided for the first area listed (design phase). For each of the remaining areas, identify two potential ways that Budget Cupboards' management could reduce costs using the structure of the table as shown.

Potential area for cost reduction	Potential cost reductions	
Design phase	Work with suppliers to reduce direct materials costs	Redesign cupboards to use fewer parts
Manufacturing process		
Administration		
Changes in quality or functionality		

(b) Budget does not currently use value chain analysis. Describe several advantages of using value chain analysis.

1.19 Quality of decisions

LO1, 3

Maria and Tracey became good friends while working at the same entity. Two years ago, they both decided to increase their savings so that they could eventually purchase homes. Each began by putting a portion of each month’s salary into a savings account. At the end of the first year, they had each accumulated \$4000. 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 entity. The course taught her about different types of investments and strategies for investing. She then purchased and read an investment book to learn more. Maria 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, but higher risk could also lead to low returns or even loss. She also learned that investment advisers recommend diversifying risky investments. One way to diversify is to invest in mutual funds, which invest in many different organisations. Maria decided that she was willing to assume some risk, but was not comfortable with a high level. She decided to invest her \$4000 in a stockmarket mutual fund. She read client reports to learn about different mutual funds, and selected a fund that invests conservatively in fairly stable companies. However, the stockmarket did not do well in the first year. The value of her mutual fund at the end of a year was \$4050.

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 popular 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 \$4000 in the company’s shares. After 10 months, she was excited to learn that the company was being acquired. She received shares in the acquiring company in exchange for her original shares. At the end of the year, the market value of her shares was \$8200.

Required

Evaluate the quality of the investment decisions made by Maria and Tracey. *Hint:* Refer to figure 1.3.

- List the information used by Maria in making her investment decision.
- List the information used by Tracey in making her investment decision.
- Did Maria appear to use high-quality information? Explain.
- Did Tracey appear to use high-quality information? Explain.
- Describe Maria’s decision-making process. What did she do to explore her options? Did she appear to be biased? What were her priorities? How did she reach a conclusion?
- Describe Tracey’s decision-making process. What did she do to explore her options? Did she appear to be biased? What were her priorities? How did she reach a conclusion?
- Did Maria appear to use a high-quality decision-making process? Explain.
- Did Tracey appear to use a high-quality decision-making process? Explain.
- Given your analyses of the information and decision-making processes used by Maria and Tracey, which investor made a higher-quality decision? Explain.

1.20 Relevant information; uncertainties; information for decision making

LO1, 2, 3

Janet Baker is deciding where to live during her second year at university. During her first year, she lived in the university residence college. Recently, her friend Rachel asked her to share an off-campus flat for the upcoming school year. Janet likes the idea of living in a flat, 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. She also estimates that groceries will cost \$200 per month. Janet spent \$350 on a new couch over the summer. If she lives in the university residence college, she will put the couch in storage at a cost of \$35 per month. Janet expects to spend \$7500 on university fees and \$450 on books each semester. Room and board on campus would cost Janet \$2900 per semester (four months). This amount includes a food plan of 20 meals per week. This cost is non-refundable if the meals are not eaten.

Required

- (a) Use *only* the cost information collected by Janet for the following tasks.
 - (i) List all of the costs for each option. *Note:* Some costs may be listed under both options.
 - (ii) Review your lists and cross out the costs that are irrelevant to Janet’s decision. Explain why these costs are irrelevant.
 - (iii) Calculate and compare the total relevant costs of each option.
 - (iv) Given the cost comparison, which living arrangement is the better choice for Janet? Explain.
- (b) Identify uncertainties in the cost information collected by Janet.
 - (i) Determine whether each cost is likely to be (1) known for sure, (2) estimated with little uncertainty, or (3) estimated with moderate or high uncertainty.
 - (ii) For each cost that is known for sure, explain where Janet would obtain the information.
 - (iii) For each cost that must be estimated, explain why the cost cannot be known.
- (c) List additional information that might be relevant to Janet’s decision (list as many items as you can).
 - (i) Costs not identified by Janet
 - (ii) Factors other than costs
- (d) Explain why conducting a cost comparison is useful to Janet, even if factors other than costs are important to her decision.
- (e) 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?
- (f) Think about what Janet’s priorities might be for choosing a housing arrangement. How might different priorities lead to different choices?
- (g) Describe how information that Janet gains over this next year might affect her future housing arrangements.
- (h) Suppose Janet asks for your advice. 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.

1.21 Relevant information; recommendation

LO1, 2, 3

Frank owns a caravan and loves to visit national parks with his family. However, the family only takes two one-week trips in the caravan each year. Frank’s wife would rather stay in motels than the caravan. She presented him with the following itemisation of the cost per trip, hoping that he will sell the caravan and use motels instead.

	Cost per trip
Caravan:	
Cost: \$20 000	
Usable for 10 seasons, two camping trips per season	\$1000
Transportation expense:	
1000 km @ \$0.37 per km	370
Includes:	
\$0.15 per km for petrol, oil, tyres and maintenance	
\$0.22 per km for depreciation and insurance	
Groceries	250
Beverages	100
Cost per trip	\$1720
Cost per person (\$1720/5 family members)	<u>\$ 344</u>

Required

- (a) What are the relevant costs for deciding whether the family should go on one more camping trip this year?
- (b) What are the relevant costs for deciding whether Frank should sell the caravan? Assume the family will take the same vacations but stay in motels if the caravan is sold.
- (c) What factors other than costs might influence the decision to sell the caravan? List as many as you can.
- (d) Consider your own preferences for this problem. Do you expect Frank’s preferences to be the same as yours? How can you control for your biases and consider this problem from Frank’s point of view?
- (e) Frank asks you to help him decide what to do. Do you think he should sell the caravan? Why?

1.22 Cost drivers; value chain; strategy; organisational structure **LO2, 4**

Australian fashion designer Sean Ashby commenced his men’s swimwear and clothing business aussieBum in 2001. A keen swimmer and surfer, he was unable to find a good pair of men’s cossies and used his life savings of \$20 000 to make a series of prototypes, buy materials and commence manufacturing in Australia. Despite rejection from local retailers who did not see the potential for aussieBum to compete with international brands, Ashby has proven critics wrong. He had no choice but to take his business online, with instant exposure to the international market. It now takes thousands of orders a day.

Since the company’s inception, Ashby says that aussieBum has ‘taken on its own little cult revolution’, with celebrities such as Ewan McGregor, Billy Connolly and David Beckham fans of the aussieBum brand. Even Kylie Minogue’s male dancers wore aussieBum cossies in the film clip for her song ‘Slow’. The marketing thrust behind Ashby’s aussieBum is to live the dream — ‘the dream to be independent and present our gear in a way that gets noticed. We don’t apologise for pushing the boundaries . . . We have a saying at aussieBum — If you doubt yourself, wear something else’.⁶

The company doubled in size every year in its first five years and continued to grow by 20 per cent every quarter. By 2018, aussieBum had an average annual turnover of between \$17 million and \$20 million, and 90 per cent of its customers were international. The aussieBum brand now takes pride of place in stores such as Selfridges in the UK; Brown Thomas in Ireland; La Maison Stores in Canada; Alpha Male in Melrose Drive, Los Angeles; KaDeWa in Germany; as well as others in Spain, The Netherlands, Sweden, Poland and Russia. As well as direct department store sales, aussieBum’s internet retail orders are booming, with aussieBum being distributed to more than 70 countries. It now has over 200 000 consumers ordering direct via its custom built e-commerce site.

Most of the raw materials are sourced from Italy and China. By manufacturing in Australia, aussieBum hopes to promote Australia’s culture and relaxed lifestyle as well as eliminate restrictions that might come with outsourcing production to other countries. Moreover, producing locally (through independent manufacturers) provides flexibility and a reduced timeframe in getting new products to market. With a heavy emphasis on innovative product design, aussieBum pays close attention to the design phase of the product process.

Two examples of aussieBum’s flexibility and innovative approach to product development and marketing are worthy of note. First, it was able to capitalise on the consumer backlash against competitor Bonds when that company transferred more of its manufacturing offshore. Ashby estimates that aussieBum’s sales grew by at least 40 per cent as a result. Second, aussieBum was able to achieve continued growth during the global financial crisis. The company continues to avoid debt and own all its assets outright.⁷

Required

- (a) With reference to the information provided, distinguish between structural and executional cost drivers.
- (b) Illustrate and describe the industry and organisational value chain in which aussieBum operates.
- (c) Classify aussieBum’s likely strategy as low cost or product differentiation. Explain.
- (d) Classify aussieBum’s organisational structure as centralised or decentralised. Explain.
- (e) With reference to disruptive innovation, do you consider aussieBum to be a disruptor to the traditional garment industry value chain? Discuss why or why not.

1.23 Value chain **LO4**

Using figure 1.5 as an example, develop an internal value chain for an airline such as Virgin Australia.

1.24 Value chain in the public sector

LO1, 2, 4

Traditionally, government organisations have tended to operate in silos, focusing on their own objectives and managing and protecting their own budgets. Recently, however, faced with seemingly intractable economic, social and environmental problems, many government organisations have sought to develop new ways of working. In particular, they have sought to explore how their objectives overlap and depend on other organisations and how they might share information and resources. One example is provided by attempts to reduce crime and enhance public safety in the criminal justice sector.

In New Zealand the Ministry of Justice is the lead agency in the justice sector. The sector includes the New Zealand Police, the Serious Fraud Office, Child Youth and Family, the Department of Corrections and the Crown Law Office.

The organisations in the criminal justice system can be thought of as being involved in a ‘pipeline’ that begins with crime prevention and the investigation of crime and proceeds all the way through to rehabilitation (see the figure below). Looking at the sector as a pipeline, we can see that policies and actions in any part of the system will affect other parts of the system. By working as a coordinated ‘justice sector’, changes can be made that result in the best outcomes for the sector as a whole.

Criminal justice pipeline



Within this pipeline, the operations within one agency, Public Prisons, can be further analysed to show the links between its key activities and between the department and other organisations in the sector.

Key activities follow this path:

- offenders are convicted in the courts
- offenders are sentenced and sent to prison
- prisoners undergo an initial assessment
- the serving of the sentence is planned
- prisoner’s sentence is managed, including provision of relevant rehabilitation programs
- prisoner’s release is planned and managed.⁸

Required

- (a) With reference to the information provided, distinguish between the structural and executional cost drivers in this value chain.
- (b) Is there an ability for governments to outsource any of these value chain activities?

1.25 Management decision making

LO1, 2

The Woolworths Group has a goal of having customers put the company first across all their brands. To achieve this the Group has identified five priorities.⁹

1. Building a customer and store-led culture and team.
2. Generating sustainable sales momentum in food.
3. Evolving the drinks business to provide even more value and convenience to customers.
4. Empowering the portfolio businesses to pursue strategies to deliver shareholder value.
5. Becoming a lean retailer through end-to-end process and systems excellence.

Required

- (a) Given the strategic priorities, what decisions could management take to influence the structural cost drivers and executional cost drivers?
- (b) What type of information would management need in making decisions you have identified in (a)?

ENDNOTES

1. See IMA 1983, *Statement on management accounting no. 2: management accounting terminology*, NAA, Montvale, NJ, 1 June, p. 25.
2. Adapted from Shank, J & Govindarajan, V 1992, ‘Strategic cost management and the value chain’, *Journal of Cost Management*, pp. 5–21.
3. See Cooper, R & Slagmulder, R 1999, ‘The scope of strategic cost management’, in J Edwards (ed.), *Emerging practices in cost management*, Warren, Gorham & Lamont, Boston.
4. This classification model is based on Shank, J & Govindarajan, V 1992.
5. Adapted from Shank, J & Govindarajan, V 1992.
6. Information from www.aussieBum.com.
7. AusIndustry 2005, *Aussie cossies kick butt overseas*, AusIndustry success story, Department of Industry, Tourism and Resources, www.ausindustry.gov.au; Australian Trade Commission 2010, ‘Case study — aussieBum (NSW)’, www.exportawards.gov.au; IBISWorld 2006, *Clothing manufacturing in Australia*, IBISWorld industry report, 11 December; Pascuzzi, C 2006, ‘Today aussieBum, tomorrow the world’, *Mediasearch Music Film & Fashion in Australia*, www.mediasearch.com.au; Spicer, R 2006, ‘Developing your exports’, *Dynamic Business Magazine*, September 2006, www.dynamicexport.com.au; Stephenson, A 2009, ‘Bonds anger sees aussieBum sales soar’, 2 April, www.news.com.au.
8. Information and diagram adapted from the Ministry of Justice (New Zealand) 2015, ‘About the justice sector’, www.justice.govt.nz.
9. Information from www.woolworthsgroup.com.au.

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