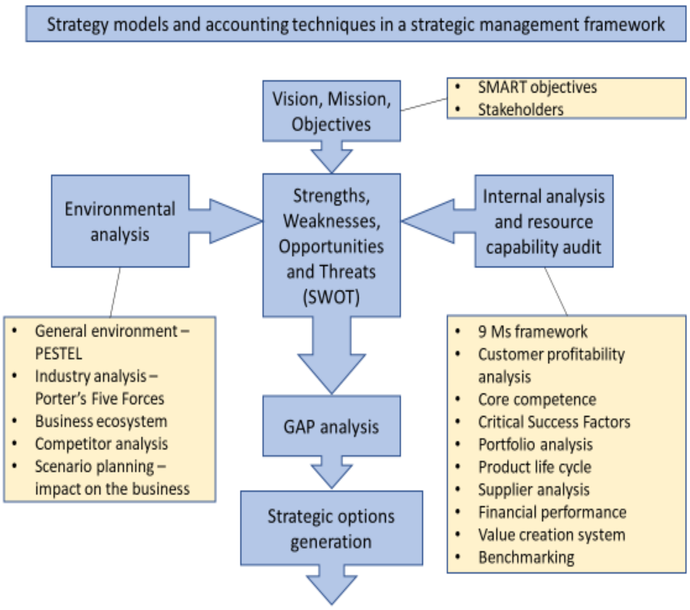
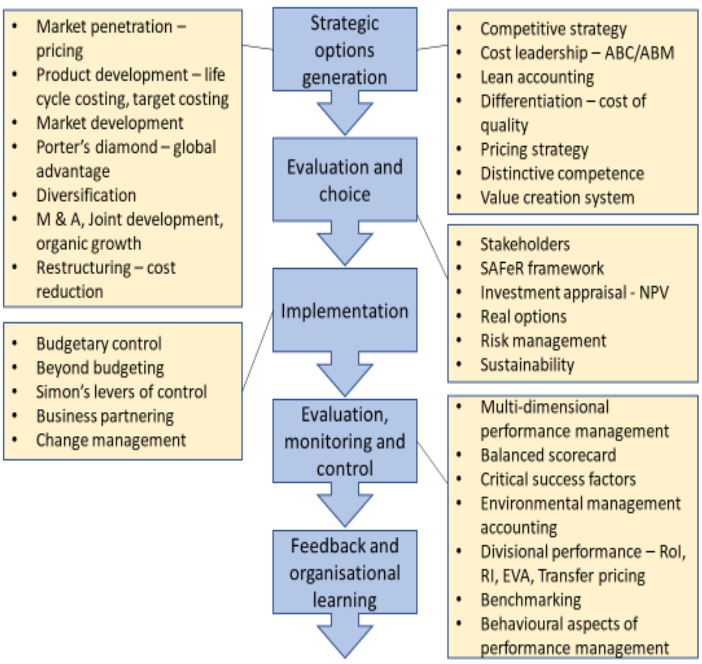
Strategy and Management Accounting



How management accounting supports strategic management

Graham Simons Pitcher



Published as a free learning resource in 2020 by Graham Simons Pitcher

The book builds on “Management Accounting in Support of Strategy,” by Graham S Pitcher, published by Business Expert Press, New York, 2018.

This version of the book expands considerably on the explanation of the management accounting topics and the discussion of how they support the strategic management process to turn it into a comprehensive textbook.

The book includes hints for active reading, links to explanatory videos, learning activities, review questions, and a series of questions based on a continuous case study that enables students to apply their learning.

In recognition of the impact that the covid-19 pandemic has had on the finances of Universities, Colleges, and students, the book is made available as a free learning resource.

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Preface

The business environment that organizations face today is increasingly complex, dynamic, and uncertain. There is no better time for management accountants to optimize their potential in supporting and contributing to the strategic activities within the organization. The premise behind the production of this learning resource is to provide an understanding of the standard strategic models and frameworks and to discuss the management accounting techniques that can be used to complement the strategic management process.

Management accounting is concerned with providing support to managers in their endeavors to manage a successful organization, which includes supporting decision making at operational, business, and strategic levels. During the 1980s, management accounting was criticized by academics for being too internally focused, primarily financial, and best suited to supporting operational rather than strategic decisions. A body of literature emerged promoting the use of *strategic management accounting* that would take a more external focus, take note of nonfinancial indicators, and be forward-looking. Many of the techniques discussed in this learning resource would be described as strategic management accounting techniques; however, even those described as more traditional management accounting can support the activity of strategic management.

There are many views as to what constitutes a strategic management process. It is, however, widely recognized that it would include the activities of analysis, formulation, implementation, evaluation, monitoring, and control of strategy. If management accountants are to make a valued contribution, they need a good understanding of the strategy models and frameworks and the accounting techniques that support strategic management.

The structure of this learning resource is based on a rational approach to the strategic management process. It is noted that not all organizations will follow a strictly analytical approach as in today's business environment, the process is likely to be much more dynamic, flexible, and iterative than the process set out here. Still, it serves as a structure in which the management accounting techniques can be located in a strategic context.

The discussion of the strategy models and frameworks and management accounting techniques is grounded in academic research. Active reading prompts and practical examples support the use of the resource by undergraduate students, and the research focus provides the critical evaluation at the forefront of the discipline required at the postgraduate level. Learning activities are included that can be used as individual or group activities, seminar activities, student presentations, or discussion. The inclusion of an appendix explaining some management accounting fundamentals also make the resource useful for postgraduate conversion courses and MBA students who may not have an accounting background. Review questions at the end of each section test whether the learning outcomes have been met. Links to supporting explanatory videos are also included.

A continuous case study, with activities related to each section, provides the opportunity for students to apply the strategy models and accounting techniques in a strategic context. The resource is structured in sections to enable individual models or accounting techniques to be studied separately.

The resource will be useful for those users destined to work in an organization as an accountant as well as providing the knowledge for the nonaccountant to understand the management accounting support available throughout the strategic management process.

CHAPTER 1 - Management accounting and the strategic management framework

1.1 Introduction

The business environment that organizations face today is increasingly complex, dynamic, and uncertain. There is no better time for management accountants to optimize their potential in supporting and contributing to the strategic activities within the organization. The premise behind the production of this learning resource is to provide an understanding of the standard strategy models and frameworks and to discuss the management accounting techniques that complement the strategic management process.

Perhaps the best way to begin an exploration of strategy and management accounting is to provide an overview of a strategic management framework and review the purpose and development of management accounting as the discipline adapts to meet the changing needs of businesses.

The purpose of management accounting is to provide managers with the information they need to manage the business. Traditional management accounting, however, has been criticized for not supporting managers in making strategic decisions. The term *strategic management accounting* emerged as academics promoted techniques that would provide more support within the strategic management process. This chapter discusses the criticisms of traditional management accounting and the emergence of strategic management accounting with reference to the academic literature.

The chapter then looks at what is meant by strategic management, outlines how the understanding of the term has changed, and presents a strategic management framework that forms the structure for the rest of this learning resource. The exploration goes on to discuss questions such as who sets the strategy, the different levels, planned versus emergent, and the inside-out or outside-in perspective. There then follows an overview of how management accounting can support the strategic management process. Chapters 2 – 11 deals with this in detail. The chapter concludes with a discussion of the concept of *strategy as practice* to illustrate the role that management accounting can play throughout all aspects of the strategic activity within organizations.

The strategic management framework presented here follows a rational approach to the analysis, formulation, implementation, evaluation, monitoring, and control of strategy. In practice, the process is much more flexible. Taking a rational approach facilitates a discussion of management accounting within a strategic context. The danger of taking this approach, however, is that it may give the impression that the position within the framework in which the strategy model or accounting technique appears is the only place it can be applied. Many of the models and practices are useful within several areas of the strategic management framework. It is crucial to appreciate that strategic management is essentially a continuous and iterative process. The business environment in which many organizations operate today is complex and dynamic, and the ability to respond and adapt appropriately to changes can mean the difference between success and failure. Management accounting in support of strategy is about providing support for all levels of management throughout the entire strategic management process.

1.2 Learning outcomes:

After studying this chapter, you will be able to:

- Understand the purpose of management accounting
- Understand what is meant by strategic management
- Critically evaluate the development of management accounting in response to criticism of traditional techniques
- Critically evaluate management accounting from a *strategy as practice* perspective
- Understand how management accounting can support the strategic management process

1.3 What is management accounting?

Active reading. As you study this section, note the difference between financial and management accounting, the functions of management accounting, and the criticisms of traditional accounting. Also, note the changing definition of management accounting as it takes on a more strategic perspective. Think about why this change happened.

Management accounting has been distinguished from financial accounting by its focus on providing information for management activities such as planning, decision making, and control (Kaplan and Atkinson, 1989; Aver and Cadez, 2009). Financial accounting is required by law, as organizations must ensure that they can accurately record financial transactions, and report profits and losses to the providers of capital, and the tax authorities. Thus, the provision of financial information is predominantly to an external audience. Financial accounting must conform to reporting conventions such as those set out in the International Financial Reporting Standards (IFRS), the U.S. GAAP (Generally Accepted Accounting Principles), and the U.K. GAAP (Generally Accepted Accounting Practice). Management accounting, however, is not governed by any rules, and organizations are free to use whatever tools, techniques, and practices they think fit for their organization. The audience is internal; hence the format and the frequency of information are determined by need, not external standards. Essentially management accounting is there to help managers manage.

Traditionally, the management accounting information was typically internally generated, financial in nature, and focused on identifying the product cost (Bhimani and Bromwich, 2010;

Drury, 2012; Ward, 2016). The cost formed the basis for pricing decisions, as well as the planning and control of operations. The method of valuing products, to some extent, was influenced by the need to include the value in the financial accounts within the cost of goods sold, shown in the income statement (also known as the profit and loss account), and the value of inventory, shown as a current asset, on the balance sheet. There is a requirement to record inventory within these statements at cost, including materials, labor, and factory overheads, and in relevant cases, freight, handling, and import duties.

The early definitions of management accounting focused on the cost and production aspects of a business. Indeed, one of the leading professional bodies in management accounting, the Chartered Institute of Management Accountants, was initially created in 1919 as the Institute of Cost and Works Accountants. The direct costs of producing products were predominately materials and labor, known as the prime costs of production. Towards the end of the nineteenth century, an element of indirect costs, also referred to as production overhead costs, such as utility, building, and administrative costs, were included in the product costs. Solomons (1952) noted that the typical method of applying production overheads to product costs was by adding a percentage of the labor cost, or by creating a company-wide overhead cost rate per labor hour. As the main costs were labor and materials, traditional forms of management accounting focused on measures of productivity such as cost per hour, or cost per kilogram produced, per process, or per worker. These measures of productivity were used as measures of performance and fed into budgeting, target setting, and the motivation of workers and managers (Johnson and Kaplan, 1987). Management accounting was, therefore, the provision of cost and productivity information to assist managers in the activities of operational planning (via budgeting), decision making, and control.

In the late 1980s, traditional definitions of management accounting received much criticism for being inappropriate for modern business (Johnson and Kaplan, 1987; Hiromoto, 1988; Bhimani and Bromwich, 1989) in that they focused on cost and operational control. More recent definitions include an explicit reference to nonfinancial information. For example, Groot and Selto (2013: 3), refer to management accounting as being, "… concerned with the generation, communication and use of financial and non-financial information for managerial decision making and control activities." Other authors alluded to providing support for broader strategic management activities (Dixon, 1998). Anthony's (1965) categories of management activity shown in Figure 1.1, operational, tactical, and strategic, demonstrate the change of focus required. Management accounting focused on the lower end of the hierarchy, which ignored the higher end of strategic activity within the organization. As we move up the levels, the focus of information required by managers changes from internal, quantitative, and short-term, to include information that is more external, qualitative, and future-oriented.

Towards the 1990s, academics began to suggest that management accounting should become more externally focused and should take a more proactive role in the strategic management process (Johnson and Kaplan, 1987; Bromwich, 1990, 1994). It was also becoming recognized that it is the strategy that drives the information needs. Therefore, the best approach is to tailor the management accounting systems to each organizations' specific requirements. Kaplan (1984: 414) notably commented, "… management accounting can no more exist as a separate discipline, developing its own set of procedures and measurement systems and applying these universally to all firms without regard to the underlying values, goals, and strategies of particular firms, but it must serve the strategic objectives of the firm." A change of focus was needed which met the needs of the managers who were formulating strategies in a changing business environment.

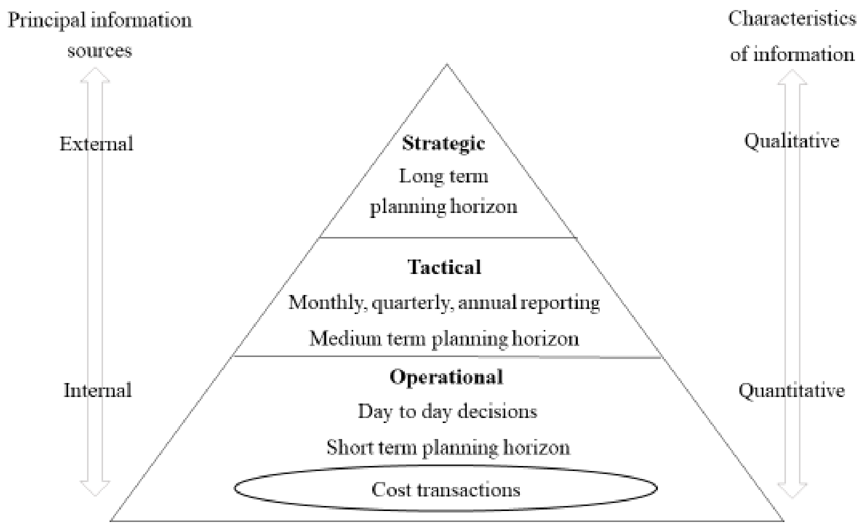

Figure 1.1 Typical management information requirements at different levels of the management hierarchy.

Over the year's management accounting has developed in a variety of ways to meet the changing requirements of the business (Burns and Scapens, 2000; Weetman, 2006). As the business environment became more competitive, and the emphasis moved from strategic planning to strategic management (Whittington, 1996; Hoque et al., 2001; Nixon and Burns, 2012), the call from academics was not only for the need for management accounting practices to respond to the changing needs of the business but for accountants to become more involved in the strategic management process (Shank, 1989, 1996; Bhimani and Keshtvarz, 1999; Mia and Clarke, 1999; Tayles et al., 2002; Pitcher, 2015, 2018; Stein Smith, 2017).

The definitions of management accounting began to recognize this change of emphasis. For example, The Institute of Management Accountants' (U.S.) description (IMA, 2008) included the phrases "partnering in management decision making" and "to assist management in the formulation and implementation of an organization's strategy." The inclusion of these terms indicates that the accountant is no longer seen as just the person with the numbers but is an active member of the management team involved in the strategic management process. Brewer (2008: 29) suggests that the "ultimate responsibility of management accounting is adding stakeholder value … by providing leadership, by supporting a company's strategic management efforts, by creating operational alignment throughout an organization, and by facilitating continuous learning and improvement."

1.4 The development of strategic management accounting

Active reading. Note the differences between traditional and strategic management accounting shown in Table 1.1, and the definition of a strategic accounting system given by Brouthers and Roozen (1999), think about the key differences that distinguish strategic from traditional management accounting. Ideally, successful organizations would embrace both traditional and strategic accounting practices. Also, note that the early researchers disagree as to what constitutes a strategic management accounting technique (shown in Table 1.2).

Simmonds (1981) promoted the development of the concept of strategic management accounting. He focused his attention on the need for external information and specifically on data related to competitors and markets. The term strategic management accounting, however, has not found favor with practitioners (Guilding et al., 2000; Roslender and Hart, 2003; Jorgensen and Messner, 2010; Nixon et al., 2011; Pitcher, 2015), and an agreed definition has defied academics. Bromwich (1988), like Simmonds, emphasized gathering and analyzing information about competitors and benefits to customers over the long term. Govindarajan and Shank (1992), however, placed the emphasis more on the concept of strategic cost management, while Ma and Tayles (2009) defined it as being concerned with strategically orientated information for decision making and control. Hopwood (2007), however, recognized the continued benefit of traditional accounting practices and proposed they be used to aid the formulation of strategic plans.

In contrast, Roslender and Hart (2003) adopted a broader viewpoint and suggested merging management accounting and marketing principles within a strategic framework. Hoque (2001) also takes a more comprehensive view and argues that strategic management accounting is a process of identifying, gathering, choosing, and analyzing accounting data for helping the management team to make strategic decisions and to assess organizational effectiveness.

Brouthers and Roozen (1999: 311-312) talk in terms of a strategic accounting system and suggest that it should, "… provide information necessary to perform the following strategic functions: (1) environmental analysis, (2) strategic alternative generation, (3) strategic alternative selection, (4) planning the strategic implementation, (5) implementing the strategic plan, and (6) controlling the strategic management process. In order to fulfil these information functions, a strategic accounting system must contain information that is (1) mostly non-financial; (2) focused on the future; (3) both internal and external to the firm; and (4) based on realistic projections of the future, not simple extrapolations of the past." Whatever the definition, the need for management accountants to become actively involved within the strategic management process was compelling.

Table 1.1 summarizes some of the differences between traditional management accounting and strategic management accounting.

Table 1.1 The difference in orientation of traditional and strategic management accounting

Traditional management accounting	**Strategic management accounting**
Historical	Future-oriented
Internal focus	External focus – outward-looking
Predominantly financial	Places equal importance on nonfinancial information
Quantitative – transaction-based	Makes use of qualitative measures
Short term in nature – planning, and control	Long term outlook and use of scenario planning
Uses variance analysis to determine corrective action	Seeks to understand the reason behind the variance to inform future decisions
Supports operational decision making	Supports strategic decision making
Programmed decision making	Un-programmed, uncertain, and ad hoc decisions
Reactive	Proactive
Developed to support manufacturing	Developed to support the competitive position
Focuses on reporting performance of existing activities and explaining the past performance	Also reports on consequences and potential impact on future performance, as well as alternative strategies
Reporting of actual versus plan – comparison	Reviews performance against external benchmarks

Early research into the development of strategic management accounting (SMA) focused on the extent to which organizations use SMA techniques. These surveys typically use questionnaires to collect data. A problem, however, is the fact that it is the academics that predefine the set of techniques ascribed to SMA. There are, however, variations in the number of techniques defined. For example, Guilding et al. (2000) identified twelve techniques; Cadez (2006) identified seventeen techniques; Cinquini and Tenucci (2007) fourteen techniques; and Cadez and Guilding (2008) sixteen techniques. McLellan (2014), however, took a slightly different approach and tested the use of forty-two management accounting techniques, some of which were deemed to be strategic. Table 1.2 provides a brief explanation of the techniques included within these studies. Some of the techniques have fallen by the wayside in recent years, often due to the difficulties of implementation. Therefore, this learning resource only deals with the accounting techniques deemed to provide the most benefit in the strategic management process.

Table 1.2 Strategic management accounting techniques

1. Guilding et al. (2000) 2. Cadez (2006) 3. Cinquini and Tenucci (2007) **4.** Cadez and Guilding (2008)					
Strategic management accounting (SMA) technique		**Authors**			
	Brief description	**1**	**2**	**3**	**4**
Activity-based costing	An approach to the costing and monitoring of activities, which involves tracing resources consumption and costing final outputs. Resources are assigned to activities and activities to cost objects based on consumption estimates. The latter uses cost drivers to attach activity costs to outputs.			✓	
Attribute costing	An extension of activity-based costing using cost-benefit analysis (based on increased customer utility) to choose the product attribute enhancements that the company wants to integrate into a product. This technique has fallen by the wayside.	✓	✓	✓	✓
Benchmarking	The establishment, through data gathering, of targets and comparators, that permits relative levels of performance (and particularly areas of underperformance) to be identified. The adoption of recognized best practices should improve performance.		✓	✓	✓
Brand value budgeting and monitoring	Brand valuation assigns a financial value to the equity created by the name or image of a brand. It can be represented as the net present value of the estimated future cash flows attributable to the brand.	✓	✓		✓

Capital budgeting	The process of selecting long-term capital investments.		✓		
Competitor cost assessment	A technique in which the competitor cost per unit is ascertained from available information. It is often, at best, an estimate.	✓	✓	✓	✓
Competitive position monitoring	Monitoring the market position and competitive strategy (market positioning) of the key competitors.	✓	✓	✓	✓
Competitor financial appraisal	Looking for strengths and weaknesses in the competitors' financial position.	✓	✓	✓	✓
Customer profitability analysis	Customer profitability analysis (CPA) is the analysis of the revenue streams and service costs associated with specific customers or customer groups to ascertain their relative profitability.		✓	✓	✓
Integrated performance measurement	The use of a range of performance measurements other than financial. The balanced scorecard is a typical example, which includes nonfinancial as well as financial, internal, and external measures, quantitative and qualitative. The balanced scorecard reviews performance from several different perspectives, for example, customer, internal business, and learning and growth as well as financial.		✓	✓	✓
Life cycle costing	Life cycle costing is the profiling of costs over the life of a product, including the preproduction stage and recycling.	✓	✓	✓	✓
Lifetime customer profitability analysis	Estimating the profitability of a customer over its lifetime, considering future revenues and costs, including the cost of acquisition and retention.		✓		✓
Quality costing	The concept of quality costs is a means to quantify the total cost of quality-related efforts and deficiencies. It can be broken down into appraisal costs, prevention costs, and internal and external failure costs.	✓	✓	✓	✓

Strategic cost management	Strategic cost management is the overall recognition of the cost relationships among the activities in the value chain, and the process of managing those cost relationships to a firm's advantage.	✓	✓	✓	✓
Strategic pricing	Strategic pricing considers market segments, ability to pay, market conditions, competitor actions, trade margins, and input costs, as well as other potential factors affecting market position and demand for the product.	✓	✓	✓	✓
Strategic planning and budgeting	A system of developing strategic objectives and ensuring that budgets developed by individual units contribute to their achievement – essentially ensuring alignment of departmental budgets to strategic objectives.				
Target costing	Target costing is an activity that is aimed at reducing the life cycle costs of new products, by examining all possibilities for cost reduction at the research, development, and production stage. It is not a costing system, but a profit-planning system—the selling price and profit requirement are set during the research stage, thus creating a target cost.	✓	✓	✓	✓
Value chain costing	Based on Porter's value chain analysis, a firm may create a cost advantage either by reducing the cost of individual value chain activities or by reconfiguring the value chain.	✓	✓	✓	✓
Valuation of customers as assets	A technique like lifetime customer profitability that attempts to ascertain the net present value of a customer.	✓	✓		✓

1.5 The uptake of strategic management accounting

Active reading. Note the range of countries covered by recent studies on the use of SMA techniques and the finding on why the uptake in developing economies might be better than in developed nations. Think about other functional specialists, apart from management accountants, that provide information for strategic management in the organization.

Since the late 1990s, there has been a surge of studies undertaken to explore the uptake of strategic management accounting in practice. Many of the research surveys conducted have focused on uptake in specific sectors or countries. Examples include: Fowzia (2011) investigated SMA practices in Bangladesh; Cadez (2006) undertook a cross-industry analysis of SMA techniques in Slovenia; AlMaryani and Sadik (2012) reported on Romanian companies; Said et al. (2010) on Malaysian Local Government Authorities; Noordin et al. (2009) Malaysian electrical and electronic sector; Bahaa et al. (2019) hospitals in Malaysia; Agasisti et al. (2008) on Italian universities; Shah et al. (2011) conducted a study in Australia; Oboh and Ajibolade (2017) on Nigerian banks; Glushchenko and Yarkova (2016) on the Russian chemical industry; Alamri (2018) on the Saudi industrial sector; and Jbarah (2017) on Jordanian industrial companies.

Most studies use questionnaires asking about the usage of techniques determined by the researchers as being classified as strategic management accounting. Early surveys reported limited use of the defined SMA techniques. Still, more recent studies indicate that usage of some techniques, such as strategic planning and budgeting, customer accounting, target costing, and integrated performance management, is increasing. Nevertheless, Al-Abdel and McLellan (2013) argue that the specific strategy of an organization needs to be supported by particular accounting practices, echoing the calls of previous writers that accounting should support the strategic management process. The need to support a specific strategy means that different organizations will use different techniques, and the adoption of some techniques may not be universal.

Some surveys note that respondent organizations perceived that a higher benefit accrued from more traditional management accounting techniques, for example, Sulaiman et al. (2002) in Malaysia, Cadez (2006) in Slovenia, and McLellan (2014) in the U.S. The perceived benefit may be due to the comfort factor of the conventional techniques and the uncertainty surrounding the value of the more sophisticated advanced techniques. Conversely, more recent studies suggest that organizations are gaining performance benefits from using strategic management accounting and can use it to support competitive advantage. For example, the studies by Noordin et al. (2015) and Bahaa et al. (2019) in Malaysia, Oboh and Ajibolade (2017) in Nigeria, Alamri (2018) in Saudi, and Jbarah (2017) in Jordan all suggest performance benefits. Interestingly, Guilding et al. (2000), in an international comparison of SMA practices, felt that organizations established in the more developed countries were less inclined to move away from the tried and tested techniques of the conventional accounting systems, whereas, organizations in developing economies were perhaps more inclined to seek advantage from newer techniques.

There are also published papers that look at specific uses of SMA concerning particular activities or take a theoretical perspective. For example, Jorgensen and Messner (2010) and Nixon et al. (2011) investigated the role of SMA in new product design and development. Tillmann and Goddard (2008) reviewed SMA as sense-making in a multinational company. Ma and Tayles (2009) and later, Sunaryanto et al. (2017), explored the development and use of SMA from the perspective of institutional theory.

An interesting finding from several studies is that the practitioners of management accounting do not use the term strategic management accounting (Guilding et al., 2000; Roslender and Hart, 2003; Nixon and Burns, 2012; Pitcher, 2015). Although increasing in usage, it is also evident that the uptake of the techniques is not as widespread as early proposers of SMA had hoped. Despite this, evidence suggests that management accountants are becoming more directly involved in the strategic management process (Cuganesan et al., 2012; Pitcher, 2015; Glushchenko and Yarkova, 2016; Jbarah, 2017; Oboh and Ajibolade, 2017).

It is worth noting, however, that not all the accounting information is necessarily the preserve of the management accountants (Dixon and Smith, 1993; Lord, 1996; Anderson, 2006). This observation alludes to the fact that functional managers now have access to a range of information through integrated management information systems and decision support systems that include accounting information (Dixon, 1998; Laudon and Laudon, 2006). Couple this development with the increased importance of nonfinancial information involved in strategy formulation, implementation, and evaluation (McNair and Mosconi, 1989; Lynch and Cross, 1992; Kaplan and Norton, 2005) and it is clear that management accountants are part of a management team involved in the strategic management of an organization. The focus of this learning resource is the role that the management accountant can play in that process.

1.6 The need for a strategic management process

Active reading. Note how the need for strategic management developed to cope with changes in the business environment and the all-encompassing definition of the strategic management process.

In the 1950s and 1960s, management writers were discussing long-range planning. In many cases, organizations were taking their annual budgets as a start point and extending them for a period of five to ten years by adding in a growth factor, thus creating a long-range plan. In the 1970s, and particularly in the 1980s, the focus shifted toward strategic planning as markets became more competitive, and a definitive strategy was needed to develop the business. Toward the end of the 1980s and into the 1990s, the focus changed again, this time more broadly encompassing the activity of strategic management, as organizations needed to become more responsive to changes in what was becoming a more dynamic and complex business environment. Rather than just producing a strategic plan that would be implemented by the business units, it was becoming necessary to adopt a proactive approach, not only to strategy development but to managing the environment. Hence, strategy as a management process.

Despite SMA not becoming the messiah that some had hoped, the sentiment that management accounting should support the strategic management process is still overwhelming (Smith, 1997; Brewer, 2008; Blocher, 2009; Pitcher, 2018). Here, however, arises another difficulty – how to define the strategic management process. Barney et al. (2010) describe it as formulation, implementation, and evaluation of the strategy. A more encompassing and generally accepted definition is offered by Nixon and Burns (2012: 229) as containing the following key activities: “(1) development of a grand strategy, purpose or sense of direction, (2) formulation of strategic goals and plans to achieve them, (3) implementation of plans, and (4) monitoring, evaluation, and corrective action.” This description aligns with the definition of the strategic accounting system outlined by Brouthers and Roozen (1999) described in section 1.4 - The development of strategic management accounting. However, both the Brouthers and Roozen definition of strategic accounting and the Nixon and Burns definition of the strategic management process, implies that strategic management is a routinized and formal process.

Although many firms adopt a rational planning process (Chenhall and Langfield-Smith, 1998; Rigby, 2001), there is a recognition that strategic decisions are often complicated, non-linear and fragmented (Hendry et al., 2010). Therefore, as a necessity, the strategic management process is iterative, rather than a formalized step by step process undertaken by senior managers in the organization (McNulty and Pettigrew, 1999). Indeed, many would describe strategy formulation as being a social and political process (Eden, 1992) in that strategy involves consensus, and may not always appear rational. The influence of particular power groups within an organization can also impact on the strategy development. For simplicity, this learning resource adopts a normative and logical approach to strategy as the structure for the work. Still, the author recognizes that there is considerable debate in academia about *how* and *who* determines the approach to strategic management in an organization.

1.7 The strategic management framework

Active reading. Note how logically the steps follow each other to produce a rational approach to strategic management. In practice, the process is more complex and flexible than is described here, but the logic is still the same.

This section provides an outline of a strategic management framework (Figure 1.2).

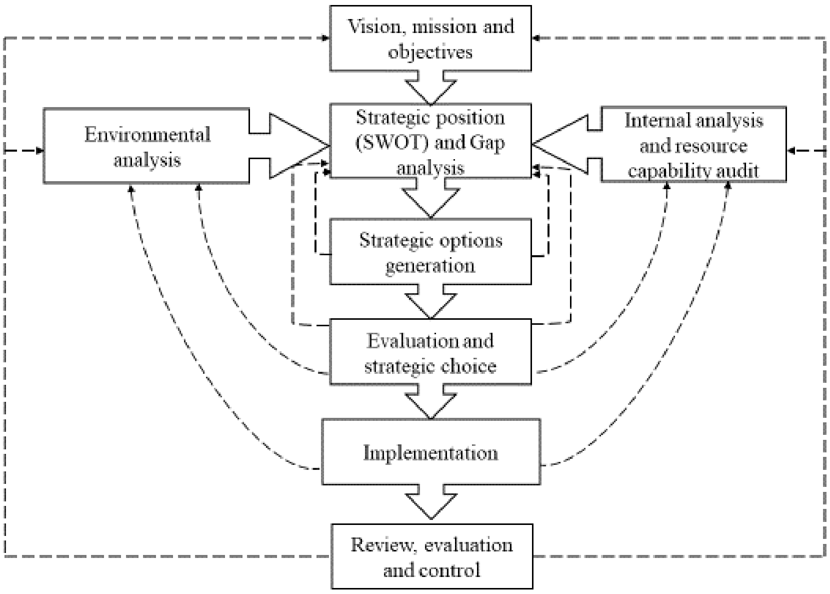

Figure 1.2 The strategic management framework

Academic and practitioner texts discuss various methods, processes, and frameworks for the development of strategic plans. The framework shown in Figure 1.2 is based on the concept of a rational approach to strategic planning and forms a structure for the subsequent chapters. The explanation here is, therefore, deliberately brief as each element is discussed in detail in Chapters 2 – 11.

The framework incorporates the critical phases of strategic management, highlighted in Figure 1.3.

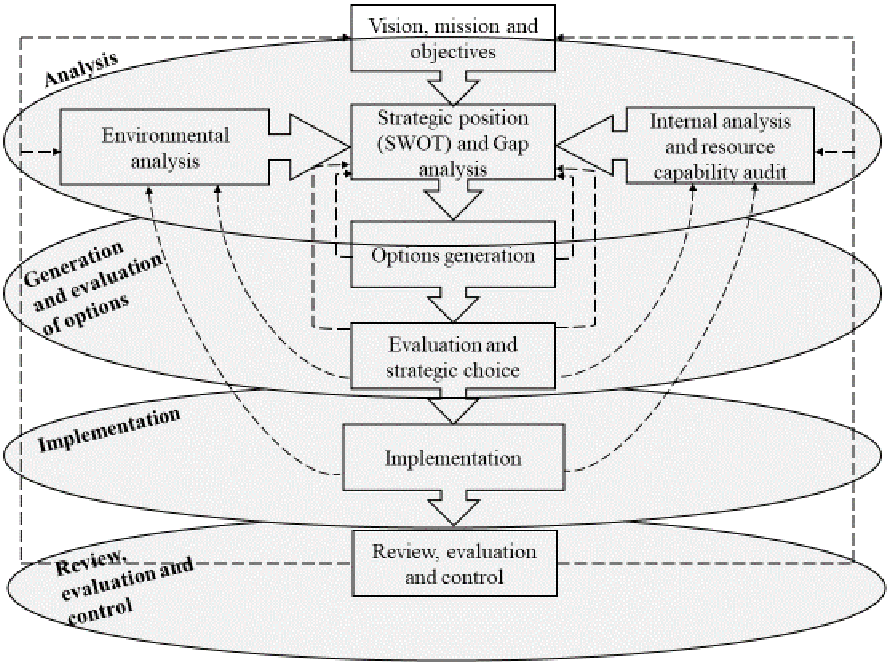

Figure 1.3 Critical phases of strategic management

The phases of strategic management encompass the external and internal analysis resulting in the strategic position (often set out as a SWOT analysis – strengths, weaknesses, opportunities, and threats); the generation and evaluation of strategic options and strategic choice; followed by implementation; and finally the review, evaluation, and control of the current strategy. The dotted lines illustrate the iterative nature of the process and the feedback loops.

Vision, mission, and objectives

The mission is the rationale behind the business. It sets out the long-term aims and purpose of the organization as well as indicating the purpose, strategies, behavior standards, and values (Campbell and Yeung, 1991). Organizations often develop a vision alongside the mission. The vision is usually broader and shorter than the mission statement and is often intended as a point of inspiration for employees to drive the business forward. It is common for organizations to promote their vision, mission, and values that underpin these statements on their websites. Many organizations now publicize a brief outline of their strategy and their long-term strategic objectives. These are provided in broad terms as they are for external consumption but would be much more specific when communicated internally to employees. Chapter 2 explores the link between the vision, mission, objectives, and the management accounting system.

Environmental analysis

The environmental analysis is the subject of Chapter 3 and provides a means for identifying external factors that could affect an organization's ability to achieve its objectives. A strategic tool known as PESTEL (political, economic, sociocultural, technological, environmental, and legal) provides a framework for analyzing changes in the general business environment. The focus of the analysis is on how the changes will impact the industry and hence the organization. Models such as Porter's five forces (Porter, 1979) can aid the analysis at an industry level to identify the forces that will impact on the profitability and attractiveness of the industry, now and in the future. Understanding the concept of the business ecosystem and the process of competitor analysis are also key areas in this stage of the process. Strategically the environmental review helps to identify the opportunities and threats to the organization that is evident or could emerge from the business environment.

Internal analysis and resource capability audit

The internal analysis and resource capability audit, as the label suggests, analyzes the organization's resource capability to achieve its objectives, given that environmental factors will impact on this ability. Chapter 4 discusses the various models that are useful in a resource audit. These fit within a simple framework known as the Nine Ms: manpower (human resources), money, markets, machinery, materials, makeup, methods, management, and management information. These headings merely point towards broad areas requiring more detailed analysis to help identify the strengths and weaknesses of the organization.

Strategic position (SWOT) and Gap analysis

Establishing the strategic position pulls together the issues identified during the environmental analysis and internal appraisal and is the subject of Chapter 5. The environmental review is the source of opportunities and threats, while the internal assessment is the source of strengths and weaknesses. However, during the environmental analysis, it is not known whether a change creates an opportunity or a threat—any changes in the environment need assessing with regard to the resource capability. If the organization has the resources to deal with the change, it may present an opportunity. If not, it may be a threat. Hence, the strategic position (SWOT) provides the framework for bringing together the external and internal analysis.

It is also worth noting that changes in the environment can provide an opportunity for some organizations while creating a threat for others, depending on the organization's ability to deal with the change. There is a connection here to competitor analysis as strengths and weaknesses in resource capability are relative to competitors and a potential source of competitive advantage. The completion of the SWOT analysis helps the management to formulate strategies that build on the strengths, address the weaknesses, grasp the opportunities, and minimize or avoid the threats, and that is consistent with the mission and objectives.

As part of the strategic position, an analysis is undertaken that ascertains the gap between an organization's stated objectives and the level of performance that will be achieved based on the current strategy, given the changes in the environment and its current resource position. If there is a gap, it requires the formulation and evaluation of strategic options to close the gap.

Strategic options generation

The strategic options generation considers three elements: competitive strategy, the direction of growth, and the method of growth. Deciding a competitive strategy will be one of the first decisions an organization makes. The strategy needs continually reassessing as to its appropriateness, given any identified changes in the environment. Competitive strategy based on cost leadership and differentiation, as defined by Porter (1985), are discussed in Chapter 6. Options to generate growth include market penetration, product and market development, and diversification, as identified by Ansoff (1965) in the product and market growth matrix. Chapter 7 considers the Ansoff options, together with the methods of achieving organic, sometimes referred to as internal growth, and inorganic growth options, such as acquisition, merger, and joint development.

Evaluation and strategic choice

The various strategic options available to organizations need evaluating with respect to the resource capabilities and the ability to close any gap between the stated objectives and the forecast performance based on the existing strategy. A framework such as suitability, acceptability, feasibility, and risk provides a means to evaluate various strategic options, which would also include a financial evaluation. Suitability asks whether the strategy builds on the strengths, addresses the weaknesses, grasps the opportunities, and avoids or minimizes the threats. Acceptability checks to see whether the proposal meets the approval of interested stakeholders. Feasibility reviews the practical aspects as well as financial evaluation, and risk assesses whether the proposed strategy is within the risk appetite of the organization. Chapter 8 explores this SAFeR framework in more detail.

Strategic implementation

Once the various strategic options have been evaluated and chosen, the next step is implementation. The strategy needs crystallizing into operational budgets, targets, plans, and so on. These then form the mechanisms to communicate the strategy to the various stakeholders. Changes in strategy could also mean implementing changes to management information systems, including the management accounting techniques used to support strategy. Chapter 9 discusses the management accounting support during implementation.

Review, evaluation, and control

Review, evaluation, and control is the area where models such as the balanced scorecard are useful. The balanced scorecard, and similar frameworks, provides a means to review performance using a range of appropriate performance indicators that include nonfinancial as well as financial measures. Ultimately the review is considering how well the organization is meeting its objectives, which establishes the feedback loop to the start of the process. Part of the reason for any variation from the plan could be a change in the environment or resource capability, which illustrates the iterative nature of the strategic management process. Chapter 10 discusses performance management, including the balanced scorecard.

Traditional management accounting focuses attention on the review, evaluation, and control aspects of long-range and strategic planning and evaluation of various strategic options. The strategic management process is more iterative and dynamic, and management accounting needs to support the whole strategic management process, especially in the analysis phase, and in assessing the impact of environmental changes on the business. Indeed, the choice of strategy and implementation will impact the business environment, particularly the competitive environment. In cases where innovations and new technologies are involved, if most organizations in a sector adopt similar strategies over time, it can change the way the industry operates. For example, the first bank to adopt online banking, or the first retailer to embrace online shopping changed the way the industry works. Part of strategic choice is about assessing what this impact might be and proactively influencing the environment for competitive advantage.

1.8 Who sets the strategy?

Active reading. Note that strategic management affects all levels of employees. It is also relevant to all types of organizations, including not-for-profit.

There is a debate in the academic literature concerning who sets the strategy and who enacts strategy. There is a view that middle and lower-level managers determine strategy rather than being the sole preserve of the senior managers. The *strategy as practice* school of thought drew attention to the activities and discourse of strategy formulation and enactment (Whittington, 1996). Proponents of *strategy as practice* use the term *strategizing* to promote the idea that strategy is something that people do, rather than describing a published plan or strategic intent set by senior managers. It is therefore worth remembering that it is people, rather than organizations, that formulate and implement a strategy. However, with that in mind, the term organization is used throughout this learning resource when discussing strategy as the management accounting techniques considered can be used by people working at different levels within an organization and may also be of interest to not-for-profit organizations. Another essential aspect to note is that the process depends on the organization and its organizational context; that is, it is not necessarily a case of one-size-fits-all. In today's business environment, organizations need to be flexible and adaptable, which also extends to their strategic management process.

1.9 Levels of strategy

Active reading. Note how the strategy extends to all levels and all functions within an organization.

There are principally three levels of strategy within an organization. These relate to the notion of Anthony's hierarchy, referred to in Figure 1.1, section 1.3 - What is management accounting? The characteristics of information required at each level will differ; therefore, the management accounting system needs to be able to satisfy the needs of the users at each level of corporate, business, and operational strategies.

Corporate strategy is concerned with the overall purpose and scope of the organization. It is often most associated with a divisionalized organization that has several strategic business units. The strategy is concerned with how to manage the overall business to create value for the stakeholders. The objective is to ensure that each business unit contributes to the best of its ability to the whole organization. In some instances, it is deciding how best to manage a portfolio of businesses, involving the allocation of investments and resources between business units. It is concerned with strategies such as growth, stability, and consolidation of its current position, recovery, reduction, or survival of the corporate whole.

Business strategy is concerned with how a strategic business unit competes in a market. It is about the management of products and markets dealt with by one strategic business unit. Under this definition, many small to medium-sized enterprises (SMEs) might only be concerned with a business strategy.

At the lower end of the spectrum is the operational or functional strategy. To achieve the business strategy, an organization will need functional strategies, such as a marketing strategy, production or operations strategy, a human resources strategy, information systems strategy, and a financial strategy. These strategies, illustrated in Figure 1.4, should support each other in a way that is consistent with and helps to achieve the business strategy, and in turn, the corporate strategy.

In a large organization with several business units, these functional strategies may well extend across the whole corporate organization. In this way, there may be a corporate human resources strategy that governs the formulation of the HR strategy in each business unit.

It was suggested by Lindblom as long ago as 1959 that what organizations do in practice is to adopt an incremental approach in which they accept the first outcome that satisfies the strategic objectives (Lindblom, 1959). Quinn (1978) used the term logical incrementalism, suggesting that organizations determine a broad direction with the detail emerging later. Incrementalism in practice suggests that organizations make small changes to their existing strategy. It is unlikely that managers in small and medium-sized enterprises will have the resources and time to evaluate every strategic option available to them. Hence, it is logical that they will make decisions based on a limited evaluation of alternatives.

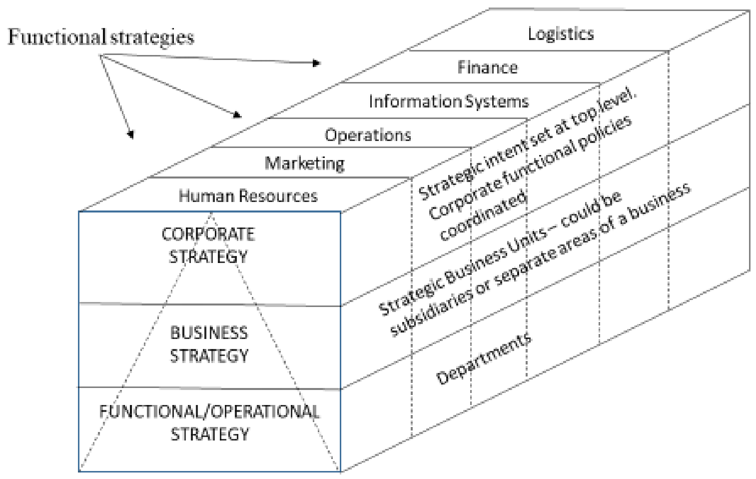

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Figure 1.4 Levels of strategy and functional strategies within an organization

Mintzberg and Waters (1985) identified the concept of emergent strategies illustrated in Figure 1.5.

Organizations articulate a planned and deliberate strategy that could either be realized or unrealized. However, even though the intended strategy was not successful, targets such as sales or profits could still be met. This example indicates that the management team should not focus solely on the outcome in terms of performance targets but need to understand why performance targets have been met or missed. For example, in the case of a sales and profits target being achieved, analyzing the data could reveal a different story. An analysis may show that the mix of products is different from that of the plan, the category of customers buying various products differs from that expected, and the primary geographic location of sales is a surprise. This example is somewhat extreme; however, on further analysis, it appears that the actual strategy is not the reason for achieving the headline targets. It could be that a potential market of international sales is emerging to a different customer demographic, and this needs to be, in Mintzberg's terms, *crafted* into the future strategy of the organization.

Emergent strategies can emerge based on a pattern of ad hoc decisions taken in response to a given situation, perhaps a competitor action or environmental factor, that when looked at in retrospect, emerges as a potential strategy. They can also develop based on what operational employees are doing. Perhaps the plan is to spend heavily on marketing a particular type of product. Sales staff, however, identify that demand for other products is higher and push those at a local level, meeting sales targets, but not by the mix of sales initially planned. Management teams have a natural inclination to examine the reasons for not achieving a strategic objective. It is just as important to analyze the reasons as to why they have been met.

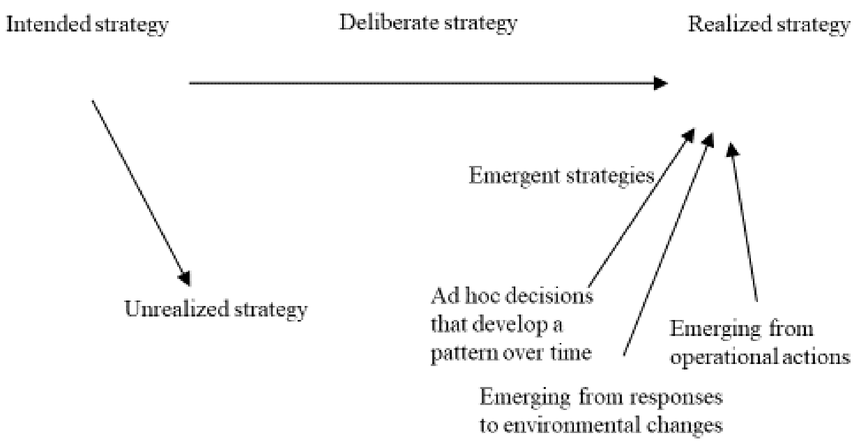

Figure 1.5 Emergent strategies

1.10 Inside-out and outside-in view of strategy

Active reading. Note the different views between strategy as positioning or strategy based on core competence, and the source of competitive advantage from the strategic analysis undertaken of the environment and resource capability as part of the SWOT.

The strategic management framework presented in Figure 1.2, shown in section 1.7, implies that the start point for strategy formulation is the vision, mission, and objectives. In other words, if you want to start a business, you begin with establishing the vision, mission, and objectives, then develop the strategy to achieve them. This may be true in an ideal world, but often the strategy can be triggered by external or internal factors. The idea for a new business opportunity may begin with identifying a trend or gap in the market by conducting an environmental analysis. The strategy can, therefore, stem from the business environment and the organization's competitive strategy developed to position certain products in specific markets. Alternatively, determining an internal strength that provides a competitive advantage could be the trigger. So, the strategy can exploit an existing distinctive competence held by the organization.

The schools of thought that relate to developing a strategy for competitive advantage fall within two broad areas. The strategy as position school of thought suggests that strategy is about positioning the organization in the market, for example, as a value for money offering or a high-quality offering (Andrews, 1980; Porter, 1980, 1985; Day, 1994). The resource-based or competence-based view suggests that competitive advantage comes from basing the strategy around the key strengths, resources, distinctive competencies, and strategic capabilities of the organization (Barney, 1991; Grant, 1991).

The positioning approach suggests that organizations set strategy, taking into account stakeholders, competitors, market needs, and the business environment. This approach requires an external focus and attention paid to competitive position, market share, and products. The organization first identifies the opportunities from the environment and then develops the appropriate competencies and resources it needs to compete effectively.

The resource-based view suggests that many environments today are too complex and dynamic to undertake the continuous environmental analysis that would be required, and the opportunities and threats would be similar for all organizations in the industry. Therefore, sustaining a competitive advantage is challenging. Barney (1991) suggests that competitive advantage and any core competence of an organization lies mainly in the application of its strategic resources that are distinct to the organization, difficult to copy, and non-substitutable. The resource-based view is, therefore, more about developing a competitive advantage by focusing on the possession of unique resources and capabilities of the organization. In terms of the strategic management framework outlined in this chapter, positioning focuses on the environmental analysis, whereas the resource-based approach focuses on the internal review. In practice, both can be effective.

These viewpoints cross into functional strategies, and marketers refer to an outside-in and inside-out approach to developing an organization's strategy (Day and Moorman, 2010). Principally the outside-in approach focuses on identifying customer needs and customer experience and developing a strategy to ensure that the organization satisfies these better than the competition. The inside-out approach focuses on the inner strengths and capabilities of the organization. Steve Jobs, for example, did not ask the customer what they wanted when he was at the helm of Apple but relied on innovative skills and creativity to develop a product that would have market appeal. Part of the key to Apple's success is its ability to be creative. So, taking an internal view of sustaining a competitive advantage appears to work. There is, however, a danger of an inside-out approach in that focusing on the development of strategic competencies may mean that the organization takes its eye off the customer needs. The activity of analyzing the strategic position, however, brings the external and internal analysis together, allowing consideration of both market position and resource capability in the pursuit of a competitive edge.

1.11 Supporting the strategic management process

Active reading. Note the range of accounting techniques that can be employed for management accounting to support all aspects of strategic management. Also, note that many of the models, accounting techniques, and practices discussed are useful under more than one heading. Using techniques in different combinations can provide powerful insight into how the business can be improved.

Each chapter in this learning resource discusses the strategy models and frameworks and the management accounting techniques and tools, highlighting how management accounting can contribute to the strategic management process. This section provides a brief overview of how management accountants can contribute to the whole process and indicates where in the learning resource a more detailed treatment of each technique occurs. Although a detailed discussion may appear within a specific section, it does not preclude its use and benefit to other areas of the process. For example, many of the techniques discussed under internal analysis are also relevant to competitor analysis.

Vision, mission, and objectives

The mission and objectives, discussed in chapter 2, need articulating and crystallizing in quantifiable terms so that they can be measured. The performance measures could be financial or nonfinancial. Many of the information systems that organizations have at their disposal can capture nonfinancial as well as financial data. Accountants can incorporate both aspects into management reports designed to evaluate the success of the current strategy. The reporting should not, however, focus solely on the explanation of past performance but on the impact of known events on future performance. For example, suppose an organization in the travel industry focuses on certain parts of the world where political unrest has affected sales for the first half of the year. The reporting should not only highlight the reason for the past performance being worse than expected but report the expected outcome for the full year considering the known changes in the business environment.

This form of analysis and extrapolation can lead to the early identification of a strategic gap, discussed in section 5.4, and, more importantly, the size of the potential gap. Scenario planning, discussed in section 3.15, can also provide insight into possible strategic options, and the management accountant can contribute their knowledge and skills to the construction and playing out of various scenarios.

Environmental analysis

The accountant can contribute to an environmental analysis by evaluating the potential financial impact of changes in the business environment as well as the more obvious monitoring of information of a financial nature, such as exchange rates, interest rates, and so on. It will always be the best estimate of the potential impact, often based on incomplete information. Assessing the impact can, however, help in determining the priorities of which environmental changes require more immediate attention and which are put on a watch list.

Organizations cannot respond to every change in the environment, and close monitoring of the resource capability, particularly financial resources, discussed in sections 4.11 and Appendix B – section B.7, can be an essential part of the early warning system. Competitor analysis, discussed in section 3.11, is also a necessary aspect of environmental review. The accountant can contribute to an analysis of the competitors' financial position as well as working with other functional colleagues, such as research and development, production, logistics specialists, and marketing teams, to ascertain as accurately as possible the cost structure of significant competitors.

Internal analysis, resource capability audit and strategic position

Contributions to the internal analysis and strategic position (SWOT), discussed in section 5.3, include the identification of financial strengths and weaknesses and the determination of any profits gap. More importantly, indicating how big the gap could become if no action is taken based on the balance of elements within the SWOT, for example, the incidence of significant weaknesses and threats. Other areas where the accountant can provide substantial input include analysis of supplier performance (section 4.10) and customer profitability analysis (section 4.7), the profitability of the product life cycle (section 4.4), and the mix and balance of product portfolios (section 4.5). Accountants can also contribute to benchmarking exercises to identify improvements to the effectiveness of business operations and processes (section 10.9), and assistance in the analysis of the value creation system (section 4.9).

Options generation, evaluation, and strategic choice

The accountant can contribute to the financial and strategic evaluation of strategic options, discussed in sections 8.3, 8.4, and 8.5. For example, by evaluating the long-term viability of competitive strategies, such as cost leadership (section 6.3.1), and by monitoring the current profit margins and forecasting future profit margins. In markets where the price is the main focus of competition, watching the profit margin is an essential activity. Enhancing and maintaining a cost advantage via strategic cost management and activity-based management (section 6.6) is a crucial area where the accountant can provide specific expertise. The development of lean manufacturing and lean accounting (section 6.7) has emerged to support cost-efficient and responsive manufacturing strategies. Accountants are also able to contribute to the maintenance of a differentiation strategy (section 6.3.2) by undertaking competitor analysis (section 3.11) and using the value creation system (section 4.9) to identify areas where value can be added to the product or service.

Analyzing the relative profitability of different market segments can help to identify possibilities for organizations to pursue a focus strategy (section 6.3.3), which could be either a cost-focus or differentiation-focus. Assisting in the evaluation of product development (section 7.4.4) via techniques such as target costing (section 7.8), life cycle costing (section 7.9), quality costing (section 6.8), and pricing strategies (section 6.4) provides opportunities for accountants to contribute to strategy development. Similarly, assisting in market development strategies (sections 7.4.5 and 7.5) by evaluating the potential profitability of entering new markets or exploiting new marketing channels can provide the management team with valuable information on which to base strategic decisions.

A more obvious area where the accountant can contribute to the choice of strategic option is in the financial evaluation via investment appraisal techniques, such as net present value (section 8.5) and real options (section 8.6). The investment appraisal techniques and financial analysis are also useful during the evaluation of the various methods for implementing the chosen strategy, such as evaluating potential mergers and acquisitions, and the possibilities for joint development (section 7.10). All options involve the assessment of risk and developing appropriate risk management strategies (section 8.7) has become more significant since the financial crisis of 2008 and 2009.

Strategic implementation

Crystallizing strategic plans into operational budgets, discussed in section 9.3, is part of the implementation process, but also ensuring that the information systems can provide the information required to monitor and evaluate new strategies. All too often, organizations fall victim to the reliance on legacy systems that are not capable of providing the necessary information to manage the business as it grows and develops. It is also essential for the accountant to support management by employing appropriate accounting techniques. For example, the techniques to aid sustaining a cost leadership strategy are different from those that will support one of differentiation. It is equally important to ensure that the use of appropriate reporting formats (section 9.6) helps the organization understand the underlying causes of good or bad performance and thus take appropriate action.

The preparation of budgets viewed as a traditional accounting practice has received some criticism in recent years, and a movement known as beyond budgeting (section 9.4) is growing in popularity. Beyond budgeting encompasses a system of setting stretch targets that strives towards continuous improvement. Implementing such a system involves changing the way the organization operates and often a change of culture. Indeed, adopting new strategic models, such as the concept of the business ecosystem (section 3.13), or accounting techniques, such as lean accounting (section 6.7), involves educating managers in understanding the insight that the analysis and evaluation provides. Management accountants can assist in facilitating change (section 9.5) not just for changes in accounting systems, or adopting new accounting techniques, but for a change in strategy that may result in a shift of focus to the management information required.

Review, evaluation, and control

Implementation feeds into the review, evaluation, and control of the current strategy that closes the loop to the mission and objectives. The accountant of twenty years ago would have focused mainly on reporting on actual performance versus plan. Today's accountant, however, would be involved in reporting on the effectiveness and continued viability into the future of the current strategy using integrated performance measurement and highlighting any potential emergent strategies and the need for a strategic response to any potential profits gap.

The concept of multidimensional performance management (section 10.3) and reporting on critical success factors (section 10.3.2) are important here, as is reporting on divisional or business unit performance (section 10.6). To ensure the reported performance of divisions and business units accurately reflects the value-added and motivates employees, the accountant can set appropriate transfer prices of goods and services provided between divisions (section 10.8). Economic value added (section 10.7) seeks to provide a performance management system that aids the management of an organization to enhance shareholder value and can also be used to evaluate divisional performance by understanding where value is added or lost. Techniques such as benchmarking (section 10.9) aid performance enhancement and the accountant can assist in both the process of benchmarking and the subsequent monitoring of any improvements implemented.

Performance management can be an emotive topic, particularly at an individual level, and understanding the behavioral aspect of performance management (section 10.10) is key to establishing the right measures to encourage the desired behavior.

An aspect of strategy and organizational performance that is highly relevant in today's business environment is the issue of sustainability, discussed in Chapter 11. It is becoming popular for organizations to publish corporate social responsibility reports that report on the implementation of environmental, social, and governance practices to demonstrate their commitment to sustainability. Management accounting has much to offer here, as many of the techniques discussed in this learning resource lend themselves to the inclusion of sustainability as a consideration.

Frameworks, models, and techniques

The diagram shown in Figure 1.6 provides a summary of how the strategy models and accounting techniques can be viewed within the strategic management framework. The models are not fixed, and there is no intension, or desire, to constrain techniques within specific boxes. Several models and techniques are useful within different phases of the process. For example, many of the models and techniques used to assess an organization's resource capabilities can be used to determine the capabilities of the competitors, albeit with the added difficulty of access to accurate information.

Other examples include stakeholder analysis (section 8.4), which is relevant to the objective-setting process, as well as the evaluation of strategic options that are acceptable to the stakeholders, and performance management to monitor the achievement of objectives. Benchmarking can be used to support competitive strategies but is also part of performance management. It is important, therefore, that the reader does not assume that the technique is restricted to the box in which it is depicted. Indeed, it will be noted in the discussion of the techniques that they are very seldom used in isolation but provide a toolbox of complementary tools that can support the strategic management process.

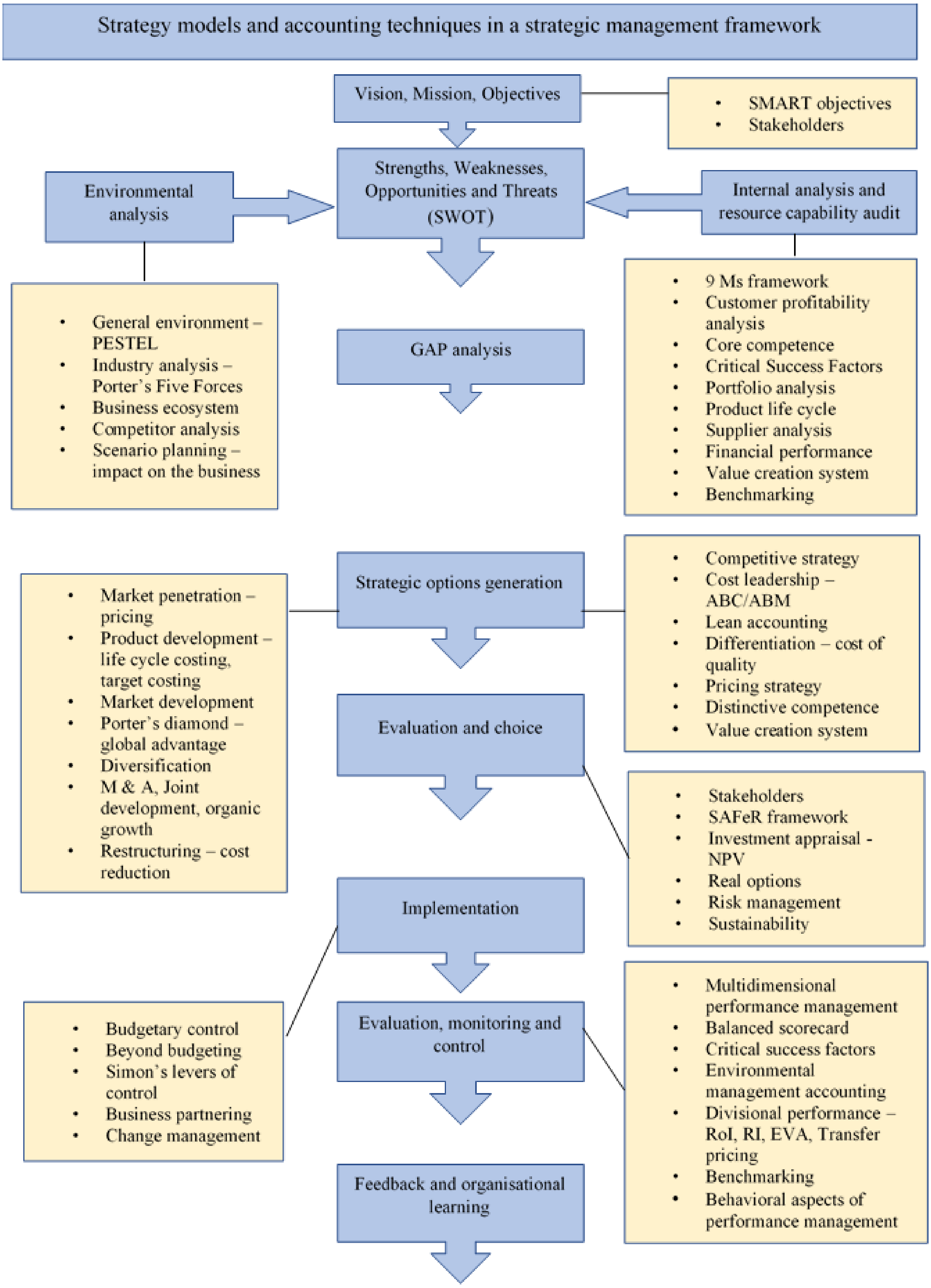

Figure 1.6 Strategy models and accounting techniques in the strategic management framework

To provide support to the strategic management process, the accountant needs to understand how the process works and the various dynamics that impact on the implementation and effectiveness of a chosen strategy. Likewise, managers need to be able to understand the potential impact that the different strategic options available could have on the financial performance of the organization. Part of proper strategic management, however, is spotting potential issues before they become big problems. Many organizations have gone out of business because they ignored the warning signs emanating from the monitoring of their current performance relative to competitors, as well as not identifying, or worse, ignoring the changes in the business environment.

1.12 The role of accounting data and information within strategy

Active reading. Accountants are often referred to as bean counters, that is, just dealing with the numbers. Note, however, how this can be used positively within the strategic management process.

While there is debate regarding the management level at which the organization's strategy is formulated (Balogun and Johnson, 2007; Hendry et al., 2010), there is evidence that middle managers and accountants become involved in the work of strategy formulation, implementation and evaluation (Dutton et al., 2001; Chenhall, 2003; Ahrens and Chapman, 2007). Not least, accounting information is inherent in the strategic management process. Boland (1993) suggests that accountants write reports based on an interpretative reading of an organizational situation, inevitably based on the accounting data, which are read by managers and others. In this way - via analysis, manipulation, and interpretation - accounting data could be used to inform, persuade, and impress others (Langley, 2007). Indeed Robson (1992) argues that it is the properties of numbers that make them influential in that they have mobility, stability, and combinability.

The skills of accountants enable them to use these properties to support strategic decision making (Oliver, 1991; Coad, 1996). Formal analysis has also been shown to enhance legitimacy with numbers taking on the roles of controlling, legitimatizing, and sense-making (Denis et al., 2006; Whittle and Mueller, 2010). Accounting data or numbers have been used to rationalize decisions after the event (Burchell et al., 1980), but conversely, as suggested by Simons (1992), can be seen to trigger organizational learning by stimulating new, and often unanticipated, strategies to emerge. There is little doubt that accounting data is used in the strategic management process. Management accountants can use this information in collaboration with others to make sense of organizational situations (Tillmann and Goddard, 2008).

Management accounting, however, is more than just numbers. If accountants do not understand and participate in the strategic management process, how can they provide appropriate information to managers? The Chartered Institute of Management Accountants (2009) highlighted the augmented skill set of the T-shaped accountant (Figure 1.7), which suggested that accountants need more than just the finance and accounting skills. They should also have a combination of skills which, on the one side, are about business understanding and strategic awareness and on the other, being able to influence people and even provide leadership.

It is applying their technical knowledge and strategic awareness, together with the development of strong interpersonal skills that enable accountants to make a significant contribution to the strategic management process and hence to an organization's success.

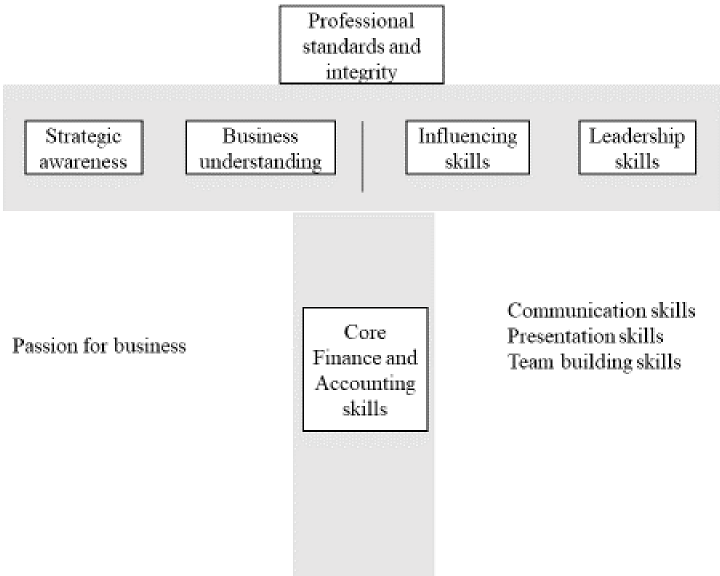

Figure 1.7 The T-shaped accountant (source: CIMA, 2009)

1.13 Strategy as practice and management accounting

Active reading. Note the viewpoint taken by supporters of the strategy as practice perspective and how the skills and day to day activities of management accountants can feed into the strategic management process.

More recently, in terms of academic development of the subject, there is a significant body of literature building around the concept of strategy as practice. Adopting a strategy as practice perspective provides some insight into how management accounting and the management accountant, can support the strategic management process.

The strategy as practice perspective takes the view that strategy is something that the various actors within an organization "do" rather than something an organization "has" (Whittington, 1996). Jarzabkowski et al. (2007: 7-8) note that strategy has been defined as "a situated, socially accomplished activity, while strategizing comprises those actions, interactions and negotiations of multiple actors and the situation practices that they draw upon in accomplishing that activity." The use of the verb strategize, takes up the point that verbs grasp the dynamic nature of the strategic management process (Whittington et al., 2006).

Strategizing is broken down by Jarzabkowski (2005) into *procedural strategizing* and *interactive strategizing*. Procedural strategizing focuses on diagnostic control – the monitoring of strategic outcomes and taking corrective action, an activity that the traditional management accounting practices would support. Interactive strategizing focuses on the activities of communicating, persuading, negotiating, influencing, and sense-making in strategic management. The skill set of the T-shaped accountant described in section 1.12 - The role of accounting data and information within strategy, would be particularly useful in interactive strategizing.

The aspect of sense-making activities has been reported by Tillmann and Goddard (2008: 80) in respect of management accounting practices in a multinational company when they identified that "accountants consciously and unconsciously undertake 'sense-making' activities through the strategies of structuring and harmonizing; bridging and contextualizing; and compromising and balancing." Accountants are good at organizing data and providing structure to data such as reporting by cost centers, thus making it more manageable and less complicated for the users of the information. Harmonizing activities, such as using accounting policies and rules, allows comparisons of data on a meaningful basis. Concerning comparisons, bridging activities take place by comparing data from one period to another, and spatial comparison provides an analysis of information across sectors, competitors, and within the organization across business units. Contextualizing occurs when comparing data for a specific purpose, such as benchmarking exercises. Compromising and balancing is used when there is a lack of accurate information, and it is necessary to use the best possible alternative or best estimate. The accountants can use their professional experience and know-how to provide information that is relevant to inform the decision-making process.

Cuganesan et al. (2012: 257) identified that "management accounting created shared understanding by objectifying, mobilizing and connecting strategic concerns across strategic practices and practitioners." In other words, management accountants are good at bringing together information from different sources, both financial and nonfinancial, to aid decision making in all disciplines. It is often the case that in small to medium-sized enterprises (SMEs), the accounting department is responsible for pulling together the management information from various functional departments and issuing a monthly reporting pack to senior managers.

Accountants also help identify and develop strategic priorities. Indeed, the development of strategic management accounting practices to support the strategic management process demonstrates a reciprocal relationship between strategic management and management accounting practices. These activities would fall with the mediating and shaping role described by Cuganesan et al. (2012). This role reinforces the need for management accounting to support the strategic management process and for accountants to work closely with functional managers of all disciplines and strategic business units to formulate, evaluate, and implement the strategy.

It is suggested that strategizing practices include strategic planning, resource allocation, decision making, and strategic change – all activities that accounting information can support, and all practices that occur within the strategic management process. So, where do accountants have the most impact? Dixon (1998: 273) suggested that the "identification, formulation and implementation of strategy by management is carried out using the techniques and language of the management accountant." He goes on to suggest that the "strategic decision-making process can influence the procedures of management accounting and the design of management control systems in order to aid the control of strategy." These observations imply that the focus is on the monitoring of strategy for control purposes, whereas Dixon was postulating that the accountant can be involved in all aspects of the strategic management process. Skærbæk and Tryggestad (2010) noted that accounting devices had a role in the formulation of strategy and helping to shape the various strategic options. Aver and Cadez (2009) found that, apart from the monitoring and control activity, the most likely areas for involvement was in the evaluation of strategic options and developing details about the strategic options activities. This learning resource is written on the basis that management accounting can contribute throughout the entire process of strategic management.

Whittington et al. (2006) highlight that the strategizing process encompasses the hands-on, practical skills of the strategists. Pye (1995) had earlier provided evidence that the strategist's skills (the practices and use of artifacts) can mean the difference between success and failure of a strategy. While this learning resource argues that accountants possess a skill set that can make a significant contribution to the activities of strategizing, Ahrens and Chapman (2007) noted that the skills required take time to develop, and can only really be learned on the job, emphasizing the practical nature of strategizing. The mind-set of the accountant, and indeed the culture within an organization, can also influence the contribution made to strategizing, as accountants that believe they have something significant to contribute will be more likely to adopt a strategic approach to the management accounting activity, and hold a desire to become involved in the strategic management process (Hutaibat et al., 2011; Pitcher, 2018; Hutaibat, 2019). It has also been found by Kalkhouran et al. (2017) and Pitcher (2015) that the degree to which the chief executive officer is supportive of the accounting function being involved in the strategic management process can have a positive influence on the use of strategic management accounting.

1.14 The 3 Ps of strategy as practice

Active reading. Note the difference between practice and praxis. Praxis can mean 'practice' as distinct from theory, that is, the application of knowledge or skill in a practical way, but with habitual use, it becomes the standard custom and practice, and part of the culture, both of the organization and the profession. Note how the training of accountants and the use of accounting techniques feed into the praxis of strategy.

As Whittington (1996) states, strategy as practice is concerned with the *doing of strategy*. Strategy as practice focuses on the praxis, practices, and practitioners of strategy – what Whittington refers to as the 3Ps (Whittington, 2006a). Practice is defined by Reckwitz (2002: 249) as "routinized types of behaviour which consists of several elements inter-connected to one [an]other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge." In a strategizing context, Whittington (1996: 732) suggests that practice is concerned with "… all the meeting, the talking, the form-filling and the numbercrunching by which strategy actually gets formulated and implemented." In this respect, the preparation, interpretation, and the putting to use of management accounting information could constitute *practice*, particularly in the sense that many individuals within an organization perform strategy work (Grant, 2003), much of which is mundane, everyday activities, involved in implementing the strategy.

Accountants would fall neatly within the definition of practitioners - those people who do the work of strategy (Whittington, 1996; Jarzabkowski, 2005), and the activities and practices of accountants fall neatly within the terminology of strategy as practice. The budgets, spreadsheets, and numerous reports produced by accountants constitute artifacts – the stuff of strategy, as defined by Jarzabkowski et al. (2013). These artifacts become imbued with knowledge and invested with meaning as they are developed and continually changed and updated, the various components often being used by multiple individuals for different purposes. The business plans and forecasts of future outcomes in which accountants are often heavily involved would constitute strategy texts, as defined by Fenton and Langley (2011). The accounting techniques and their output from activities such as gathering, analyzing, interpreting, and reporting could be viewed as knowledge artifacts, as defined by Jarzabkowski and Wilson (2006).

Professional accountants undertake a rigorous qualification process as part of their training. This training enables them to bring a specific kind of expertise and thinking to the strategizing process. As Schatzki (2005: 480) suggests, "different combinations of a practice's organizing elements are incorporated into different participant's minds due to differences in participants' training, experience, intelligence, powers of observation and status." Therefore, management accounting practices and their use by management accountants with their training, defined in part by professional accountancy bodies, forms part of the practices of the profession that impact on the organization. These practices adopted by the practitioner accountants impact on the collective experiences and thus become part of the praxis, (the process of using a theory or something that you have learned practically) or standard routine practices (Whittington, 2006b).

Fauré and Rouleau (2011) undertook case study research investigating the interactions between accountants and managers in preparing budgets. They noted how the participants' practical knowledge of strategy helps to shape the numbers and interpretation when using numbers as part of justifying local projects, both internally within the organization and to external partners. They highlight the use of numerical analysis in the justification of strategic decisions and the way different viewpoints, experiences, practical knowledge, interactions, and discourse between managers with different functional responsibilities, other than accountants, can be brought to bear on the decision-making process. This example illustrates that accountants, working closely with other managers, can contribute to the process of strategizing.

Management accountants regularly produce information to reaffirm that the strategy is working or to indicate a need for action. Techniques such as budgetary control become part of the culture of the organization. Indeed, one of the criticisms of management accounting is that information is produced on a routine basis only because it always has been. The traditional techniques and practices have been passed through generations of managers, even if they are no longer appropriate for the current business model (Johnson, 1992). That said, the idea of management accounting forming part of the praxis associated with strategizing is relevant in that the contribution of management accounting, as Whittington (2002: 2) says, the practice becomes "…[part of the] routines and formulae of the formal strategy process, laid down in the corporate culture and systems of how the enterprise formulates, implements, and evaluates strategy."

As practices become embedded within the culture of an organization, they can be passed on and acquired tacitly by newcomers (Martin, 2002). The techniques of management accounting have, therefore, in terms used by Bourdieu (1990) - a principal author about practice, become part of the habitus. Habitus is embodied within individuals (Hurtado, 2008) but at the same time becomes part of the collective experience of individuals with similar socialization or within the same class (Whittington, 2006b); in other words, part of the culture of an organization or profession. This observation implies that the theories and practical management accounting support provided to managers over a period become part of the culture of the organization. This phenomenon may add some support to why organizations are reluctant to adopt new strategic management accounting techniques.

We could be seeing the beginnings of an isomorphic element. Just as firms in the same industry display similar strategic responses over time (Spender, 1989), the training and recognized practices of accountants passed on via their training and the attainment of a professional qualification can help to develop the body of accepted practices as a form of normative isomorphism associated with professionalization (DiMaggio and Powell, 1983). That is, as the professional syllabi include more of the new techniques described as strategic, they are more likely to be adopted by newly qualified accountants taking up employment in different organizations. Once organizations report the use of newer techniques and the performance benefits, more organizations in the sectors will follow suit, and their use becomes part of the standard practice.

The strategy as practice framework of praxis, practitioners, and practice is, therefore, of value to understanding how management accounting can support the strategic management process. Remembering that the term strategizing refers to a hands-on, practical activity of enacting the strategy helps to provide insight into how the practice of management accounting can contribute to that process. As Nixon and Burns (2012: 235) suggest the "effectiveness of a combination of management accounting techniques, or SMA systems, depends very much on how it is used and on the extent to which it is a part of the organizational process that manages the formal, semi-formal and informal information and communication systems."

1.15 Summary

Definition of management accounting

Management accounting is about providing information to enable managers to manage. As managers make decisions at all levels in the organization, that is, operational, tactical, and strategic management accounting should support all levels. The term strategic management accounting was introduced to encapsulate techniques that were useful for supporting strategic decisions. Still, as yet, that is no agreed definition of strategic management accounting, nor has the term become part of the terminology of practicing accountants. There is, however, an agreement that management accounting should support the strategic management process and that there should be a more external and future orientation to the information provided.

Strategic management

The term strategic management recognizes the complex and dynamic nature of the business environment. Strategy is not just the setting of a long-term plan but the continuous process of managing the organization through turbulent and uncertain events. Strategic management is an iterative and social process that involves all levels of management. Organizations can develop a strategy by reference to external factors such as positioning the organization in the market to meet particular customer demands, or by exploiting a distinctive competence from within the organization, or indeed both.

A key aspect is the recognition and crafting of emergent strategies. Not all emergent strategies, however, are right, and part of the success of organizations is understanding the business and the environment in which it operates to ascertain which strategies are worth pursuing and which need to stop. Understanding the market is also crucial to being able to assess which changes in the environment represent potential opportunities or threats and formulating and implementing an appropriate strategic response.

The strategic management process and management accounting

The strategic management process consists of key phases of analysis, generation, and evaluation of options, implementation and review, evaluation, and control. Management accounting can support each stage via a range of techniques. The umbrella term of strategic management accounting covers many of the techniques discussed in this learning resource, but this does not mean that the everyday activities of traditional accounting do not support strategy. Many strategic decisions, such as new product development, or entering new markets, rely on sustaining a sufficient margin, or an acceptable breakeven point, on ensuring that the venture is viable. Neither the calculation of profit margin nor breakeven point would be considered a strategic management accounting technique.

Strategy as practice

Strategy as practice is concerned with the day to day enactment of strategy. It is what managers *do*, rather than what they *plan to do*. The term strategizing encompasses the activities of doing strategy. The three Ps of praxis, practices, and practitioners used by promoters of the strategy as practice perspective can be used to describe the day to day support provided by the skill set of practicing qualified professional accountants. The skill set is kept up to date via continual professional development and learning on the job through the interaction with other functional specialists. Management accounting can and should support all levels of management throughout the entire strategic management process.

1.16 Review questions

(1) What is the purpose of management accounting?
(2) What do you understand by the term strategic management?
(3) Outline a rational approach to the strategic management process.
(4) What do you understand by the term strategic management accounting?
(5) Why has the concept of SMA been developed?
(6) What are the main criticisms of traditional management accounting practices?
(7) Briefly outline the inside-out and outside-in views of strategy development.
(8) What do you understand by the concept of emergent strategies?
(9) Critically evaluate the contribution that management accountants can make to the strategic management process from a strategy as practice perspective.
(10) Briefly discuss the skill set required by management accountants in today's business environment that would enable them to contribute to the strategic management process.

1.17 Case study activity 1 – HW Inc. Approach to Strategy

This activity refers to the case of HW Inc., described in Appendix A of this learning resource.

Read sections A1 to A8 to familiarize yourself with the case. Then focusing more on sections A5 – A8, determine whether you think that HW Inc. has adopted a rational approach to strategic management? Do you believe that HW Inc. is taking an outside-in or an inside-out approach? Is there any evidence of emergent strategies? Give reasons for your assessment citing evidence from the case study information.

[Note: There is no one right answer to these questions as there is often a degree of subjectivity in how the information is interpreted. It is important, therefore, that you adopt the practice of justifying your views with supporting evidence.]

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CHAPTER 2 - Vision, mission, strategy, and management accounting

2.1 Introduction

A logical starting point for strategy development is the vision and mission of an organization. This chapter explains the strategic rationale behind the development of the vision and mission and how they inform strategy and the management accounting support provided.

The vision and mission set the strategic intent of an organization and determine how it operates. Ideally, the management accounting support is then tailored to the specific strategy. Researchers in management accounting have investigated the extent to which this happens within an organization with respect to the use of traditional and strategic management accounting techniques. This learning resource is based on the premise that management accounting, whether classified as traditional or strategic, should support the strategy of the organization, and the chapter discusses this with reference to some of the academic research.

Management accounting forms part of the overall management control systems employed within an organization, and various types, or levers, of control, are discussed with reference to strategy. Finally, the role of objectives within the strategy development process is reviewed, and reference made to the range of stakeholders that organizations seek to address.

2.2 Learning outcomes

After studying this chapter, you will be able to:

- Explain the purpose of a vision, mission, and strategic objectives
- Evaluate how effective a vision and mission are in communicating the strategic intent of an organization
- Discuss the link between management accounting and strategy
- Discuss different types of management control and how these relate to the control of strategy
- Discuss the role of objectives in the strategy-setting process
- Appreciate that organizations must consider a range of stakeholders when setting strategic objectives

2.3 Vision, mission, and objectives - A good place to start

Active reading. Note the distinction between the vision and mission, and the elements of a good mission statement, as defined by academics. However, notice how the difference has become blurred by the various ways in which organizations present them. Think about how the vision and mission inform the strategy of the organization.

An organization needs to know where it is going in the future and to develop a plan as to how it is going to get there. A logical starting point would be to define a vision and mission and set the strategic objectives. The initial business idea, however, may come from an analysis of the environment, for example, spotting a gap in the market. Alternatively, it may originate from a review of internal capabilities, such as developing a business around a core competence. Wherever the initial idea comes from, the development of the business needs an overall sense of purpose and long-term objectives. Stakeholders also need to know what the organization is about, particularly investors, employees, and customers.

Vision

The vision sets out the possible and desirable future state of the organization (Bennis and Nanus, 1985). It is a statement about what the organization hopes to achieve in the long run. The vision can also serve as a source of inspiration and motivation for employees.

Mission

In contrast to the vision, the mission is more business-focused and sets out the rationale behind the business. Campbell et al. (1990) suggest that a good mission should include four key elements. A purpose, strategy, behavior standards, and values. Lynch (2003) added to this by suggesting that a good mission statement is one that:

- Communicates the nature of the business
- Considers the customer
- Sets out the values and beliefs
- Encompasses a sustainable competitive advantage
- Is flexible to allow for changes in the environment
- Is realistic and attainable

The use of the terms vision and mission is often not that clear in practice. Organizations frequently use the term vision in place of mission. Consider a version from McDonald's provided on their website in 2003.

> McDonald’s vision is to be the world’s best quick service restaurant experience. Being the best means providing outstanding quality, service, cleanliness, and value, so that we make every customer in every restaurant smile. To achieve our vision, we are focused on three worldwide strategies, to be the best employer in each community around the world, deliver the operational excellence to each customer in each of our restaurants, and to achieve enduring profitable growth.
> Source: https://www.mcdonalds.com/us/en-us/about-us.html (accessed May 2003)

In terms of the four elements of the mission set out by Campbell et al. (1990), this contains the purpose (world’s best quick service restaurant), the strategy (worldwide strategies, best employer, operational excellence, profitable) behavior standards (quality, service, cleanliness, value, make every customer smile), and values (customer focus, best employer, communities) and fits well with the criteria suggested by Lynch (2003); therefore, it could be said to constitute a good example of a vision/mission statement.

The current trend, however, is for organizations to focus more on their values than the mission, and to incorporate references to strategy. By 2018 McDonald’s had changed the website information to read:

> McDonald's brand mission is to be our customers' favorite place and way to eat and drink. Our worldwide operations are aligned around a global strategy called the Plan to Win, which center on an exceptional customer experience – People, Products, Place, Price and Promotion. We are committed to continuously improving our operations and enhancing our customers' experience.
> Source: https://www.mcdonalds.com/us/en-us/about-us.html (accessed June 2018)

The statement then goes on to identify and explain the McDonald’s values which are given as:

- We place the customer experience at the core of all we do
- We are committed to our people
- We believe in the McDonald’s System
- We operate our business ethically
- We give back to our communities
- We grow our business profitably
- We strive continually to improve

Note the references to worldwide operations, global strategy, continuous improvement, and clear customer focus. There is also an explicit reference to what marketers call the marketing mix: people, products, place, price, and promotion. Note also how the values encompass a range of stakeholders.

Compare this with Starbucks' mission and values.

> **Our mission**
> To inspire and nurture the human spirit – one person, one cup and one neighborhood at a time.
> **Our values**
> With our partners, our coffee and our customers at our core, we live these values:
>
> - Creating a culture of warmth and belonging, where everyone is welcome.
> - Acting with courage, challenging the status quo and finding new ways to grow our company and each other.
> - Being present, connecting with transparency, dignity and respect.
> - Delivering our very best in all we do, holding ourselves accountable for results.
> - We are performance driven, through the lens of humanity.
>
> Source:https://www.starbucks.co.uk/about-us/company-information/mission-statement (accessed April 2020)

Here the mission statement says little about what the company does. It is more an inspirational statement that fits better with the definition of a vision. However, the current trend of including values provides much more information, and together with the stated mission provides information about the purpose, behavior standards, and values. It addresses a range of stakeholders and includes elements that relate to strategy, although the Starbucks statement is less explicit about strategy than McDonald's.

Whether promoting a vision or mission defining these statements encourages managers to think holistically about the business and consider the core values that underpin the organization's purpose. Collins and Porras (1997: 48) argued that an organization needs a core ideology that is expressed either within the vision or mission, or both together. They suggest that an organization needs, "core values and sense of purpose beyond just making money – that guides and inspires people throughout the organization and remains relatively fixed for long periods of time." The same idea has been put forward by Hamel and Prahalad (2005). They suggested that organizations should express a strategic intent in which the organization envisions a desired leadership position and establishes the criteria the organization will use to chart its progress.

Even as far back as 1957, Selznick saw a mission statement as a means of identifying an organization's distinctive competence, providing a framework for resource allocation decisions, and a sense of corporate identity. Campbell and Yeung (1991) promoted the idea of the vision and mission statements acting as a kind of corporate cultural glue that binds the organization together, which is particularly useful in the case of a diversified or conglomerate organization. It was also noted that each business unit could have a mission statement, relevant to its own business, but that each business unit's mission should be consistent with the overall corporate vision and mission – hence, the cultural glue.

The vision, mission, and values statements serve a communication role. They communicate to external stakeholders what the organization is about, what and how it intends to achieve its purpose, but also acts to transmit the same message to employees, as well as to provide the inspiration and motivation to help the organization fulfill the vision, mission, and objectives (Verma, 2009). Some research studies have suggested that having a clearly stated vision and mission can positively affect financial performance (Bart et al., 2001). This performance benefit, however, is not a universal view, as authors such as Sufi and Lyons (2003) found no such relationship.

In a study across six geographic regions, Nevan Wright (2002) found that eighty-two percent of the organizations surveyed had mission statements, but of these, only forty percent of managers felt that the statements reflected reality. This lack of conviction raises the issue of how seriously organizations take the development of mission statements or whether they are merely established for the benefit of external stakeholders. Many could be said to be published as a public relations exercise, and for the development of a corporate image, as many mission statements contain common words and phrases with no real attempt to clarify, explain, or operationalize the concepts (Cady et al., 2011).

The terms vision and mission are still used extensively by organizations in their published statements; however, other terms such as philosophy, aims, purpose, and principles are now used much more frequently. The corporate values are also taking a much more prominent view on company websites. It is the values that underpin what an organization does and how it does it.

The following example from GSK illustrates how the vision, mission, goals, values, and strategy are incorporated into a single statement.

> **GSK – About us**
> We are a science-led global healthcare company with a special purpose: to help people do more, feel better, live longer.
>
> We have 3 global businesses that research, develop and manufacture innovative pharmaceutical medicines, vaccines, and consumer healthcare products.
>
> **Our goal** is to be one of the world's most innovative, best performing, and trusted healthcare companies.
>
> **Our values and expectations** are at the heart of everything we do and help define our culture - so that together we can deliver extraordinary things for our patients and consumers and make GSK a brilliant place to

work.
Our values are Patient focus, Transparency, Respect, Integrity. Our expectations are Courage, Accountability, Development, Teamwork.

What we do
We aim to bring differentiated, high-quality, and needed healthcare products to as many people as possible, with our 3 global businesses, scientific and technical know-how and talented people.

How we do it
Everyone at GSK is focused on 3 priorities – Innovation, Performance, Trust.

Source: https://www.gsk.com/en-gb/about-us/ (accessed April 2020)

This statement is relatively brief but sets out what the organization does, what it is trying to achieve, and how it operates.

Unilever provides another example of how the vision and values inform the strategy.

Unilever - About us

Our vision
Our purpose is to make sustainable living commonplace.

Our values & principles

Our Corporate Purpose states that to succeed requires "the highest standards of corporate behaviour towards everyone we work with, the communities we touch, and the environment on which we have an impact."
Our values define how we do business and interact with our colleagues, partners, customers, and consumers. Our four core values are integrity, responsibility, respect, and pioneering. As we expand into new markets, recruit new talent, and face new challenges, these guide our people in the decisions and actions they take every day.

Our strategy

We've built a strategy to help us achieve our purpose of making sustainable living commonplace.

Our strategic focus

To realise our vision, we have invested in a long-term strategy of divisions and brands that deliver growth to the benefit of all stakeholders.

Source: https://www.unilever.com/about/who-we-are/our-strategy/ (accessed April 2020)

The statements promoted via corporate websites are aimed at a range of stakeholders. There is a strong customer focus to the statements from McDonald's, GSK, and Unilever, but they also highlight a commitment to the communities they serve and their people. Both McDonald's and Unilever mention growth. McDonald's refers to profitable growth while Unilever mentions "growth for the benefits of all stakeholders." The statements, being recent examples, also address the issues of ethical behavior, integrity, accountability, and sustainability.

The vision and mission are primarily intended as statements of long-term intent, illustrated well by Alibaba's statement. The example also provides another illustration of how the statements are used to communicate what the organization does and the strategy for how the vision will be achieved. Notice how the text explains the thinking behind the mission statement.

Alibaba Group's mission is to make it easy to do business anywhere.

We enable businesses to transform the way they market, sell, and operate and improve their efficiencies. We provide the technology infrastructure and marketing reach to help merchants, brands, and other businesses to leverage the power of new technology to engage with their users and customers and operate in a more efficient way.

Our businesses are comprised of core commerce, cloud computing, digital media and entertainment, and innovation initiatives. In addition, Ant Financial, an unconsolidated related party, provides payment and financial services to consumers and merchants on our platforms. A digital economy has developed around our platforms and businesses that consists of consumers, merchants, brands, retailers, third-party service providers, strategic alliance partners and other businesses.

Our Vision

We aim to build the future infrastructure of commerce. We envision that our customers will meet, work, and live at Alibaba. We do not pursue size or power; we aspire to be a good company that will last for 102 years.

The website later states.

> For a company that was founded in 1999, lasting at least 102 years means we will have spanned three centuries, an achievement that few companies can claim. Our culture, business models and systems are built to last, so that we can achieve sustainability in the long run.
>
> Source: https://www.alibabagroup.com/en/about/overview (accessed April 2020)

The link between vision, mission, and strategy is never more evident than in the strategy statements that are included on corporate websites. For example, compare the three strategy statements of GM, Walmart, and Royal Dutch Shell, taken from websites in January 2018.

> **GM strategy**
> GM's purpose begins with a few simple but incredibly powerful words: We are here to earn customers for life. Our purpose shapes how we invest in our brands around the world to inspire passion and loyalty. It drives us to translate breakthrough technologies into vehicles and experiences that people love. It motivates the entire GM team to serve and improve the communities in which we live and work around the world. Over time, it's how we will build GM into the world's most valued automotive company.
> Source: https://www.gm.com/investors/corporate-strategy.html (accessed January 2018)
>
> **Walmart strategy**
> Every Day Low Price (EDLP) is the cornerstone of our strategy, and our price focus has never been stronger. Today's customer seeks the convenience of one-stop shopping that we offer. From grocery and entertainment to sporting goods and crafts, we provide the deep assortment that our customers appreciate -- whether they're shopping online at Walmart.com, through one of our mobile apps or shopping in a store.
>
> Source: https://corporate.walmart.com/our-story/our-business (accessed January 2018)
>
> **Royal Dutch Shell strategy**
> **Our strategy**
> Shell's strategy seeks to strengthen our leadership in the oil and gas industry, while positioning the company for growth as the world transitions to a low-carbon energy system. Safety and environmental and social responsibility underpin our business approach.

> In February 2016, Shell completed the acquisition of BG Group, adding significantly to our activities in liquefied natural gas (LNG) worldwide and deep-water oil and gas production in Brazil.
>
> Shell's strategy is now centred on creating a simpler company, one that delivers higher, more predictable returns and growing free cash flow per share. By investing in compelling projects, driving down costs and selling non-core businesses, we will reshape Shell into a more resilient and focused company.
>
> Source: https://www.shell.com/investors/shell-and-our-strategy/our-strategy.html (accessed January 2018)

Bear in mind that strategies change over time in response to changes in the environment. However, at the time the statements were accessed, they illustrate that each company has a slightly different focus and could be said to target different stakeholder groups.

- GM appears to emphasize the customers for life and communities as important stakeholder groups. There is also a focus on breakthrough technologies. The emphasis on technology and improving communities is how it hopes to become the most valued company (in its sector), potentially referring to shareholders.
- Walmart is very much a focus on the strategy of low price, convenience, and depth of product range – all of which are aimed at customers.
- Royal Dutch Shell appears to place more emphasis on maintaining its leadership position in the industry and providing predictable returns for investors and also generating cash flow which will enable investment in compelling projects.

There is an implication that the different strategic focus of these three companies will require a different emphasis of management accounting information. Therefore, the vision, mission, and strategy of an organization could be said to determine the style of the management accounting system, the management accounting information required, and the accounting techniques that are the most appropriate for the organization.

Learning activity. Search online for the vision, mission, and strategy statements of organizations with which you are familiar. Compare them with the examples provided in this section. Are there any common themes that emerge from the published statements? A criticism of vision and mission statements is that they have become remarkably similar and full of common phrases. Do you agree with this viewpoint?

2.4 Management accounting and vision, mission, and strategy

Active reading. Note the criticism of traditional management accounting and the suggested need for strategic management accounting to focus support on strategic management. Also, note the definition of strategic decisions, how strategy is articulated, and the level at which it is defined, as these are also relevant to the choice of management accounting information required.

In the 1980s, there was considerable criticism of traditional management accounting in that it was predominantly financial, internal, and short term (Johnson and Kaplan, 1987; Bhimani and Bromwich, 1989). While it was useful for operational decisions, management accounting was criticized for being of little use to aid organizations in making strategic decisions. Johnson (1987: 4-5) characterized strategic decisions as being "concerned with the long-term direction of the organization, the scope of an organization's activities, the matching of organizational activities to its environment and resource capabilities, the allocation of major resources with the organization, and consideration of the expectation and values of the organization's stakeholders." The essence of these attributes is encapsulated within the vision and mission of an organization. This sentiment echoes the views of Selznick (1957), who suggested that the vision and mission set the priorities for strategy formulation and provides a framework for resource allocation.

Dixon (1998: 273) suggests that "the identification, formulation and implementation of strategy by management is carried out using the techniques and language of the management accountant." Despite the criticism of traditional management accounting information being predominantly financial, organizations invariably articulate, evaluate, and communicate their strategy in financial terms.

Quattrone (2016: 118) identifies the narrative and persuasive nature of accounting in that it can be used, in part, to convince users that a given strategy is the right decision. While it should be recognized that strategic decisions should never be taken based on numbers alone, the financial narrative helps "organizations to imagine visions and strategies and to construct and evaluate different courses of action from which to choose." Of course, one of the principal stakeholders with an interest in the organization's strategy is the shareholders, so it is not surprising that corporate strategies invariable include objectives that are expressed in financial terms, such as profits growth and shareholder value.

Perhaps in response to the criticism of traditional management accounting researchers began to suggest that accounting should take a more external focus and that accountants become more involved in the strategic management process (Simmonds, 1981; Bromwich, 1990, 1994; Kaplan and Norton, 1992; Roslender et al., 1998; Cadez and Guilding, 2008). Allied to this thinking, a body of literature emerged promoting and evaluating the use of techniques under an umbrella term of strategic management accounting (Bromwich, 1988; Govindarajan and Shank, 1992; Dixon, 1998; Roslender and Hart, 2003). Indeed, books have been written titled strategic management accounting (Smith, 1997; Hoque, 2003; Ward, 2016; Stein Smith, 2017; Joannidès de Lautour, 2018; Li, 2018).

This emerging field of strategic management accounting**Error! Bookmark not defined.** included the development of some new techniques but also emphasized the need for a change of focus in the accounting systems. Brouthers and Roozen (1999: 311-312) suggest that information provided by a strategic accounting system should support: “environmental analysis; strategic alternative generation; strategic alternative selection; planning the strategic implementation; implementing the strategic plan; and controlling the strategic management process.” This suggestion fits comfortably with the description of strategic decisions provided by Johnson (1987) and encapsulated within the vision and mission.

The idea of a strategic accounting system raises the question as to whether the strategic intent set out in the vision, mission, and strategy of an organization influences the management accounting information required, and whether the techniques employed would differ depending on the strategy adopted. Miles and Snow (1978) argued that the management information must be aligned to strategy.

For example, GSK included within their information in the *About us* section of their website:

> We aim to bring differentiated, high-quality and needed healthcare products to as many people as possible, with our 3 global businesses, scientific and technical know-how and talented people.
> Source: https://www.gsk.com/en-gb/about-us/ (accessed April 2020)

Walmart included in its strategy:

> Every Day Low Price (EDLP) is the cornerstone of our strategy, and our price focus has never been stronger.
> Source: https://corporate.walmart.com/our-story/our-business (accessed April 2020)

GSK emphasizes differentiation as a strategic focus, whereas Walmart focuses on low prices, implying a low-cost base. Does this difference in strategy, therefore, require different management accounting techniques to be employed?

In terms of strategy, it is worth taking a moment to consider the difference between corporate strategy and business strategy. A corporate strategy, according to Schendel and Hofer (1979: 12), is concerned with “determining what business the organization chooses to compete in and the most effective allocation of scarce resources among business units.” The reference to business units can be viewed as managing a portfolio of businesses. Each business unit could then have a separate business strategy, which according to Andrews (1980: 18), is concerned with “how an organization competes in a given business and positions itself among its competitors.” Therefore, the implication is that different levels of management are concerned with different levels of strategy and require different information.

Campbell and Yeung (1991) noted that different business units could have a mission relevant to their business, albeit consistent with the overall corporate vision. If each business unit has a mission, it implies that the management information provided to the managers of each business unit could have a different emphasis. Tailoring the management accounting to the mission, and hence the strategy, of each business within a corporate entity adds to the complexity of the management information systems required.

2.5 Strategic typologies and management accounting

Active reading. Notice that the discussion of the research into the link between strategic typologies and management accounting techniques that support the adopted strategy is not clear cut. The view taken depends to an extent on the degree to which the typologies are defined and applied. As you read, think about what the research is telling us about *when* specific accounting techniques are appropriate. Some researchers say adopting a strategy of differentiation requires the use of strategic management accounting. However, it might be more helpful to think about management accounting as consisting of a range of techniques, traditional and strategic, that need to be applied as appropriate when the information they provide would assist management whatever the strategy adopted?

Some research studies seek to identify whether organizations following a specific strategic typology are predisposed to using certain accounting techniques. The research into whether there is a positive relationship between the strategy adopted by an organization and the management accounting system predominantly looks at strategy from three different typologies, which are outlined in Table 2.1.

The typologies are:

- Miles and Snow (1978) - defenders, prospectors, analyzers, and reactors
- Porter (1980) - cost leadership, differentiation, focus
- Gupta and Govindarajan (1984) - build, hold, harvest

Table 2.1 Strategic typologies

Authors	Typologies	Key features
Miles and Snow (1978) Strategy based on pattern	Defender	Stable environment, limited product range, efficiency, and productivity focus, cost control important, favor low-risk strategies preserving the status quo, centralized structure
	Prospector	Complex and dynamic environment, focus on product and market development, willing to take risks, innovation, flexible structure

	Analyzer	Exhibits elements of both defender and prospector, but undertakes new strategies only after a full analysis of future viability, can be slow to respond to environmental changes, possibly adopts a matrix structure
	Reactor	Lacks coherent strategy, tends to follow others, the structure may be inappropriate for the environment in which it operates
Porter (1980) Strategy based on the market position	Cost leadership	A focus of low price, high market share, economies of scale, cost control, standard product range, prefers a stable environment
	Differentiation	Focus on product/service uniqueness, value-added, higher prices, marketing strategy vital factor to emphasize the point of differentiation
	Focus	Focus on defined buyer group, product line, or geographic market.
Gupta and Govindarajan (1984) Strategy based on mission	Build	Strategy to increase market share, invest in capacity, best in high growth industries
	Hold	Strategy to maintain existing market share, competes by effective marketing campaigns, minor product developments to keep market interest, best in mature industries
	Harvest	Focus on short term earnings, minimizing investments, relatively high market share, best in declining industries

Many studies tend to link typologies together in terms of the general characteristics ascribed to each strategy. This linking creates a split into two broad groups that fall between those following strategies of a defender—harvest—cost leadership, and those following strategies of a prospector—build—differentiation. The basic premise behind the research is that defenders—cost-leaders would favor more traditional accounting techniques, with the emphasis being on internal control of costs. In contrast, prospectors—differentiators would be more inclined toward the strategic management accounting techniques taking note of external information such as market trends and competitor products (Figure 2.1).

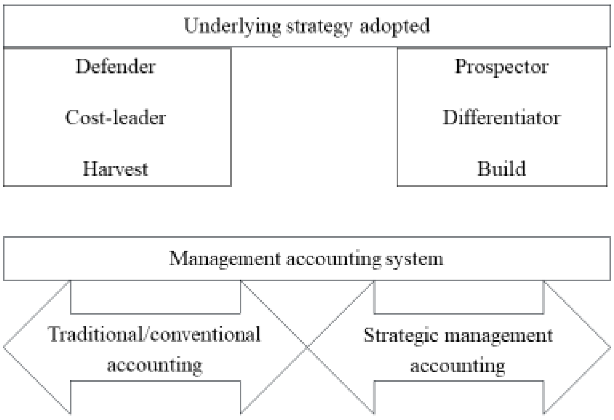

Figure 2.1 Broad grouping of strategic typologies and accounting focus

The logic would suggest that there is a benefit to be gained by directly tailoring the management accounting information to the chosen strategy. Much of the research tends to investigate the degree to which strategic management accounting has been adopted. The research referred to in chapter 1, section 1.5 (The uptake of strategic management accounting), however, indicates that strategic management accounting to date has not been applied widely by practitioners, even though it does appear to be on the increase. This fact needs to be borne in mind when reviewing research into any link between management accounting techniques used to support different strategies.

While there is some confusion as to whether there is a definite performance benefit in linking strategy and management accounting, mainly because financial performance involves so many contingent factors, not least how well managers use the information provided, a common theme has emerged. Studies suggest that organizations that adopt a defender—harvest—cost leadership strategy do not require a highly sophisticated information system. Whereas, those organizations adopting a prospector—build—differentiation strategy tend to use a broader range of information and accounting techniques, suggesting these organizations require a more sophisticated information system (Langfield-Smith, 1997; Chenhall, 2003).

In a study focused on the hospitality industry Turner et al. (2017) found that those organizations with a differentiated market orientation to strategy benefited from the use of strategic management accounting and that this did indeed aid the financial performance. Looking at the issue from the opposite direction, Abernethy and Guthrie (1994) found that those organizations which adopted a sophisticated management accounting system would benefit much more if they were also adopting a prospector strategy. They also noted that prospector organizations where the strategy involves continuous product innovation and market development benefited more from a broad scope of information, particularly external, qualitative, and future-oriented information, which was projected over a longer time horizon. This finding aligns well with the concept of strategic management accounting.

Pasch (2019) looked at the use of strategic management accounting from the perspective of the organizational life cycle of birth, growth, maturity, revival, decline. In a study of 377 firms in German-speaking countries, Pasch found that the adoption rates of strategic management accounting increased from the birth to the revival life cycle stages and dropped at the decline stage. He also found that firms that did not adopt strategic management accounting as appropriate through the development stages exhibited a lower performance than those that did, but that this was only significant for firms that did not introduce strategic management accounting to any great extent. This finding implies that as the business develops, it becomes necessary and beneficial for performance to add more sophisticated management controls. Still, he found that there is no detrimental impact of introducing them early in an organization's life cycle. There is a suggestion here that as the organization develops, the use of management accounting techniques and the provision of management accounting information will become more sophisticated to match the changing needs of a growing organization.

Cescon et al. (2019) looked at the influence of environmental factors on the use of strategic management accounting. In their study of manufacturing firms, they found that the use of strategic management accounting did not appear to depend so much on strategy type but was influenced by environmental uncertainty and competitive forces. There is some support for this viewpoint as a study by Costantini and Zanin (2017) found that as perceived environmental uncertainty increases the use and perceived usefulness of strategic management accounting techniques also increases. Chong and Chong (1997) found that more sophisticated management accounting reports can help to reduce uncertainty and improve decision making in changeable environments. Therefore, it implies that defenders who are operating in a stable environment with less need to adapt continually do not need a sophisticated system. Instead, these organizations tend to use information systems with a narrow, internal focus and more quantitative, cost-related information over short time horizons, which aligns well with traditional management accounting.

Cinquini and Tenucci (2010), researching the adoption of strategic management accounting techniques in Italian organizations, grouped the techniques into four categories of costing, competitor, customer, and performance. They found that there was some adoption of the new techniques. However, organizations following a cost leadership type of strategy appeared to be making more use of the techniques they had classified as costing. In contrast, differentiators were making more use of the techniques under the categories of customer accounting, competitive position monitoring, competitor performance appraisal, and cost of quality. This finding confirms the belief that certain types of management accounting systems will be more suited to the different focus contained within the strategy (Langfield-Smith, 1997; Chenhall, 2003). Chenhall and Moers (2015) later identified that for organizations where innovation is a significant factor, which could be true for many firms operating in a competitive environment, the traditional use of financial controls is insufficient, implying that a broader range of controls is necessary.

Kald et al. (2000) challenged the use of the broad classifications of defender and prospector or cost leadership and differentiator. They pointed out that life is often more complicated, and organizations may well adopt a mix of strategies. They argue that to make broad assumptions based on one classification of strategy may lead to erroneous results. For example, certain strategies may be appropriate at different stages of the product life cycle (Figure 2.2), and therefore different accounting techniques would be more appropriate at different stages. Thus, rather than adopting only traditional or strategic accounting techniques, organizations would be employing a range of techniques across the life cycle strategies, some of which could be classified as traditional and some as strategic.

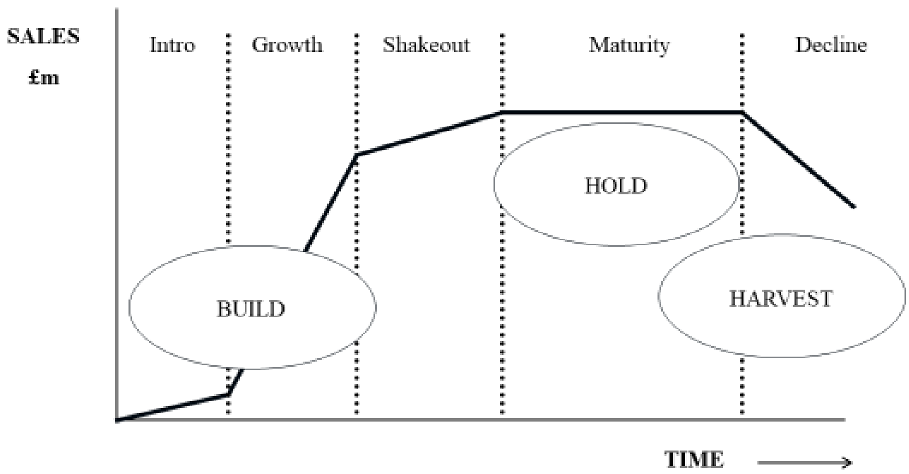

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Figure 2.2 Strategies adopted at different stages of the product life cycle.

As the market grows and the organization is building market share, it may seek to reduce costs to remain competitive, but then adopt more sophisticated techniques, such as competitor analysis, as the market becomes more mature with potentially fewer, but larger competitors. Techniques such as customer profitability analysis and product and market development strategies may be adopted to extend the product's life during maturity. Whereas, the focus on reducing cash outflow and cost control become more relevant at the decline stage. This approach, while criticizing the broad grouping of strategies, does suggest that the techniques used are influenced by the need to support the strategy being adopted during the different stages of the product life cycle.

Kald et al. (2000) also suggested that a defender could follow a strategy of cost leadership or differentiation. Similarly, a prospector could also pursue a strategy of cost leadership or differentiation. They suggest that environmental factors faced by the organization will influence the strategy and that this has implications for the management control systems in place (Figure 2.3).

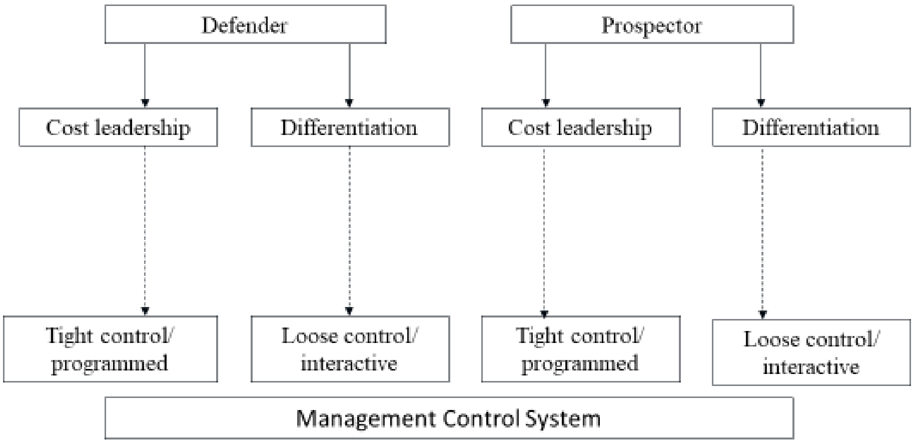

Figure 2.3 Mix of strategies and management control systems

Kald et al. (2000) refer to tight and loose controls. Tight indicates that managers monitor the activities of a business unit frequently and make substantial use of budgetary controls. In contrast, loose control indicates there is limited management involvement in day-to-day operations. Simons (1990) reviews the management control systems at top management levels under the classifications of programmed and interactive, which equate to the tight and loose distinction of Kald et al. Programmed controls are operated at a distance from the front line managers. They are transmitted through formal procedures, whereas interactive controls allow operating managers to challenge and debate the underlying data, assumptions, and action plans.

Simons (1990) reported on a study of two companies of similar size that operated in the same industry, both of which were successful but pursued different strategies. One focused on cost leadership and customer services, selling relatively mature products concentrated in high volume, low price categories. The other competed through product innovation and marketing with premium-priced products having advanced features, virtually a strategy of differentiation. Based on this study, Simons suggested that cost leadership focuses on tight/programmed cost control by close monitoring of operating procedures with actions taken through formal mechanisms. A prospector—differentiation strategy, being more market-focused, arguably requires a more proactive approach, and therefore a looser, more interactive approach to control is needed.

2.6 Management control systems

Active reading. Note how the management accounting controls need to support the strategy but also form part of a coherent package of control systems within the organization.

The management accounting system is part of a broader management control system. The management control system is defined by Anthony (1965) as the process by which managers assure that resources are used effectively and efficiently in the accomplishment of the organization's objectives.

Simons (1994) provided four levers of control given as:

- Diagnostic use of control systems—ex-post monitoring, corrective action, and management by expectations
- Interactive use of control systems—frequent use and dialog to stimulate organizational learning and change
- Belief systems—communication of core values related to sustainability to trigger a change in mind-sets and support organizational change processes (for example, mission statements)
- Boundary systems—restraining organizational members from entering in an extreme zone (for example, code of conducts, anti-bribery guidelines)

Most traditional accounting systems would fall within the diagnostic control systems, such as budgetary control, formal reporting, and performance measures. While the use of diagnostic controls informs and enables corrective action to be taken, Simons (1994) suggests that the functions of interactive controls are: signaling, surveillance, and decision ratification. Interactive controls, such as sharing of ideas and regular meetings, are used by senior managers and subordinates to enable managers to gain a richer understanding of potential opportunities and threats while simultaneously signaling to junior managers the organizations' strategic position. Junior managers have more freedom to act, and regular interaction between junior and senior managers provides the overview and ratification of actions taken. This freedom to act implies, based on the discussion in the previous section that an organization following a prospector type strategy would benefit more from interactive controls, due to the uncertainty of the environment, allowing employees more freedom to act and develop organizational learning skills. It is not, however, just the controls or techniques that are used, but how well they interact. Note that the mission forms part of the belief systems and acts as a soft control mechanism.

Bouwens and Abernethy (2000) argued that specific management accounting techniques will not aid a prospector—differentiation strategy directly, but that it is the package of systems put together by various functions within the organization which enables the strategy to be successful. This interdependence of management control systems, including the management accounting system, can be challenging to achieve.

There is a distinction made between control systems and control packages. Grabner and Moers (2013: 408) defined a management control *system* as being a set of control practices that are designed to be interdependent, whereas a management control *package* represents the complete set of control practices in place, regardless of whether they are interdependent or individual, and can be composed of a set of management control systems or a set of independent management control practices addressing unrelated problems. For example, the distribution function of an organization may be controlled by a human resource system to monitor staffing levels, an accounting system to control costs, supply chain management system to manage links with suppliers, quality control system, and so on. The totality of the individual, often functional-based systems, represents the *package* of controls related to distribution. The distribution/logistics strategy will be determined by the overall strategy of the organization, as illustrated in Figure 2.4.

Otley (2016) noted that control packages are often developed quasi independently at different times by different people and are often dependent on local functional needs. Potentially each functional strategy will have elements of management control that are relevant to the specific function. For example, marketing may develop a system that collects quantitative data of a financial nature that partly duplicates the accounting information. Therefore, in practice, these systems may only be loosely coordinated with the overall package of controls. It may even be that some functions require tight control, such as operations/production controls in a high tech manufacturing environment. In contrast, functions such as research and product design and development functions might benefit from a system of looser controls encouraging innovation and creativity. Some systems, however, such as human resources and accounting, would span all functions.

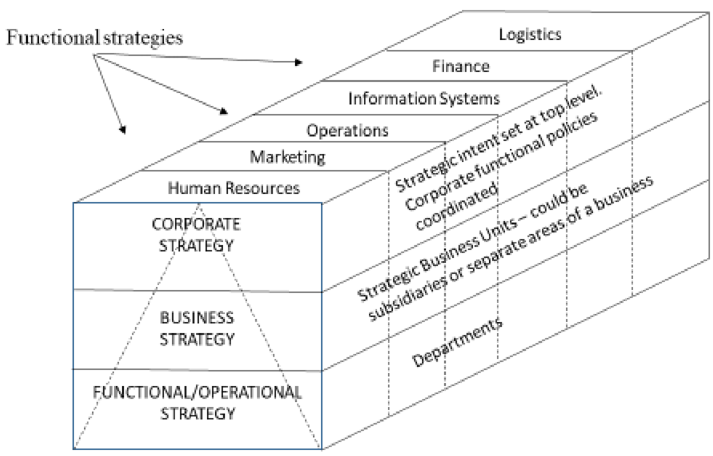

Figure 2.4 Functional strategies as a subset of the overall strategy

There is also a link to organizational structure as a control. For example, the degree to which decision making is centralized or devolved. Bedford et al. (2016: 12) note that "there are multiple ways by which a firm can effectively combine MC [management control] practices in a given strategic context … The results indicate that the effectiveness of accounting control and structural control choices are determined not only by their fit with strategic context but also by how well they fit with each other."

Despite not being able to categorically state that aligning the management accounting system with the strategy will improve performance, the research provides enough evidence to suggest that it is logical and sensible to ensure that appropriate management accounting techniques are employed. Also, that relevant information is provided to aid management throughout the whole of the strategic management process.

The examples of the different strategies from GSK, Walmart, and Royal Dutch Shell given in section 2.3 indicate that the information requirements of the organization will be different based on the different focus within their strategy. It is often suggested that accountants should act as *business partners* to managers, which implies that accountants also need to understand the strategic management process. There is a need to work with other functions such as marketing, HR, and so on, to ensure that the overall package of controls is relevant to the strategy being adopted.

The management accounting systems should be able to respond to the changing needs of the business, and indeed its changing strategy. Often new CEOs bring with them a change of vision, which changes the strategy, requiring a shift in management information provision. Similarly, changes to the business environment to which the organization makes a strategic response, or changes in technology, increased competition, cost reduction and restructuring programs, all impact on the type of information and accounting techniques required to support the strategic management process. Indeed, Messner (2016) notes that there may be industry requirements or practices, established benchmarks, even regulations that dictate that certain elements must be present within the management accounting system. The management accounting system, therefore, should support the strategy and, at the same time, be capable of interfacing with other systems to form a coherent overall package of organizational systems.

2.7 The role of objectives

Active reading: Note the purpose and characteristics of good objectives and the need for consistency.

Organizations often include statements of their strategic aims, goals, or objectives within their publicly available information. Goals tend to be broad statements of their long-term intentions. They are often not quantified, for example, merely stating that a strategic aim is to increase shareholder wealth. An objective, however, should be quantifiable and timebound so that we know when it has been achieved, for example, an objective to increase profitability by 10% over the next five years.

The vision and mission statements can be quite general. Therefore, the role of objectives is to crystallize the strategy into a series of discrete steps. Together they facilitate the realization of the vision and mission. Objectives enable targets to be set and measured that allow a degree of control over the strategy implementation.

The mnemonic SMART is often used (specific, measurable, agreed, realistic, and timebound). The specific, measurable, and timebound elements ensure that targets can be set, and the actual performance against the objective can be monitored. The agreed and realistic features help to motivate employees to achieve the objective. There are alternatives to the A and the R. Some texts and organizations use achievable and results-oriented or other variations. Whatever form is used, the SMT ensures it can be quantified and hence measured, as it is often said that what gets measured gets controlled, while the A and R provide the motivational elements. The objectives follow the same hierarchical pattern as the strategies (see Figure 2.5), that is, functional, business, and corporate, and as with the strategies should demonstrate consistency.

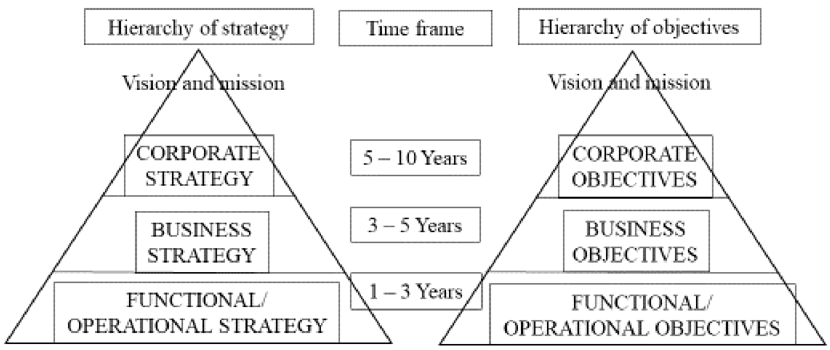

Figure 2.5 Hierarchy of objectives linked to strategies.

The objectives should display:

- Vertical consistency in that the operational strategies help to achieve the business strategies, which in turn help to achieve the corporate strategy and thus meet the overall vision and mission.
- Horizontal consistency in that if marketing sets an objective to sell 100,000 units, production is planning to make enough units, HR can ensure the sufficient

employees with the right skills are recruited and available, accounting makes sure adequate finance is available, and so on.

- Consistency over time means that the objectives send a clear and consistent message and are not constantly changing, which could lead to confusing employees, shareholders, customers, and other interested parties.

2.8 Stakeholders

Active reading. Note that organizations have a range of competing expectations from a variety of stakeholders, and objectives are set to satisfy more than just the shareholders.

The vision and mission statement and strategic objectives will seek to address the needs and expectations of various stakeholders. (The concept of stakeholder mapping is dealt with in Chapter 8, section 8.4). The main financial objective of commercial organizations may still be to maximize shareholder wealth, but it is widely recognized that this is now achieved more effectively by addressing the needs of a multitude of stakeholders.

Objectives are often set that address specific stakeholder groups, for example, employees, communities, sustainability issues. A simple and potentially useful way of classifying stakeholders is using the mnemonic ICE, for internal, connected, and external.

Internal

Typically, internal stakeholders are often thought of as employees being split between management and workers. However, employees can be broken down into many different groups who will have different interests, expectations, and degree of power or influence. Consider a hospital in which there are doctors, consultants, administrators, nursing staff, and porters. There may also be groups of workers who are contracted to another organization, such as caterers and cleaners. All groups could have a different view or reaction to a strategic decision taken by the organization, and some groups may be able to influence the success of the strategy more than others.

Connected

Connected stakeholders have a vested interest in the organization, for example, shareholders and loan providers, and suppliers and customers, depending on the strength of the relationship with the organization.

External

External stakeholders might include the central government, the public, pressure groups, and the media.

Potentially each stakeholder group would view the organization's success differently. For example, employees require pay and benefits, job security, and prospects. Shareholders expect dividend return and capital growth. How each reacts to the strategic objective may be different, and how the management team deals with this is dealt with in Chapter 8. It is, for now, enough to note that not all objectives are financial, hence the need for a range of management information and performance measures, including nonfinancial and external.

All objectives need to be crystallized into quantifiable objectives that can be measured and monitored, and strategies formulated to achieve them. Even primarily qualitative objectives, such as increasing customer satisfaction, can be quantified. For example, to increase customer satisfaction so that 90% of customers are happy during the next year. The level of satisfaction can be ascertained via the mechanism of a customer satisfaction survey and compared to the level of satisfaction last year, thus indicating whether the objective has been met. Reasons for deviation, either positive or negative, can be investigated, which may involve looking at the link between other indicators. In the example of customer satisfaction, this could be the number of customer complaints (including the reasons why), customer returns, customer retention rates, new customer acquisitions, lost customers, and so on. The link between objectives and performance measures is explored in more detail in Chapter 10.

The accountant is well place to aid this process and to ensure that the management accounting system integrates with all the other systems such that the organization's overall management control package is compatible with the strategy.

Learning activity. Think of an organization with which you are familiar. Now, thinking about the following stakeholders, what might their expectations be of the organization, and how might they judge its success?

Shareholders
Employees
Customers
Suppliers
Lenders of loan capital such as banks
The public
The government
Regulatory bodies

For example, shareholders are expecting a dividend and capital growth and would judge the organization on how well the organization met these expectations. Employees expect job security, fair and competitive pay and benefits, career prospects, and so on, and would judge these in comparison to other job opportunities.

2.9 An example of corporate strategy

Consider the following elements listed on Unilever's website under the 'Strategy' page in April 2020.

Unilever – Strategy, as shown on the website in April 2020.

Our vision

Our purpose is to make sustainable living commonplace.

Our values & principles

Our Corporate Purpose states that to succeed requires "the highest standards of corporate behaviour towards everyone we work with, the communities we touch, and the environment on which we have an impact."

Our values define how we do business and interact with our colleagues, partners, customers, and consumers. Our four core values are integrity, responsibility, respect and pioneering. As we expand into new markets, recruit new talent, and face new challenges, these guide our people in the decisions and actions they take every day.

Our strategy

We've built a strategy to help us achieve our purpose of making sustainable living commonplace.

Our strategic focus

To realize our vision we have invested in a long-term strategy of divisions and brands that deliver growth to the benefit of all stakeholders.

Vision

Growing the business

- Sales
- Margin
- Capital efficiency

Improving health and well-being

- Nutrition
- Health and hygiene

Enhancing livelihoods

- Fairness in the workplace
- Opportunities for women
- Inclusive business

Reducing environmental impact
- Greenhouses gases
- Water
- Waste
- Sustainable sourcing

<u>Our long-term strategic choices</u>

Portfolio choices
- Category choices
- Active portfolio management
- Building a Prestige business

Brands and innovation
- A focused approach to innovation
- Driving efficiency and margins
- Increased investment in digital marketing

Market development
- Routes to market
- Emerging markets
- E-commerce

Agility and cost
- Zero-based budgeting
- Manufacturing base and overheads
- Leveraging scale

People
- Attracting talent
- Developing talent
- Values-led and empowered

<u>Growth</u>

Consistent
We deliver consistency in underlying sales growth, core operating margin and free cash flow by continuously investing in our supply chain, our brands and marketing, our people and IT.
Competitive
By investing in innovation we can grow our market share while also seeking to enter new markets and new segments.
Profitable
We seek continuous improvement in our world-class manufacturing to drive cost savings and higher returns, providing extra fuel for growth as cash is redeployed in new strategic opportunities.

Responsible

Growth that's responsible involves having a positive social impact and reduced environmental footprint, which is the essence of the USLP [Unilever Sustainable Living Plan] and is essential in protecting and enhancing our reputation.

<u>Our business model</u>

Unilever believes profitable growth should also be responsible growth. That approach lies at the heart of our business model, driven by sustainable living and the USLP. It guides our approach to how we do business and how we meet the growing consumer demand for brands that act responsibly in a world of finite resources.

Our business model begins with consumer insight that informs brand innovation, often with partners in our supply chain, to create products we take to market supported by marketing and advertising across a range of distribution channels.
Unilever operate through three divisions:

In 2019:

- Beauty & Personal Care generated turnover of €21.9 billion, accounting for 42% of our turnover and 52% of operating profit
- Foods & Refreshment generated turnover of €19.3 billion, accounting for 37% of our turnover and 32% of operating profit
- Home Care generated turnover of €10.8 billion, accounting for 21% of our turnover and 16% of operating profit

Source: https://www.unilever.com/about/who-we-are/about-Unilever/ (accessed April 2020)

Some points to note

Note that Unilever quotes the vision, which is a short inspirational statement, and addresses a current concern of sustainability. They do not offer a separate mission statement. Instead, they move straight to the values and principles. The first section addresses the corporate purpose, which again highlights the concerns of corporate behavior and the environment, as well as referring to a range of stakeholders.

There is a strong link between the strategy and vision, both of which refer to sustainable living. This theme appears later under the growth strategy as the Unilever Sustainable Living Plan (USLP). The strategic focus refers to investing in a long-term strategy of divisions and brands that deliver growth to the benefit of all stakeholders. How this will be achieved is expanded within the bullet points listed under the heading of long-term strategic choices. This section does not set out the exact strategy in detail but leaves room to respond and adapt to any changes in the environment. For example, the references to active portfolio management, focused approach to innovation, routes to market, emerging markets, agility, and cost, developing talent, values-led and empowered all indicate a recognition of the need to be responsive to changes in the business environment and customer demands within an overall strategic intent for growth. The business model also recognizes that the growth needs to be profitable and responsible.

Throughout the statement, there are several overt references to financial performance and accounting terminology. For example, under the heading of growing the business, are three bullet points of sales, margin, and capital efficiency. Under strategic choices, the brands and innovation heading include a reference to driving efficiency and margins and increased investment in digital marketing. The strategic choices also include a heading of agility and cost, which includes zero-based budgeting, manufacturing base, and overhead and leveraging scale. Under the heading of growth, there is mention of consistency in underlying "sales growth, core operating margin, and free cash flow … continuous improvement in our world-class manufacturing to drive cost savings and higher returns, providing extra fuel for growth as cash is redeployed in new strategic opportunities."

Unilever's strategy statement merges the overall vision of sustainable living with the recognition that to invest in sustainability and uphold its responsibility to a range of stakeholders, the organization needs to be profitability. It is also possible to predict the use of cost reduction techniques, zero-based budgeting, and investment appraisal, taking into account sustainability issues. Also, new product development where target costing and life cycle costing would be relevant, particularly in light of the statements on consumer insight, innovation, and sustainability. As Unilever applies World Class Manufacturing (Jaap van Ede, 2015), there is a strong case for using lean accounting, and continuously investing in the supply chain would imply that supplier evaluation, both in strategic and financial terms, is highly relevant.

The vision, mission, and strategy, therefore, sets the context in which the management accounting system is developed. If management accounting is going to successfully support the strategic management process from the formulation of a strategy to the achievement of long-term objectives, provide information to enable managers to manage, and be alive to the changing needs of the business as it develops, the strategy and management accounting system needs to be in alignment.

Learning activity. How would you characterize Unilever's strategy according to the typologies discussed in section 2.5?

Based on the financial and accounting references in the strategy statement taken from their website, do you think that there is a case to suggest that Unilever would use both traditional and strategic accounting techniques with equal importance, or would one prevail over the other?

[Note: this is your opinion based on the information provided. You may find the ideas of Kald et al. useful].

2.10 Summary

Management accounting can support the strategic management process in the following ways.

Aid the quantification and monitoring of objectives

Management accountants can aid the crystallization of objectives into quantifiable objectives capable of being used to set targets and monitor performance. Not all objectives are expressed in financial terms, but the skills of management accountants, being grounded in the use of numbers to represent value and actions, are well suited to aiding the development of objectives in quantifiable terms.

Assist in establishing suitable management control systems

The management accounting controls form part of the overall management control package used within the organization. The management accounting controls need to be consistent with the overall culture of the organization, for example, ensuring that an appropriate mix of diagnostic and interactive controls, is employed. The controls adopted must also be capable of developing as the needs of the business change.

Employing suitable management accounting techniques for the strategy adopted

The focus of the management accounting techniques employed needs to support the competitive strategy, for example, a focus on cost control or product differentiation. In short, the adoption of a strategic accounting system that can provide internal and external, quantitative and qualitative, historic, and future-oriented information.

Ensuring that the management accounting information supports strategic change

It is important that the management accounting systems are flexible and adaptable to ensure that the information provided always supports the strategy and, where necessary, supports strategic change. This support may involve developing new performance measures to monitor a shift in strategic focus, using different techniques to support decision making, and working with other managers to ensure the integrity of the overall management information systems.

2.11 Review questions

(1) Briefly discuss the difference between a vision and a mission statement.

(2) Briefly outline the three typologies of strategy discussed in the section on management accounting and vision, mission, and strategy.

(3) Discuss whether you agree with the premise that organizations following a prospector/differentiator strategy require a more sophisticated accounting system than organizations following a defender/cost leadership strategy. Give the reasons for your conclusions.

(4) Discuss with reference to Simon's levers of control the types of controls that you would expect to be present within the management control package of Unilever.
(5) Discuss the role of objectives and stakeholders in the strategy development process.
(6) Access the corporate websites of organizations with which you are familiar and compare the vision, mission, and strategy statements. Do they conform to the characteristics of a good vision/mission, as defined by academics? Do they suggest that the strategic focus is different, which may impact on the management information required?

2.12 Case study activity 2 – HW Inc. Vision and mission

Turn to Appendix A of this learning resource, read the section A1 and attempt the following activity.

- Evaluate the vision, mission, and values statement of HW Inc. (Hint: use the framework by Campbell et al. (1990) or that of Lynch (2003) from section 2.3)
- What does this imply for the management accounting information requirements of the management team at HW Inc.?

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CHAPTER 3 - Understanding the business environment

3.1 Introduction

The business environment of today is much more dynamic and complex than that faced by organizations over twenty years ago. Dynamism can be defined as the rate and volume of changes in the environment, while complexity is caused by the multiplicity of inputs and outputs (Dess and Beard, 1984). Cummings and Daellenbach (2009), perhaps playing devil's advocate, suggest that environments have always been turbulent. It is just that the frameworks developed in the 1970s and 1980s enable environments to be viewed differently and provide a basis for more detailed monitoring and analysis. This chapter looks at some of the common frameworks that can be used to analyze the environment.

The frameworks reviewed discuss different aspects of the business environment and include PESTEL that provides a basis for monitoring the general environment; Porter's (1979) five forces model that aids the analysis of the forces acting on an industry that will impact on the corporate strategy; competitor analysis; and the business ecosystem. The chapter also looks at using scenario planning to aid organizations in developing a strategy to deal with changes in the environment. Throughout the chapter, reference is made to how management accounting can support the activity of environmental analysis.

3.2 Learning outcomes

After studying this chapter, you will be able to:

- Appreciate how the business environment has changed in recent years
- Evaluate the need for organizations to respond to changes in the environment
- Discuss the significance of the different levels within which the business environment can be analyzed
- Critically evaluate the need to undertake environmental analysis
- Apply frameworks such as PESTEL and Porter's five forces model to analyze the environment of a given organization
- Critically evaluate the process of competitor analysis
- Discuss the significance of the concept of a business ecosystem for strategy development including the benefits and difficulties of managing the ecosystem
- Critically evaluate the benefits of scenario planning and discuss the process of building scenarios and their use
- Critically evaluate the contribution that management accounting can make to the activity of environment analysis within the strategic management framework

3.3 The changing business environment

Active reading. Note the range of factors that can cause a change in the business environment and the interlinkage between the environment and strategy, indicating the importance of responding to changes.

The business environment in which organizations operate is always changing. For example, factors such as developments in technology, communications, global sourcing, and transportation have contributed to the degree of globalization found in many industries. These developments increase the degree of competition to which organizations are exposed. It is, therefore, necessary to monitor existing competitors, but more significantly, to be aware of potential competitors. These potential competitors include any product or service that a customer can use to fulfill the same needs as the organization's current offering.

Technology has been a significant driver for changes to industry structures, such as retailing and banking. The strong high street presence previously required by banks, in many cases, has become a liability, as fewer customers now use these high-cost facilities. New competitors entered the market using only the Internet, providing a lower cost base, giving them a potential competitive advantage. Supply chains have become more complex requiring close monitoring of inter- and intra-organizational collaborations. There is a greater variety of products and services, shorter product life cycles, and increased volatility in demand. Consumers are becoming more sophisticated using the technology to seek out the best deals, making customer retention, and building loyalty more difficult. The need for organizations to understand the environment is becoming increasingly important, not just to identify the changes and to formulate appropriate responses, but to understand the drivers for change and, via the strategic decisions made, to be proactive and seek to manage the environment for competitive advantage.

The importance of understanding the environment can be linked to the success of the strategy. Dollinger (1984) found that those organizations that undertook significant interest in their environment performed better than those that did not. Grant (2003) noted that strategic planning within organizations has become more responsive and shows greater flexibility as environments have become more turbulent and unpredictable. He agrees with Miller and Friesen's (1983) findings that the analysis activity within the strategy-making process increases in environments that become more complex, dynamic, hostile, and heterogeneous. Organizations need to adapt to the changes and that can often mean a change to the way the organization works, to organizational structure, technology used, skill base required, materials used, or ways of working with others to satisfy customer needs.

There is an underlying theme in research papers that environmental, strategic, and structural dimensions need to be consistent. This need for consistency does not mean that the environment always determines the strategy and structure, but it could be argued that they are contingent upon each other. It has been the view for many years that a cost leadership strategy is more suited to a stable environment, and that a strategy of differentiation is more likely to bring success in a dynamic environment (see, for example, Lawrence and Lorsch, 1967; Miller, 1988; Ward et al., 1996).

A representation of a contingency model is shown in Figure 3.1. This model is not definitive but illustrates the potential link between understanding the environment and strategy.

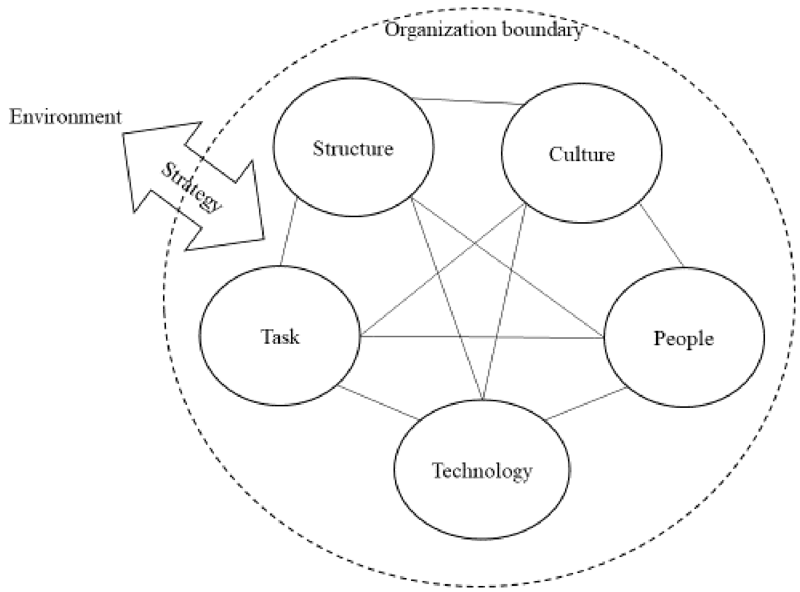

Figure 3.1 A contingency view of strategy and the environment.

The premise behind this model is that the strategy provides the link between the environment and the elements that make up the organization. The strategy can be responsive to changes in the environment and, vice versa, the strategy adopted can impact on, and potentially change, the environment. The development of the Internet provides a good illustration of how a change in the environment provided an opportunity for organizations to develop strategies that took advantage of the new technology. At the same time, the strategy adopted changed the way the industry worked, for example, in banking and retailing with the introduction of online services. The environment can provide the stimulus for a change of strategy, but the strategy adopted impacts on the industry and task elements of the environment (see sections 3.4 and 3.8).

Once the organization has decided on a strategy, a suitable organization structure needs to be adopted, for example, in a rapidly changing environment, the organization will need to be flexible enough so that it can adapt its operations. An organization with a highly centralized and bureaucratic structure will find it difficult to respond quickly (Lawrence and Lorsch, 1986). The structure needs to be compatible with the strategy, which follows the maxim of Chandler (1962) that structure follows strategy. The structure is also highly connected to the task; for example, organizations manufacturing automotive vehicles or providing management consultancy services will adopt a structure that is appropriate to the task they are undertaking. And, likewise, the task has an impact on the type of technology used, the people and skills required, and the culture of the organization. Contingency theory encompasses many different factors, but by viewing these few factors, we can illustrate the connection between the environment and strategy. The strategy determines how the organization meets the needs, or not, of its customers within a given situation.

A classic example of this is IBM. In the 1970s, IBM was a dominant player in the business computer sector. Then in the mid-1970s to the early 1990s, the industry changed significantly. This period saw the development and growth of the personal computer — a market that IBM was late to enter, and Microsoft had developed software that ran independently to the hardware. Before this, operating systems had been proprietary; that is, operating systems were designed to run on specific hardware, and in many cases, the application packages ran only on specific makes of computers. The rapid development and increasing use of networks facilitated the decentralization of computing power to distributed systems and away from the need for large central mainframe computers. According to some commentators, IBM was slow to react, and in 1993 its losses exceeded $8 billion.

IBM needed to respond to the changing environment, which meant changing the organization structure, initially to a more decentralized structure. Later under a new chief executive Louis Gerstner, the first leader recruited from outside the organization since 1914, adopted a more integrated structure. The company moved away from being a primary supplier of proprietary products to being a total solutions provider, focused on being able to integrate any solution required by the customer capable of providing the technology, software, and services, from either IBM's product range or a competitor's product(s). Commentators suggest that IBM got into difficulties because it was slow to identify the drivers for change in the industry, to realize the strategic impact this could have on the business and subsequently being slow to respond to those changes.

3.4 Macro and task environment

Active reading. Note the different levels of the business environment and their relationship to the organization.

The business environment can be viewed at various levels. Figure 3.2 illustrates the relationship between the macro, or general business environment, the industry environment, and the task environment.

Beginning in the center of the diagram, the organization operates within an industry and therefore needs to monitor changes in the industry and assess the likely impact on the organization's ability to meet its strategic objectives. The industry is then influenced by factors in the general environment.

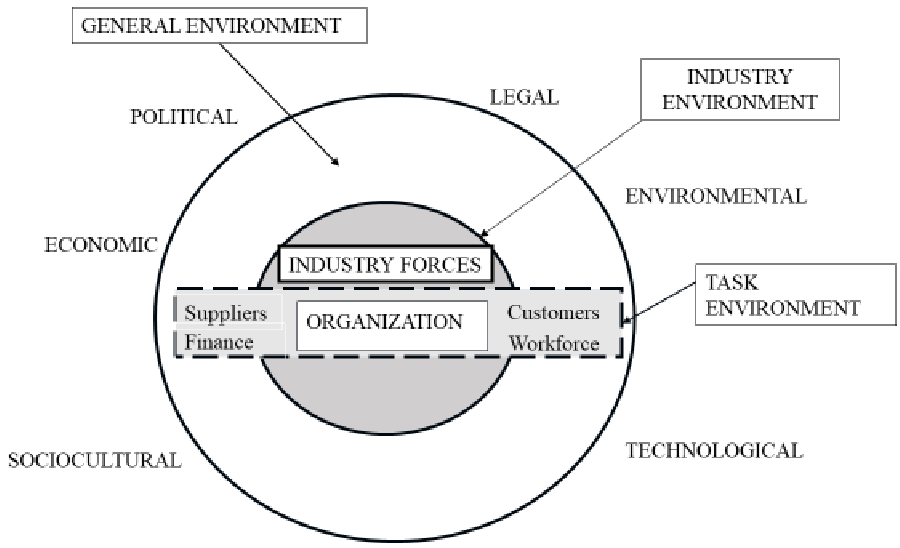

Figure 3.2 The business environment

It is important to note that changes in the industry will affect different organizations in different ways. Therefore, in a competitive market, there is a need to assess how changes will impact the organization in relation to its major competitors. Similarly, changes in the general environment, such as political influences, will affect some industries more than others. Therefore with regard to the general environment, the organization needs to assess the likely impact on its industry and subsequently on the organization itself.

Part of the skill of environmental analysis is being able to evaluate which changes require a response and which do not. It would be almost impossible to respond to every change in the environment. There is a balance to be struck between continually changing strategy and providing stability within the organization (Mintzberg and Waters, 1985). The most successful organizations develop the ability to evaluate the potential impact of changes, assess the need for change, and to formulate a strategic response that provides a competitive advantage.

Prescott (1986) suggests that managers should develop strategies to either adapt to changing environmental conditions or to proactively influence their environments. The strategy adopted by companies such as Amstrad and Microsoft and other organizations that developed new ways of delivering computing power influenced the environment in which IBM operated. Organizations, Prescott argues, should focus on identifying the strategic variables that are significantly related to performance in their environment and adjust the strategies accordingly. Bourgeois (1980) notes that strategy can be subdivided into a primary strategy that relates to corporate strategy and concerns identifying opportunities in the general environment and secondary strategy, which pertains to business strategy and involves navigating within the task environment.

The task environment refers to specific elements of the environment with which the organization interacts more directly. Note that suppliers and customers fall within the task environment and are the elements with which the organization interacts more frequently. An organization acquires its human resources and finance from the task environment, and therefore demographics, skills base, and factors affecting the organization's ability to finance its operations are also of particular significance. Hirshleifer (1980) refers to this as a strategic factor market, where firms buy and sell the necessary resources to implement their strategies.

The organization needs to understand the potential impact that changes in the general environment may have on the industry, and to work proactively with its task environment to respond where necessary. Those organizations that can respond effectively to changes will perform much better than those that continue as if nothing has changed.

3.5 Why undertake an environmental analysis?

Active reading. Note the varied reasons why it is essential to undertake an environmental analysis, and its link to identifying potential competitive strategies. Determining a competitive strategy based on a review of the environment would be linked to an outside-in, or positioning, approach to strategy development (see section 1.10). Also, note the specific aspects of the environment that could impact the profitability of the organization or change the business model.

Barney (1986) suggests that as environmental analysis can be undertaken by every organization using publicly available data and models, competitive advantage cannot be gained from environmental analysis. A competitive advantage, he argues, flows mainly from the analysis of an organization's unique skills and capabilities. This approach is very much a resource-based view of strategy. Slater and Narver (1994), however, found that those organizations that apply significant resources to understanding their customers and competitors achieved higher relative profitability. Similarly, Beal (2000) found that obtaining information on specific environmental factors, such as customers, competitors, and suppliers (the task environment), facilitated the alignment between the competitive strategy and the environment.

Confirm or invalidate strategic plans

Changes in the environment can invalidate or confirm existing strategic plans and influence whether organizations will meet their stated objectives. In some cases, it will require a change of strategy or a realignment of objectives. For example, a strategy may be effective, but given the changes in the environment, such as an economic recession, it may not be possible to reach the levels of growth built into the current strategic objectives, hence a realignment is necessary. Events such as the covid-19 pandemic of 2020 can change a strategy of growth into one of survival.

Identify trends that may affect the industry

Organizations must understand the environment to ensure that they identify the changes that are occurring, or may occur, in the industry. The temptation might be to respond to every change. Continually changing the strategy can, however, create discontinuity within the organization and gives the impression of being reactive rather than proactive. Organizations need to be able to identify the fundamental changes and trends in the industry. Recognizing the significant changes that require a response is where experience, knowledge, and an intuitive understanding of the industry and customer needs are useful and why some organizations get it right and others get it wrong, or more accurately why organizations adopt different strategies.

For example, around the early 2000s, the two principal manufacturers of airliners held different views as to how the future of air travel would develop. One believed hub and spoke would be the future, and the other thought point to point would be the preferred choice of passengers. Hub and spoke would require large aircraft to transport high volumes of passengers to the hub, which then transferred to smaller aircraft to reach their end destination – the spoke. The Airbus A380 was aimed at this market. Point to point required aircraft capable of flying long haul but with more fuel efficiency. The Boeing 787 was aimed at this market. Boeing gambled $8 billion on developing an aircraft based on operational performance rather than the volume of passengers. Strategies, by their very nature, are designed to achieve the strategic, long term objectives, and therefore it is only over time that their success can be measured. The hub and spoke model did not materialize to the extent that Airbus hoped. The company failed to generate the number of passengers required to make the aircraft viable and announced that the production of the A380 would stop in 2021 (Schwartz, 2019).

Identify the drivers for change

It is not always just a case of identifying events in the environment as one occurrence does not necessarily imply a significant change. A series of events may develop into a trend that has more serious implications, but the key is to identify the drivers for change. This change could have long-term consequences for the structure of the industry and, unless understood, could leave the organization at a disadvantage.

For example, the Internet has enabled the development of new communication media, and mobile devices have, and still are, opening many opportunities for marketing, purchasing habits, and new industries. The increasing use of social media has changed the way people interact and consume media output. The purpose of the mobile phone has changed dramatically from a device that enabled voice and text message communication to replace the camera in that mobile phones are now marketed based on the quality of the camera rather than their ability to make telephone calls. The driver for many businesses to adapt to the new technology is not so much the technology itself as the convenience it provides and the changes in use and reliance on the mobile phone. Similarly, a shift in shopping habits, travel, and product design could be attributed to and driven by the growing consumer awareness of sustainability issues and climate change.

The more recent covid-19 pandemic of 2020 has galvanized increased use of technology for working and leisure, which has the potential to change the way many organizations operate in the future. This instance illustrates that it is not always possible to second guess environmental changes, as some changes may be unexpected and have dramatic consequences for the future. The unprecedented nature of the event may require a creative and innovative strategic response. In some cases, organizations will need to reinvent themselves to survive in a changing business environment.

Identify the differential impact of changes

The main focus of environmental analysis is about understanding how changes in the environment will impact on the organization and its ability to achieve the planned strategy. Still, it is just as important to identify the impact that the change may have on a significant competitor compared to your organization. Analyzing the effect on the organization and comparing to the implications for competitors is known as identifying the differential impact. Part of developing a competitive strategy is understanding how the competitors might respond to your strategy or their capability to respond to changes in the environment — a point we return to later in this chapter when discussing competitor analysis in section 3.11.

Understand the likely impact on the profitability of the industry

Porter (1979) identified five forces that impacted the profitability of an industry. These are the threat of new entrants, the bargaining power of suppliers, the bargaining power of buyers, the availability of substitute products and services, and the degree of competitive rivalry (see section 3.8). Organizations need to understand how these forces are likely to impact profitability and, in some cases, the appropriate business model for the industry. For example, changes in technology may make it much easier to enter the industry, as has been seen in the banking sector, with some banks only offering online banking. In some countries, this was also coupled with changes in the regulatory environment for financial services allowing other organizations, such as supermarkets and large retailers, to offer financial products. Linking these two events together increased the degree of competition, and those organizations that did not respond quickly enough to the changing business model were faced with reduced profitability, and in some cases exiting the industry or being acquired by more successful rivals. Similarly, supermarkets and retailers that were late into the online shopping market fared less well than those that identified and responded to the trend more swiftly.

Identify opportunities and threats

Changes in the environment can create new opportunities or present new threats, as seen in the banking and retail sectors, with online shopping. Not every organization will view changes in the environment in the same way. They may have different risk attitudes, and therefore, some will view changes as presenting opportunities, while others will see the same changes as threats. The organization's resource position can also have an impact on how changes are viewed; that is, the management team's ability to deal with the change. If an organization is in a strong position, changes may represent opportunities, but if in a relatively weak position, the same changes could be viewed as threats.

Changing the business model

Being proactive is also part of environmental analysis. Hamel (1996) suggests that part of strategy development is thinking about how you want the industry to look in the future and how you are going to change it. For example, organizations such as Uber (taxi services), Airbnb (bed and breakfast), and Just Eat and Grub Hub (takeaway meals) have used technology and innovative thinking to change the business model in their industry sectors.

3.6 The PESTEL Framework

Active reading. Note that PESTEL is a framework to aid the analysis of the general environment. Some issues may overlap and could be viewed as falling within more than one element of the framework. It is not meant to provide a precise analysis but is a general framework that can be used to ensure that comprehensive coverage of environmental issues is considered. As you read, think of an industry with which you are familiar, such as banking, travel, or food retailing, and apply the headings to generate issues that may impact on organizations operating in that sector.

Video link Environmental analysis - PESTEL

[https://www.youtube.com/watch?v=IAof1eaOo5Q&t=8s]

The general or macro-environment can be analyzed using a framework commonly referred to as PESTEL analysis. The acronym represents political, economic, sociocultural, technological, environmental, and legal factors. It is essential to recognize that this is simply a framework to aid the thinking about the general environment. Often some elements will fit within more than one heading. For example, organizations within the travel business might see regulations around visas as legal or political. Factors such as foreign exchange rates affecting people's willingness to travel to certain locations could be an economic or political influence, as exchange rates are often influenced by government decisions as much as by economic factors. The idea is not to focus on how changes and influences are categorized under a correct heading, as much as the fact that the change has been identified. The heading under which it sits is incidental.

Political factors

The political heading can usefully include anything that emanates from government policy, action, or influence. Typically, factors identified here will be new elements of government legislation and policy, but this is not just limited to national governments. Many organizations will be affected by government decisions in other countries. Whether they operate in global markets, obtain supplies from overseas suppliers, or sell to selected overseas customers, the influence of government policy in other countries cannot be overlooked. The heading also includes the general political stability of a region or just uncertainty created by a potential or actual change in government. The impact of changes can be wide-ranging and affect more than one industry.

For example, the move by many governments to ban fossil fuel vehicles by a set date in the future does not only affect the motor industry. It will have wide-ranging impacts on the energy industry in terms of increased demand for electricity, battery technology, or alternative energy sources. It will also affect the public or state sector transport industry, those involved in the provision of infrastructures, such as the provision of charging points, distribution companies, and many more. It is, therefore, essential to think widely about each potential influence in the first instance. As already mentioned, organizations cannot respond to every change, and some form of prioritization needs to take place once the initial analysis is complete.

Economic factors

The economic cycle, whether economies are growing, in recession, or experiencing a period of transition, can have an impact on the industry and hence individual organizations. As with the political factors, it is not just national economies but global economies that could affect the organization.

A slowdown in car sales in one geographic area could influence a multinational automotive manufacturer, faced with an excess global capacity, to close a car assembly plant in a different region due to employment laws that make it easier to shed labor in that country. Closing a plant will impact the local economy as employees lose their jobs and may affect other smaller, more local businesses. This example illustrates that the interrelationships between PESTEL factors, as well as the influence of individual elements, can impact strategic decisions, in this instance, economic, political, and legal.

Changes in interest rates, inflation, and exchange rates can all affect businesses in different ways. Therefore, the organization needs to work through various scenarios to identify what the potential impact might be, if any, and adopt appropriate financial risk management strategies to manage the potential impact.

Sociocultural factors

The most common element within the sociocultural heading is the changing demographic in many countries. This change could not only be a threat to some industries; for example, an aging population may affect a manufacturer of children's games, but could also open new opportunities or markets. For example, a developer and manufacturer of computer games targeted at children began to market a range of games aimed at older members of the population as "brain training." The selling point was that the aging customers could continue to exercise their brains to avoid dementia.

It is not only the consumer that is getting older but also the working population and the skill base. Watching trends in the skill base can provide useful information to organizations about potential issues that may develop in the future. Industries that rely on the STEM (science, technology, engineering, and mathematics) subjects may be concerned if students are not studying sciences, as this could flag up a potential issue with recruitment many years into the future. Therefore, the organization needs to begin to lobby the government on education policy now, as well as promoting careers requiring the STEM subjects. It is as much about an early warning for the future as it is about immediate impacts.

National cultures and the emergence of different cultures with increasing prominence in the world, as well as the changing mix of cultures in countries, have potential implications for products and services, the future customer base, and acceptability of working practices. Organizations must be aware of these changes to ensure that they remain current and can anticipate and plan for potential issues arising from these factors.

Consumers are becoming much less tolerant of bad behavior by organizations or practices that are deemed to exploit either labor or consumer groups. These trends, together with an increased awareness of sustainability issues, are pushing organizations toward a more responsible approach to business.

Technological factors

Technology covers a wide range of areas and could include manufacturing technology as well as information and communications technology. Many production processes and office procedures have been automated, and the use of artificial intelligence is continually changing the way work is done and the skill set required. There are perhaps very few industries that have not been affected by the Internet and mobile technology.

The examples of banking and retailing illustrate how much technology has changed the structure and the business model of the industry, the products and services offered, and the way consumers interact with organizations. This change in industry structure highlights the importance of monitoring changes in technology and its potential impact.

Using mobile apps to order a taxi or food is changing the way we interact with the controlling organization and intermediaries. Location trackers, as well as other “cookies” and apps, are changing the way organizations interact and market products and services to consumers. More recently, there has been growing disquiet among consumer groups concerning the amount of personnel information that is held about individuals and the way that organizations are exploiting it. The incidence of cybercrime also poses potential issues for organizations in the way customer information is handled as well as internal communications of a commercially sensitive nature.

Environmental factors

The growing awareness of environmental and sustainability issues today means that organizations cannot ignore the potential impact that this element could have on the industry. As with technology, it is difficult to think of a sector that is not affected by sustainability and environmental factors. It can be seen in the product life cycle from “cradle to grave” or “cradle to cradle” (see section 4.4). It is not just in the initial product concept that sustainability needs to be considered but in the use of the product and its disposal. The end of life includes its potential to be recycled into another product, hence the "cradle to cradle" concept, where the technique of life cycle costing (see section 7.9) can be usefully applied to good effect.

We could also include the physical environment within this heading as climate change, and changes in weather patterns could affect many businesses. The travel industry is susceptible to changes in weather, as this can affect people's willingness to travel. For example, a long hot summer in countries that are typically prone to cold and rainy climates may prompt an increase in the 'staycation' in which people who regularly traveled abroad to enjoy a sunshine holiday, stay in their own country for their summer holiday.

Issues such as the spread of the covid-19 virus had a dramatic, even devastating effect on the global economy as well as impacting businesses and people's lives. This event illustrates that in some cases, no amount of environmental monitoring will enable organizations to identify every potential impact. It also demonstrates the need for organizations to be flexible and able to adapt promptly to environmental changes.

Legal factors

Legal issues tend to be new regulations or changes in legislation. Health and safety issues fall within this area as well as topics such as patent and copyright protection. Legislation and regulations would also include finance acts, taxation, and accounting rule changes where the accountants could put their expertise to good use.

3.7 PESTEL – an example for the agricultural sector

Active reading. Note that some issues discussed could easily be dealt with under more than one heading.

The agricultural sector has been in the news during recent years for many reasons, not least because of the severe weather conditions that farmers have faced, but also due to the growing awareness of genomic technology and sustainability issues. The agricultural industry provides an excellent example of how a PESTEL analysis could help organizations develop their strategy.

The PESTEL analysis can initially be undertaken at a high level, followed by a more focused analysis that prioritizes the potential trends and changes in the environment in relation to a specific organization. The analysis aids the identification of opportunities and threats. Part of the analysis would be to assess how the environmental trends may affect the organization, as opposed to the competitors, and to develop a strategy accordingly. The agricultural sector is an interesting sector to review as, in some countries, there is very little competition between producers as food is an essential commodity with a ready market. In other more developed economies, there is the potential for significant buyer power to be exercised by the large food processors and supermarkets. As the trend for the global availability of a wide variety of exotic and cultural produce increases, it raises the potential for exploitation of small producers in less developed countries by large buyer organizations.

Political

Many governments around the world are committing to reducing the impact of climate change and signing up to set targets for a reduction in Greenhouse Gases (GHGs). This commitment opens opportunities to invest in markets for new low emission products and services. Climate change and the carbon footprint can also be linked to a sociocultural trend of consumers being more aware of the impact of GHGs and changing their diet to what they see as more sustainable and healthy foods. This growing awareness might herald a switch away from the demand for meat and dairy products. The potential change is strengthened by advice provided by government agencies that promote the idea of healthy living linked to health care policies.

Management accounting can assist in helping to evaluate any potential switch of demand by consumers or evaluate the likely investment required to slowly change the focus of the farm output, for example, a move away from meat production to arable farming. This change, of course, depends on many factors, not least the suitability of the land and climate for certain types of agriculture. Still, the skills of analysis and evaluation in financial terms is a key contribution that management accounting can offer.

Government policy toward agriculture differs around the world, which potentially impacts on import and export markets in world food production. Changes in government policy need to be monitored, and the potential impact on the business assessed at regular intervals. Government policy towards genetically modified (GM) crops differs from country to country and, via trade agreements, will impact on the food products available in global markets. For example, certain products do not meet the food standards, or animal welfare standards, of all countries, and are not permitted to be imported. This policy could affect the willingness of industry members to invest in GM, where a large part of the produce is sold in overseas markets. Indeed, if consumers are uncertain about the long-term safety of GM, it may strengthen the resolve of some farmers not to become involved in developing GM crops. The interrelationship between government policy and public opinion cannot be ignored when setting future strategy, and changes in attitudes, and consumer acceptance, as well as government policies, need to be monitored closely.

Food security, the state of having reliable access to sufficient affordable, nutritious food, is becoming a growing issue, particularly in the light of severe weather conditions and the difficulty of guaranteeing crop yields. This concern not only impacts on food availability and prices but also creates problems of food production and feeding the world in the future, which is a much wider issue exercising governments in various parts of the world. The question of food security has a direct impact on the availability of certain products and hence consumer markets but also affects the price farmers pay for feedstuffs for livestock and their ability to be self-sufficient. During periods of extreme weather, farmers have to pay more for foodstuffs, while consumers and large, powerful supermarket chains put downward pressure on the end price of the product. So, input costs increase, but there is significant pressure for prices to stay the same, with the resultant reduction in margins. Again, evaluating the impact of these changes on the business in financial terms is a key contribution of management accounting.

Food labeling is becoming a significant concern of consumer pressure groups, such that governments are encapsulating enhanced requirements in legislation so that additional information is required to be shown. This requirement impacts the support industries such as packaging, food processing companies, and retailers. The information requested is not just the ingredients and nutritional information, but information regarding the origin, placing the onus and the burden of proof on the farmer, and the processing companies and retailers, to track and monitor the supply chain more closely, not just of product, but of feedstuffs as well, for example, grain-fed or grass-fed beef, and was it GM grain? The costs of compliance, ensuring the product can be tracked throughout the whole process, is increasing.

Land use is an issue that governments are using as an incentive, for example, to pay subsidies to farmers to take land out of production for periods to increase biodiversity, but at the same time demanding more productivity per hectare of land in production. Another aspect of this is that the demand for biofuels is rising, providing another market for products, such as grain and oil crops, and creating a dilemma between food or fuel production. Farmers are also supplementing income from creating recreational and amenity areas on land.

Conservation groups are placing pressure on governments and the farming industry to reverse the trend of large scale farming as large fields are not conducive to wildlife. Still, the size of the machinery to make farming efficient and cost-effective requires large fields, creating a dilemma for the farming community.

Economic

In many countries, state funding and support of agriculture are being reduced, making it more difficult for small farmers to survive in business. Conversely, in some instances, governments follow protectionist policies to protect domestic producers.

Exchange rates impact export and imports, not just of food products, but of feedstuff for animals, which affects the cost of input and hence margins. Interest rates can be an important factor too. Mainly due to the volatility of farm revenues from year to year, being somewhat determined by crop yields, and commodity prices, such that farmers may need short term finance to bridge between years, as well as long term investment funds to invest in new technologies, and so on. Management accounting techniques can be used to develop a simple, or complex, model of the business to evaluate the potential impact of changes in the foreign exchange and financing costs.

The competition and market pressures from consumers, and the large buyers of farm produce, increases the degree of competition and larger farms are often better placed to compete than small farmers, due to the incidence of economies of scale.

Smaller farmers have developed the ‘farm shop’ to sell directly to local markets from the farm itself, providing another channel to market. This initiative can reduce the costs of getting the product to market, and aid the issue of proof of origin, as consumers can see where the food is produced.

Sociocultural

Consumers are becoming more diet conscious and demanding healthy eating options. This change is also fueled by government policy. Sustainability issues are more relevant than ever before, with consumers concerned about animal husbandry, particularly of imported produce, the use of pesticides, and GM crops.

The growth of organic foods and local produce, where the origin can be guaranteed, is increasing in some parts of the world, particularly in developed countries. Conversely, some farmers that went 'organic' have reverted to 'conventional' farming techniques, as the cost of organic produce was more expensive, and the realized demand from consumers did not match expectations and was not enough to cover the costs.

There are consumer groups who point out that the demand for exotic products in countries where they are not naturally grown is damaging to the environment. Carbon Footprint Ltd estimates that a pack of 2 avocados delivered for consumption in the U.K. generates 846.36g of CO2. The organization cites many examples of CO2 emissions. It suggests consumers should change their diet to more locally produced products and only consume the more exotic items as a treat to be enjoyed occasionally.

Technological

There is a growing acceptance of genomic technology by some governments as a means of feeding the world in the future. This acceptance by governments is in contrast to the concerns of consumers about the safety of "messing with nature."

The use of science to drive up yields is a vital part of agriculture with the growing adoption of precision farming, particularly in western countries. This technique requires investment in modern machinery and data analytics. Driverless tractors and the use of GPS (Global Positioning Systems) to manage the application of fertilizers, pesticides, and so on are becoming more prevalent in big farming.

The skill levels required are changing within the sector, particularly as high-intensity farming, which uses advanced technology is being introduced more widely. In developed countries, however, certain sectors, such as fruit picking, rely on seasonal migrant workers and changes to immigration policies, which would easily fit under the political heading, is making it more difficult for farms to acquire the labor to help with the harvest. One solution is to introduce technology to the process, but this often requires a change in growing methods to accommodate the machinery as well as the initial investment funds.

Environmental

Climate change and the vagaries of the weather is the most obvious aspect here, which illustrates that not all factors can be controlled or influenced by industry members. Governments can be lobbied, but there is nothing that can be done to influence the weather in the short term. Perhaps climate change can be affected in the long run.

Sustainability issues have been covered elsewhere, but the need for a sustainable food supply into the future is acknowledged by all governments and all members of the sector. Water management is a critical topic in some parts of the world, as is soil quality, along with soil erosion and land management. The use of science and technology to improve production in certain parts of the world, and how to finance the implementation of strategies to enhance methods and production yields, is a constant dilemma that is reviewed regularly by bodies such as the African Congress on Conservation Agriculture and various other institutions around the world.

Legal

The use of trade deals or trade wars often covers agricultural products. This issue is supported by comments made under the heading of political, as government policy that is crystallized into legislation can have an impact on the sector. For example, the common agricultural policy in Europe places restrictions on specific activities, as well as protecting parts of the industry from outside competition.

Government licenses for the testing of GM crops, legislation covering minimum wage, labeling requirements, the control of origin, and so on, need to be monitored. The requirement to track the origin of products increases the need to monitor the supply chain and undertake an evaluation of suppliers. This requirement to track products can have severe consequences for producers who are responsible for compliance through the supply chain. There was a scandal in the U.K. several years ago, where burgers advertised as beef burgers were found to contain horsemeat, which was partly due to a lack of control over the supply chain.

Contribution of management accounting

The primary role of management accounting within the PESTEL analysis is not just to assist in the collection of data and monitoring of trends, such as exchange rates, interests rates and economic indicators that accountants have easy access to, but to aid the evaluation of the potential impact of changes in the environment on the business. This evaluation is notoriously tricky to do. However, just pointing out that there is a possible cost or benefit attached to a change in the environment is assisting the recognition of the need for a strategic response, even if that response is to do nothing — yet. Whether the farm is an industrial scale organization in a large developed country, or a small family farm in a village in a developing country selling produce in the local market the importance of understanding the fundamental difference between the cost of production and market price and the factors that influence both cannot be overemphasized.

Learning activity. Imagine that you are a farmer in your country of origin. Your farm is of medium size and has elements of arable and animal husbandry.

How might the trends in the environment affect your business in the future, and how might management accounting aid in the review of your current strategy and the development of the future strategy?

Remember that the underlying business model is to sell something that consumers want to buy for more than it costs to produce so that a profit can be made. Therefore, at a basic level, anything that potentially influences the demand, selling price, production levels, or costs could impact on the success of the business model.

3.8 Industry Analysis

Active reading. Note how the five forces identified by Porter impact the industry and hence on an organization's ability to achieve its strategy and signal a need to respond to changes. Also, note where management accounting can aid the analysis.

Video link [Industry analysis using Porter's five forces](https://www.youtube.com/watch?v=lJRHyqN9EAM)

[https://www.youtube.com/watch?v=lJRHyqN9EAM]

Organizations operate within an industry, and part of understanding the environment involves understanding the industry, as changes in the general environment can impact on different industries in different ways. Porter (1979) identified five forces that affect the profitability and hence attractiveness of industries, and in turn, help to shape the organization's strategy. The key, as with general environmental analysis, is not merely to identify that something has changed but to be able to formulate a response to the change. Changes in the industry will have a more direct impact on an organization and could require a more immediate response. Figure 3.3 illustrates the industry forces within the environment that could affect an organization's strategy.

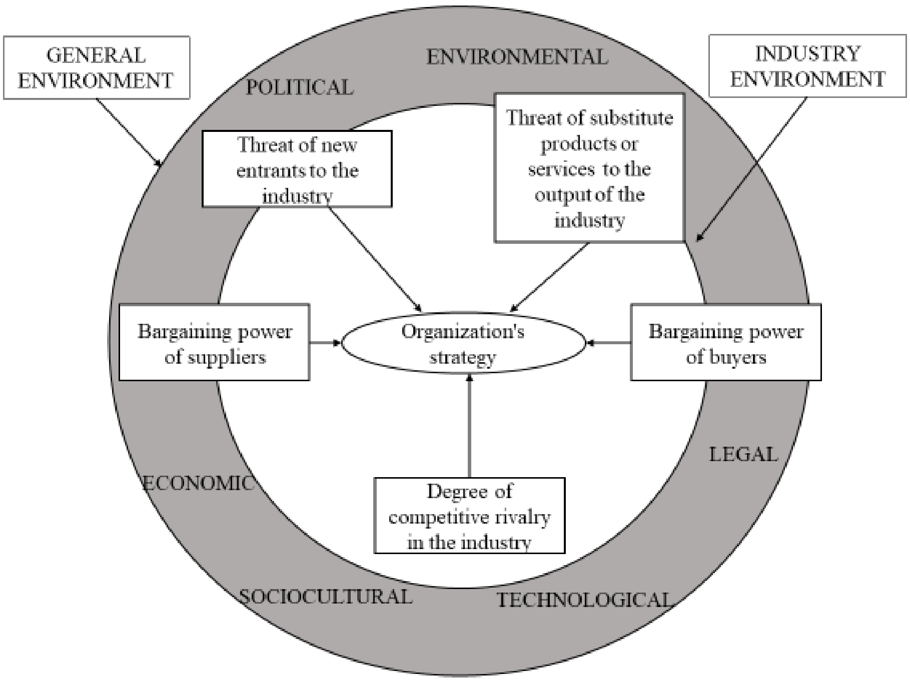

Figure 3.3 Industry forces impacting on an organization’s strategy

The threat of new entrants or barriers to entry

The ease with which it is possible to enter an industry will impact on the degree of competition between, and potentially on the profitability of, the participating organizations. If there are significant barriers to entry, such that the threat of new entrants is relatively low, existing participants may not compete so fiercely against each other. The stage of development that the industry has reached may impact on the degree of competition in that it is often easier to enter a new sector in which growth is high, as there is room in the market for new entrants. In more mature markets, where growth is low, it may be dominated by a few larger organizations making it more challenging to enter the market due to the power of the existing players. This situation, of course, ignores the argument that a lack of competition and high profitability of an industry may be seen as bad for the consumer, and the government may take action to try and stimulate more competition, which reaffirms the need to monitor the general environment.

The banking industry demonstrates that technological changes can provide a means of getting over barriers to entry, that is, it is no longer necessary to have a strong high street presence, thus again illustrating the importance of understanding the implications of changes in the general environment and how they may impact on the industry. Typical barriers to entry could be the amount of capital investment required to enter an industry, the acquisition of necessary skills, the holding of patent protection on products, production methods and technologies used, the length of time for the experience curve to take effect, or the presence of existing strong brands synonymous with the product.

Bargaining power of suppliers

If the supply market to an industry is dominated by suppliers who can significantly control the supply or dictate terms to their customers, it will put upward pressure on the costs to the receiving industry. If the industry members are not able to pass those costs on to their customers, this will impact on the profitability of the industry. In many cases, organizations would seek to negotiate and agree on terms with suppliers, which mitigates the supplier power. If one organization within the industry achieves this, the competitors will seek to achieve the same ends, impacting on the degree of competition. This supplier relationship underpins the need to monitor the task environment and competitor responses to evaluate the potential impact on profitability.

Exclusive supply agreements, making it difficult for new entrants to acquire the necessary resources, can also create a barrier to entry. This arrangement is becoming more difficult to achieve, however, due in part of regulatory bodies deeming it to be anti-competitive behavior.

Supplier evaluation (see section 4.10) in terms of operational performance and cost becomes essential as a rise in the costs that cannot be passed on to customers leads to a reduction in margin, and the future impact of this needs to be highlighted in the management reporting. Firstly, to identify the potential magnitude of the effect on profits, and to signal the need to review whether a strategic response is necessary. This response may depend on whether the rise in costs affects the competitors to the same extent, that is, whether the change is supplier-specific or industry-wide. For example, adverse weather conditions may affect the harvest yields of certain commodities, which causes a worldwide rise in commodity prices affecting the whole industry. Early reporting and prompt action may be needed to mitigate the impact on the organization.

Bargaining power of buyers

The bargaining power of buyers is similar to the bargaining power of suppliers, but in this case, it is buyers who potentially have the significant bargaining power that can exert downward pressure on the prices and hence profit margins. The cost of switching allegiance to another provider is significant here in that low switching costs, and, in the case of many consumer markets, the volume of choice that consumers have can increase the intensity of competition and hence impact on profitability.

Monitoring customer profitability analysis (see section 4.7) can aid the early warning of increasing power in the hands of buyers if the contribution of significant customers is seen to be reducing. As with supplier power, management accounting techniques can be used to assess the potential impact of buyer power on future profitability. In some instances, such as the case of supermarkets, the degree of consumer choice and extremely low switching costs means that collectively consumers can exert downward pressure on prices. It could be argued, however, that it is the competitive rivalry created through the low switching costs that keeps prices low, rather than the buyer power.

The threat of substitute products or services

It is important not to confuse the threat of substitute products or services with the threat from existing competitors in the industry. The heading of substitute products or services refers to the development of alternative ways that customers can use to meet their needs, which means they no longer need to buy the products or services supplied by the industry.

For example, in today's high technology environment, video conferencing is a substitute for air travel, that is, it is not necessary to travel to a meeting when it is possible to use a conference call, video conference, Skype or Zoom, or, at a more personal level, using WhatsApp, FaceTime or one of the many mobile communication apps available today. This example is also an illustration of the need to think very widely about what customer needs the industry is fulfilling, and hence of alternative means for meeting that need. For example, regional airlines are not just in the transport business, competing against road and rail transport, but also in the market of facilitating business meetings. Therefore, video conferencing is a significant threat to regional airlines and indeed to international travel. This threat has been demonstrated quite vividly during the covid-19 pandemic when social distancing policies were introduced, and meetings were held via Zoom and other platforms.

Rivalry among existing competitors

The degree of competition in an industry will affect its profitability. The stage of the industry life cycle would also influence the degree of competition and, to an extent, how easy it is for new entrants to the industry to compete. For example, it is potentially easier to enter and compete in a new and growing industry, providing the necessary investment and competencies are available than it is to enter and compete in a mature industry where there are already dominant players, who will aggressively defend their market share. Monitoring the degree of competition and competitors is also a significant element of environmental analysis, which is discussed in more detail later in section 3.11.

3.9 An example of five forces – the pharmaceutical industry

Active reading. Note the contribution of management accounting in monitoring the forces and hence contributing to the environmental analysis. Also note how the forces have changed over the years and how the potential strategic responses that can be made by industry members impact the degree of competition, attractiveness, and profitability of the industry.

The following example illustrates an analysis of the pharmaceutical industry using Porter's five forces model and indicating the contribution that can be made by management accounting. The pharmaceutical industry here is taken to include those organizations that develop products derived from living organisms, biotech, and those pharmaceutical organizations that create products that generally have a chemical basis.

The threat of new entrants to the industry

The threat of new entrants is determined by the strength of the barriers to entry that exist for new entrants. The pharmaceutical industry is dominated by several large players that enjoy significant economies of scale and can spend large amounts of money on research and development. The big players also command a considerable hold over distribution channels. They can afford to invest substantial sums in marketing to support the development of a strong brand for their products.

The industry is also subject to regulatory policies related to patent protection and approval of new products by agencies, such as the Food and Drug Administration (FDA) in the U.S.; the Medical and Healthcare products Regulatory Agency (MHRA) in the U.K.; the Central Drug Standard Control Organization in India (CDSCO); and the China Food and Drug Administration (CFDA) in China, to name a few of the regulatory bodies in the world. There are also advisory agencies, such as the National Institute for Health and Care Excellence (NICE) in the U.K. that advises the National Health Service (NHS) and can influence which pharmaceutical products are made available to the public through the NHS. In some countries, the price is regulated by government bodies.

There would appear to be a prima facie case to suggest that there are significant barriers that might deter new entrants to the industry. In the 1970s and 1980s, this would have had a significant impact on limiting new start-ups in the industry. However, with the growth of R & D organizations in life sciences and governments actively promoting life science clusters in developed countries, the amount of capital required to enter the sector has reduced. Also, the rise of the generic product producers that provide the same product as the original patented drug once the patent has expired means that patents do not offer the same level of protection as they used to. It could be argued, therefore, that some of the barriers are not as strong as they used to be.

The patent protection, typically of twenty years duration, which provides the opportunity for high profits to recoup the development costs of a product, does not give the same benefit previously enjoyed by companies some twenty years ago. It can take up to eight years (some would say thirteen to fifteen years) to obtain the data from clinical trials necessary to gain FDA approval in the U.S., which leaves little time to recoup the development costs. Once a product has lost its patent protection, it can lose up to 80% of its brand name sales, as generic products flood the market. As a result, large pharmaceutical companies have been known to apply for new patents linked to the products to extend the protection and to fight generic companies in the courts to stop them from producing a generic version of the product. In retaliation, generic companies counter sue to try to invalidate these additional patents. It is argued that this legal tit for tat slows down new product innovations, and a solution might be to allow patents to begin after the approval has been granted. However, due to competitive rivalry, companies often file patents at the earliest opportunity to stop competitors from stealing a potential idea before it is fully developed. This practice also eats into the time available to recoup the investment.

The covid-19 pandemic has, if anything, increased the willingness of industry members to pool knowledge and resources to find a vaccine, and the time it takes to develop new products may be reduced as a result. Management accountants will be working hard to monitor costs, and there will probably be political pressure on the pricing and distribution of any resultant products.

Understanding an industry cannot be achieved based on a static analysis of factors affecting the industry at a point in time or over a particular year. The changes identified may be cyclical or temporary. Therefore, the analysis needs to be undertaken over a period, ideally a full business cycle. Business cycles are the rise and fall in the production output of goods and services in an economy. The stages in the business cycle include expansion, peak, recession or contraction, depression, trough, and recovery. The length of a business cycle is debatable, but the nature of the pharmaceutical industry suggests that the analysis needs to be undertaken over a lengthy period. This analysis over several years is also partly due to the long research and development phase; the length of the patent protection; the fact that products can be re-positioned or re-purposed; that is, where a drug is used to treat a different disease, which can extend its product lifecycle; and the impact of generic products on profitability at the end of the patent life. Indeed, this links to PESTEL analysis in that factors within the general environment could impact the forces affecting the industry, such as government policies on health care, aging populations affecting demand for certain products, or technological changes that enable the development of new treatments, and so on.

It is not possible to respond to every change in the environment, and simply creating a list of qualitative factors does not aid strategy development. Management accounting can help to put some numbers to the issues so that the significance of the changes and emerging trends can be understood in terms of the potential impact on the achievement of the organization’s strategy. Identifying the possible effect in financial terms allows some degree of prioritization to be undertaken so that a suitable response can be developed if necessary.

For example, concerning the impact of generic products, using management accounting techniques to monitor the organization’s products through the process from R & D to sales and profits, during and after, patent protection can aid the understanding of the impact that generic companies have on the organization’s performance. This monitoring and understanding not only provides comparative data that can be used to build up experience of lifecycle costs and profitability of a product but also provides information that aids decisions, such as the costs and benefits of taking legal action to protect the patent. It is all too easy to get trapped into believing that the patent must be protected at all costs. However, plowing millions of dollars into the legal system could divert significant resources away from R & D. It may prove more profitable in the long run to ensure a good pipeline of new products is forthcoming from a well-funded R & D function.

Pricing of products to maximize the contribution towards development cost and fixed costs and profit during the patent protection period is another distinct area where management accounting can aid the development of strategy and resource allocation decisions. The pricing decision can be critical. Setting a high price, while desirable as a means of recouping development costs during the patent protection period, can result in regulatory and advisory bodies, such as NICE in the U.K., not recommending the product for public availability via the National Health Service. Similarly, insurance companies in the U.S. may not be willing to pay for the drug under existing insurance policies. Deals are often done to provide the product at a discounted rate, as this not only builds up goodwill with key buyers but also aids the development of a success rate for the branded product before generic producers jump into the market once the patent expires. Pricing, therefore, can be a critical decision in stimulating demand, so, price sensitivity, brand recognition, substitute products, competitor response (including generic producers), psychological factors, and so on, are all significant factors that need to be considered when setting the pricing strategy. It is far more complicated than just covering product costs.

Techniques such as risk-adjusted net present value, decision trees, and real options are useful in valuing products. However, the extended timeframe involved, and the high attrition rate of new products make this a delicate area to forecast with any accuracy. Building up experience over time and comparing the actual outcomes with expected outcomes is a highly valuable learning exercise. This process makes forecasting of sales and costs for new products more reliable as experience is gained, even to the extent of being able to assess the effect on success rates of issues, such as the quality of project management and the introduction of new technologies. The cost of capital and discount rates used, as well as the timeframe considered, can also have a significant impact on the evaluation of new products. It is, therefore, always advisable, and good practice, to undertake some form of sensitivity analysis to ask "what if" style questions.

Acquiring a good understanding of your costs and processes provides a benchmark that can be used to assess competitors and understand the likelihood of new entrants being able to enter the market. Knowing the costs and expertise required enables an informed judgment to be made of any potential threat. Also, understanding the cost base to determine the volume of production needed before a manufacturing plant becomes viable, the level of financing required to develop a new product, and the level of sales necessary to operate a logistical network efficiently and cost-effectively. Assessing these factors quantitatively and monitoring them over a period, can help to determine the immediate and potential threat from new entrants. Even if low at present, it does not mean it will not change in the future.

Bargaining power of suppliers

The raw materials for the manufacture of pharmaceutical products are primarily commodity products in the chemical industry. There are numerous sources of many of the raw material and chemical components that make up pharmaceutical products from which these can be acquired. Therefore suppliers have little power over the manufacturers of drugs. Even the price of rarer materials can be mitigated by purchasing a range of more common raw materials at negotiated discounted prices from the same supplier.

The packaging companies often have a mutual dependence on the pharmaceutical companies for their business, so they have little bargaining power. There are also multiple suppliers of the capital equipment required to manufacture drugs and undertake research activities. This situation means that switching costs are low, which makes it difficult for suppliers to lock the pharmaceutical companies into their products. The balance of power in the negotiation probably lies more with the pharmaceutical companies than with the suppliers.

Vendor analysis and monitoring of raw material costs by the supplier can provide an early indication of any potential shift in the negotiating position of suppliers. Vendor comparison across a range of performance indicators can help to keep suppliers in check, particularly if operated in conjunction with an approved supplier list.

Monitoring the general environment for movements in commodity prices and events outside the control of the suppliers can help to determine whether cost rises are the result of inefficiencies in supplier operations or events that the suppliers cannot control, which may result in a price rise. For example, a shortage of supply of raw material due to natural phenomenon will affect the whole industry. This shortage will inform the negotiation stance adopted by the supplier and the buyer. Understanding the effect of natural events on the costs of the industry also feeds into competitor analysis, as it is highly likely that the competitor costs will rise as well. However, if the cost increase is due to supplier inefficiencies, it signals that a potential change of supplier may be required. As switching costs are relatively low, it puts the buyer in a stronger negotiating position. This situation highlights the need to understand the dynamics of the suppliers' industry sector, in this case, the market for raw materials, as well your own (manufacturing), and indeed the buyers' industry sector.

Bargaining power of buyers

Buyers in the pharmaceutical industry include distributors to the retail trade, health maintenance organizations (HMOs) that arrange or provide managed care for insurance companies, private individuals, hospitals, and other entities, which may include government agencies. The end patient often has little input, although recent changes in more developed countries are now encouraging more patient participation in their medical care. Bodies such as the National Institute for Health and Care Excellence (NICE) can also influence purchasing decisions. The large private health providers, insurance companies, and government-funded health care systems and advisory bodies can exert some downward pressure on prices and choose between alternative treatments, thus putting pressure on the margins earned from pharmaceutical products. More general trends in the environment, such as aging populations, obesity, and a focus on education and prevention rather than cure, will also impact on which products are in demand, or where the price sensitivity of certain products may be susceptible to change. These trends have implications for R & D effort in targeting potentially lucrative areas of health care where demand may be high, or where competitive advantage can be achieved, providing the opportunity of earning higher profits.

Monitoring customer profitability can be an early indicator of any potential increase in buyer power. Salesforce personnel often lose track of the overall trend in selling prices, particularly if key account managers only deal with specific customers. A pattern that is identified from internal data may be an early indication of a more general trend in the industry. It is, therefore, essential to monitor internal trends and to assess these in the light of industry-wide data, as they may provide a signal of more extensive changes in the industry. Forewarned is forearmed.

Relationships with health care professionals, such as doctors, can also influence purchasing decisions and incentives. For example, the use of discounts and trial periods are common. Still, these need to be carefully monitored and costed as profits can so quickly be given away in the pursuit of volume. The cost of branding can be a significant factor in the success of the product, especially when linked to its effectiveness in the treatment of patients.

Huge sums can be spent on marketing, so again, careful monitoring needs to be in place and sensible methods of setting marketing budgets adopted. An objective setting approach may be preferable in which marketing budgets are set with specific objectives in mind on a campaign by campaign basis. Still, often large companies adopt a percentage of sales revenue as an overall marketing budget. The danger here is that the link between marketing and performance is lost, or it is not possible to track the impact of the marketing activities, which deprives the organization of valuable information that can be fed into future decision making.

The earlier discussion on pricing is also relevant here, as is understanding the potential impact of generic products on profitability, particularly as medical professionals can choose to switch to a generic product once it becomes available. The negotiation of supply contracts can help to create some element of switching costs, but professional buyers in HMOs, government agencies, hospitals, and over-the-counter retail organizations will be aware of the implications of long term or exclusive supply contracts.

Competitive rivalry

The pharmaceutical industry is characterized by high levels of competition in both R & D activity and new patents, attracting leading researchers and fighting for market share. The development of a strong brand image can be an important aspect of competitive advantage, particularly in the fight against generic producers. The other forces also impact the degree of competitive rivalries, such as the threat of new entrants. Although smaller companies enter the market, the larger firms are often looking to acquire these to gain access to the intellectual property of new products, while the new entrants are often looking to sell the business to a larger firm once a product is in development.

The impact of supplier power and buyer power can also affect the margins earned by the industry, which in turn affects the competitive rivalry. However, in the case of the pharmaceutical industry, competitive rivalry is more focused on market share and the need to maintain a vibrant and innovative product portfolio. This can be achieved organically or via merger and acquisition.

It is not just the assessment of individual forces that needs to be made. It is equally important, if not more so, to gain an understanding of how a change in one force may impact on another. For example, a breakthrough in new technology may impact on the development of innovative products, and encourage smaller R & D firms to enter the market intent on developing new products. These products could then be manufactured under license by other firms, essentially creating a new industry sector that changes the business model. This out-sourcing of manufacturing could, in turn, impact the supply market and the cost base of large manufacturers, increase the number of alternative products, and potentially impact on buyer power, and ultimately profits margins, not to mention the potential impact on the competitive rivalry.

Competitor analysis is essential, not just in terms of their product sales and market share, but in monitoring their R & D capability, the number of patents logged, their ability to raise finance to feed the R & D process, their success rate in launching new products, and their profitability and return to investors.

Threat of substitutes

One aspect of the pharmaceutical industry is that it can be segmented into different categories, for example, chemically derived products, biologically derived products, and prescription products, and over-the-counter products. Classes also include innovation derived products, which are new products developed via R & D, and generic products, which are products that are the same as the innovative products but not sold under the original brand name. Generic products can be produced after the expiration of a patent and are usually cheaper than the branded product. Some companies specialize in research, such as contract research organizations (CROs), and those that specialize in manufacturing known as contract manufacturing organizations (CMOs). What are considered as substitutes are therefore debatable depending on how one views the industry. For example, an innovative pharmaceutical company may see generic companies as substitutes for their output. For the purposes of this analysis, substitutes are defined as any other means of providing the benefits of pharmaceutical products. This definition embraces natural remedies and other forms of alternative medicines, which are becoming more socially acceptable.

The threat from generic producers, which could equally be considered under the threat of new entrants or competitive rivalry, is now always present, and industry members attempt to mitigate the danger via patent protection. However, once the patent has expired, the sales and profitability of the branded drug are likely to reduce. Therefore, building up a database of experience can be invaluable in estimating the possible impact of the generic products on any new products emerging from their patent protection. This practice emphasizes the importance of proper product portfolio management and ensuring that a well-balanced portfolio is maintained (see Chapter 4, section 4.5, for a discussion of product portfolio management).

The threat from alternative medicines (substitutes) is low due to the size of the pharmaceuticals market and the fact that many patients do not automatically seek an alternative to prescription drugs. This fact mostly leaves alternative medicines within the over-the-counter range of products and health supplements. Pharmaceutical companies now produce some of these alternative medicines as a means of limiting the effect of the substitutes. Monitoring the financial performance of alternative providers and the growth in the segment of the market can inform future strategy development. For example, evaluating the potential impact on industry sales via trend analysis, or assessing the cost of the organization entering the market segment via product development, as some larger pharmaceutical companies have already done.

Significance of industry analysis

As illustrated throughout this section, there are several aspects within the industry analysis, where accountants can make a significant contribution. The understanding of how the forces and environmental changes will impact on the industry is vital for strategy formulation, but equally understanding how those forces and changes will impact on your organization compared to the competition. Therefore, some form of competitor analysis alongside the analysis with respect to the organization is required. This analysis then feeds into the strategic position and SWOT analysis, as strengths and weaknesses are technically relative to the competition (see section 5.3). Also, the industry analysis enables an assessment of the impact of changes in the general environment on the industry. It helps to identify not just the threats, but also the opportunities.

A more recent development at the time of preparing this learning resource is the response of the industry to the covid-19 pandemic. This crisis has seen organizations, both large and small, cooperating, rather than competing, to find a vaccine. Manufacturers that had not previously been involved in the industry are turning their hands to manufacturing ventilators and the personal protection equipment. Collaborations, not previously contemplated, have emerged, such as formula one racing teams working with universities and hospitals to design lifesaving equipment in record time. It will be interesting to see if there are lasting changes to the industry that emerge from the pandemic that make the impact of any future event less dramatic.

3.10 Link between industries

Active reading. Note the interaction between supplier power and buyer power through the supply chain. It is the relative power that is important to identify.

Figure 3.4 illustrates that organizations, particularly those that operate in a business-to-business environment, need to extend their understanding of how the dynamics of the various forces impact on their supplier and customer industries. Structural changes in supplier industries could impact on the resultant costs and possible relationships with suppliers, such as new entrants to the supply sector or substitute products or services that emerge. Similarly, for organizations operating in a business-to-business scenario, consolidation of industry players in the customer markets can potentially increase the bargaining power in the hands of buyers. The extended links between the suppliers and customers through the task environment indicate the need for proper supply chain management, supplier analysis, and customer profitability analysis, all of which are discussed in Chapter 4.

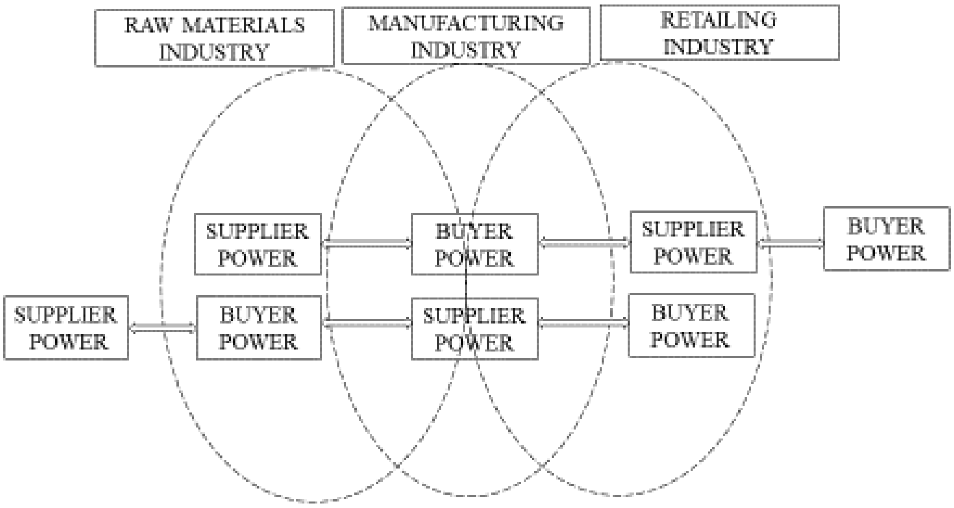

Figure 3.4 Linkages between industry sectors

Figure 3.4 illustrates that the buyer and supplier could work in either direction through the supply chain. For example, when considering the case of a supermarket, it might be regarded as that the end consumer, the buyer, has little power over the supermarket to drive down prices. In practice, it is probably the degree of competition, coupled with the fact that consumers can switch to buying from a rival supermarket very quickly and at little cost, that keeps prices low. It might also be assumed that the degree of supplier power is low. Still, supermarkets may exert a high degree of buyer power over their suppliers due to the volumes that they purchase and the potential reliance that suppliers have on the supermarkets to take their products. The balance of power between buyers and sellers needs consideration when assessing the effect on the profitability of the industry. This balance of power can have a bearing on organizations considering entering an industry.

Learning activity. Choose an industry that interests you, and using the five forces model, consider how the forces might impact on the profitability of the industry. If you find it challenging to choose an industry, imagine that you are part of the management team of a travel company providing sun, sand, and sea holidays, or perhaps a supermarket that has outlets in all major towns and cities in your country.

3.11 Competitor Analysis

Active reading. Note that organizations by positioning themselves within a market can choose who they compete against, but then need to monitor potential as well as existing competitors. Also, note how management accounting contributes by assessing the financial strength or weakness of competitors. The financial position of competitors may impact on their ability to respond to market changes. Management accountants can also evaluate the financial impact of competitor actions on the organizations' strategy and the organizations' strategic response.

Video link [Competitor analysis](https://www.youtube.com/watch?v=pyZjmpBHua8)

[https://www.youtube.com/watch?v=pyZjmpBHua8]

Undertaking competitor analysis is a useful activity in a competitive market, not just in terms of their product or service offering and prices, but in terms of understanding their future goals and strategy, as well as their strategic capability to deal with changes in the environment. Financial analysis can aid this process by identifying the financial strength or weakness of the competition, which can then be used in developing an organization's strategy (Moon and Bates, 1993).

It is not just the existing competitors that need to be analyzed but also those organizations that could compete; that is, a competitor is any product or service that can fulfill the needs of the customer. This emphasizes the need to think widely about why customers buy the product or service.

Cluster analysis

Simmonds (1986) raised the issue of competitor position monitoring in terms of sales, market share, volumes, and relative unit costs and sales prices. There is, however, often a difficulty in choosing precisely who the real competitors are. Chen (1995) suggests that looking at market commonality and resource similarity can aid the process. Other writers such as Guilding (1999) suggest company size, competitive strategy, and strategic mission can be useful indicators. Just because an organization is in the same industry does not mean that it is automatically a direct competitor. Indeed, a strategy is as much about positioning the organization in the market as it is about being profitable. It is, therefore, possible for an organization to choose its competitors by deciding where in the market it positions itself, in effect, choosing against who it wishes to compete. Positioning or cluster maps, illustrated in Figure 3.5, are useful in this respect, as they enable organizations to identify who the major competitors are, where in the market they have positioned themselves, and the basis of their competitive strategy.

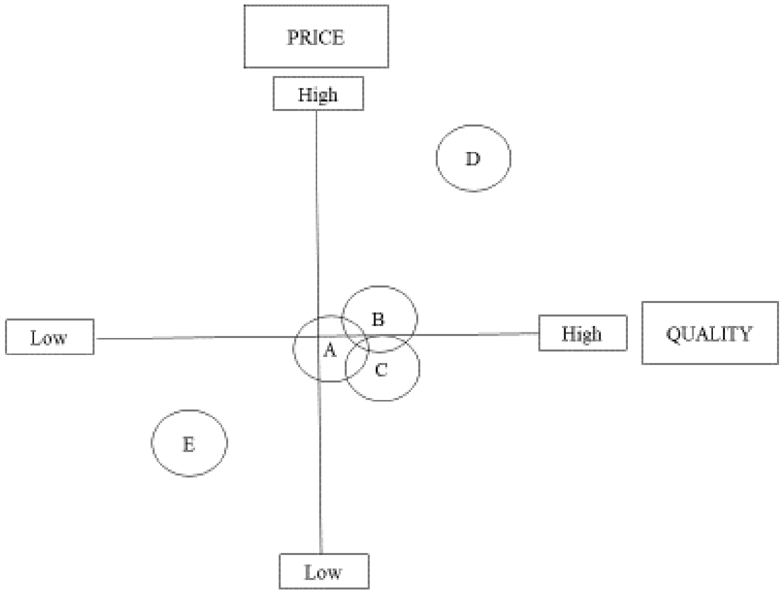

Figure 3.5 Cluster analysis for competitors

The cluster analysis in Figure 3.5 uses two common axes – price and quality. Using this concerning the restaurant sector of the food industry, you might determine that McDonald's, Berger King, KFC, and other similar style restaurants, based on the fact that you can eat in the establishment as well as takeout, all compete against each other. There will be, however, some expensive restaurants that occupy the top-right and some that occupy the bottom left quadrants. These two clusters would not present the same degree of competition as those organizations that had chosen a similar position in the market.

The central group in Figure 3.5 indicates that there are two main competitors to A. It cannot, however, ignore D or E entirely in case they change strategy and move closer to the middle ground, or customer tastes change, or an environmental change impacts the sector such as growing affluence among customers that allows them to partake of more expensive offerings, illustrating the need to monitor the broader environmental factors. This analysis is also useful in identifying potential gaps in the market that might be commercially viable. There may, however, be a reason for the gap shown in the high price and low-quality segment, as this may not be a viable business proposition.

It is possible to use any two axes to make comparisons. For example, in the personal computer market, price versus performance is often used, or in the retailing sector, service provision against price, or convenience against price. The choice of axes and making various comparisons against competitors by creating several cluster maps can provide insight into a potential competitive advantage that can be exploited and form the basis of marketing messages to differentiate the products or services from the competition.

Competitor response profile

An important aspect of competitor analysis that cannot be overlooked is the creation of a competitor response profile in which a profile is established over time to monitor the response of the competitors to strategic decisions.

For example, knowing how long it takes a competitor to respond to new product launches, or their responses to changes in the pricing strategy can help with the formulation and choice of the strategy adopted. In the case of new product launches, this can indicate that competitors have access to significant research and development capabilities and can respond quickly to new products. In the case of the pricing strategy, it could suggest that the competitors' cost base is similar and that they believe they have the margin to compete on price. Strategic pricing (see, for example, Simmonds, 1982, and Jones, 1988) in which competitively-oriented analysis of the competitor prices, encompassing price changes and their reaction to prices changes, price elasticity, market growth, potential economies of scale, and experience, is advocated to achieve a better-informed pricing strategy.

Allied to pricing, Jones (1988) noted that pursuing an improved competitive position heightened the need for awareness of competitor costs. Bromwich (1990) also stressed the role of strategic management accounting in competitor cost assessment. Determining the competitor's cost base is inherently difficult to achieve. Ward (2016) suggests, however, that it is not necessarily a case of determining the absolute competitor cost with a high degree of accuracy, but of estimating the relative cost base of a competitor. The estimate is determined through a process of discussion with other functional specialists on how the cost base might be different. The premise is that the suppliers and methods may be similar within the industry and, therefore, it should be possible to make an educated guesstimate at a competitor cost base. This process could then lead to strategic costing (Shank and Govindarajan, 1988) which is defined as the use of cost data based on strategic and marketing information to develop and identify superior strategies that will produce a sustainable competitive advantage. Analyzing financial results as they are published will help to confirm overall levels of profitability in competitors and can confirm their ability to compete on price, and their ability to sustain the strategy into the future.

The critical point about understanding a competitor's potential responses to strategic developments is that it helps to understand the time frame or degree to which a competitive advantage can be enjoyed., Alternatively, it may indicate the most likely strategic development to which the competitor will not, or is unable to, implement a speedy response.

Competitor intelligence gathering

To undertake environmental and competitor analysis effectively, a system of data collection needs to be established. As an ad hoc exercise, it can prove to be a costly and resource-intensive activity, not least because certain information relating to internal activities of the competitors may be extremely difficult, if not impossible, to access. Merchant (1981) notes that larger firms tend to have more sophisticated accounting systems and resources and are better placed to undertake competitor analysis than smaller organizations. However, if it is done regularly, and monitoring systems are established with assigned responsibilities and mechanisms for the dissemination of the information, it can be a manageable process.

Sammon et al. (1984: 71) defined an organized competitor intelligence systems as one that "acts like an interlinked radar grid that constantly monitors competitor activity, filters the raw information picked up by external and internal sources, processes it for strategic significance, and efficiently communicates actionable intelligence to those who need it." Ghoshal and Westney (1991); however, note that it is probably only possible to track significant competitors.

It requires support from the senior management team to allocate resources to establish systems for data collection. Whether this is centralized or decentralized depends on the organization's culture. There may be a resource constraint (often one of time available) that limits the amount of information that can be handled and analyzed. It is also important that the culture embraces a willingness to share within the organization as a poorly developed communication mechanism within the organization can reduce the effectiveness of the competitor analysis. For example, marketing and sales teams may pick up information about customer preferences related to competitors' products that are not fed back to the design teams.

Formal benchmarking exercises can be established to compare performance against competitors. These also require time and resources but can be restricted to readily available information as well as a more in-depth study undertaken to compare operational activities. Competitor benchmarking is discussed in Chapter 10, section 10.9.

Sources of competitor information

According to Davidson (1997), sources of competitor information (shown in Table 3.1) fall within three main areas: recorded information, observable information, and opportunistic information. Recorded information includes publicly available data such as the annual report and accounts and investor reports; observable information includes experiencing the product or service, that is, visiting the shop, purchasing the product, or experiencing the service; opportunistic information may include talking to a key customer or supplier of a competitor at a trade conference.

In some industries, it is possible to reverse engineer the product. For example, in the automotive industry, many manufacturers will purchase competitor products and test them under various conditions to record the performance. They will also dismantle the product to understand its design and construction. This detailed analysis provides information on the likely costs of production, as well as information about the customer requirements in different markets. The potential cost implications of safety regulations on the design of cars for different markets can also be ascertained. For example, the design requirements for the chassis are different in various countries. The more stringent the requirements are, the higher the cost of meeting the standards.

This difference in safety requirements raises an ethical dimension as to whether an organization adopts its own corporate standards in every market in which it competes, known as an integrity approach, or whether the organization adopts a compliance approach in which it meets the local requirements only. The cost implications of providing a chassis that meets higher safety standards could put the organization at a competitive disadvantage if competitors are only meeting the local, but lower, requirements. A cynical approach might suggest that there is no benefit in being more ethical than the competitors unless there is a demand in the local market for a product, which meets higher safety standards than required by local laws, that is financially viable.

This example indicates that even when undertaking competitor analysis, the environmental analysis cannot be ignored. For example, the legal element of PESTEL analysis is relevant here, as is the competitive rivalry element from the industry analysis. This example also illustrates that the models should not be used in isolation, but when used together, they can help to form a good understanding of how the environmental factors impact on both the organization and the relative position to its main competitors.

Table 3.1 Typical sources of competitor information

Recorded data	Observable data	Opportunistic data
Annual reports and accounts	Pricing/price-lists	Meetings with suppliers
Company websites	Product range, services offered	Meetings with common customers (for example, those that dual source)
Press releases	Marketing campaigns	Trade shows
Newspaper articles	Specific promotional activity and advertising	Conferences
Analyst reports/investors section of the company website	Public tenders	Sales contact meetings
Reports from regulatory bodies in the industry	Patent applications	Staff recruitment from competitors
Government reports	Reverse engineering the product	Discussion with shared distributors
Reports from organizations with an interest in monitoring corporate activity (for example, pressure groups, consumer organizations)	Experiencing the service (for example, mystery shopper)	Social contacts with competitors (for example, family and friends)
Academic studies	Corporate activities of key personnel (for example, the public image of figurehead personality)	TV or radio discussion program (for example, business or consumer affairs)

3.12 Network organizations

Active reading. Note how the practice of outsourcing activities to specialist organizations, and the need to collaborate through the supply chain, or value system, has influenced the development of network organizations, that provide certain advantages.

Porter (1985) suggested that organizations should be clear about the basis of their competitive advantage. Mainly one of cost leadership or differentiation (see Chapter 6, section 6.3, for a discussion of competitive strategies), and many scholars have suggested that uncertainty in an environment requires greater differentiation and, consequently, more complex business processes. Contributing to the complexity is the degree of competition in the market, which in turn leads to more dynamism being required in the organization structure (Rumelt, 1974; Lawrence and Lorsch, 1986). Thus, there is a strong link between the strategy, environment, and organization structure.

A resource-based view of strategy formulation suggests that focusing on the competencies of the organization can provide the basis of the competitive strategy. It is also possible to tap into expertise by outsourcing activities to specialist organizations. One of the main benefits is that a specialist firm may be able to perform the operation more efficiently and effectively due to economies of scale and expertise achieved via the learning curve from the specialization. Thus, working together, organizations may put themselves in a position to add more value to the customer than is possible on their own.

The increasing practice of outsourcing and collaborative working led to the development of network organizations in which several organizations contributed to the provision of the product or service to the end customer. Primarily a network organization is a collection of autonomous organizations or units that behave as if they are a single entity, using social mechanisms for coordination and control. This arrangement enables organizations to be more flexible and adapt to environmental changes (Vega-Redondo, 2013).

Various authors have described three types of network organization. These are typically seen as:

- **Internal**, where a large organization has separate business units, some of which may be separate subsidiary legal entities that act together.
- **Stable**, where a central organization outsources some of the work to other organizations, and,
- **Dynamic**, where a central organization, which is known as a network integrator and may do little except to manage the network, outsources heavily from other organizations.

The advantages to be gained include:

Lower transaction costs

Lower transaction costs between the various organizations as they share a common goal and can organize themselves to reduce the costs of transferring and combining goods and services. This management of costs is also facilitated by the frequency of transactions between the network organizations.

Demand uncertainty

It is possible to cope with demand uncertainty more readily. The use of contract or jobbing staff in certain industries enables an organization to operate with a minimum level of core employees, knowing that it can recruit and shed staff as required to cope with fluctuations in demand. For example, a film is made by bringing together a network of different parties for a specific project, all of whom work in the industry, each bringing their own particular skill set. Organizations and parties within the industry accept the fact that once the project is complete, they move on to look for the next opportunity in which to apply their specific skill set to a common goal.

Customization and asset specificity

In some industries, the requirements may be quite wide-ranging in that very few jobs are the same, and therefore being able to call on specialist organizations to provide products and services customized to an individual customer allows this to be achieved without the need to retain the capability in-house. This ability offers a high degree of flexibility in product and service providers and also means that assets that are used for a specific purpose do not have to be owned by many companies, but that one can provide the service to many. For example, a theater production company that can arrange the finance, find a suitable venue, hire actors and directors, musicians, specialist backstage staff as required, and promote the production.

Task complexity

Where the task is overly complicated and to maintain the capability in-house would be very costly, it is beneficial to operate on a network basis.

The emergence of the ecosystem

The emergence of the term business ecosystem is beginning to replace the network organization. Authors such as Satell (2017) suggest that if you can create an organization chart of a networked organization, it is not genuinely networked. The definition of a networked organization is moving towards describing networks where the relationship is much more informal than formal. It is suggested that true networks would form naturally, and it is the common goals that bind the members together rather than a formal structure. Imagine the wedding planner who has a book of contacts that they can call on to provide the perfect wedding for their client. Now scale this up to larger projects, and you have an international organization that can pull together resources and skills as and when required.

Organizations are no longer seen as an entity that does everything but can be viewed as bundles of discrete parts, each of which undertakes a particular function and combine to add value to the end customer. This relationship is the essence of a networked organization, which is now frequently being referred to as operating within an organizational ecosystem.

3.13 Business ecosystems

Active reading: Note how the term business ecosystem encompasses collaboration and competition. Also, note the strong link to the concept of stakeholders and the wider environment. Also, notice how technology and IT platforms are used as the enabler for cooperation and coordination within an ecosystem.

The term ecosystem was originally used by the British botanist Arthur Tansley in the 1930s to refer to a community of living organisms that interacted with each other and their environment (air, water, minerals, soil, and other natural elements). The term was then borrowed and applied to a business context by Moore (1993). He argues that organizations need to innovate and that innovation cannot happen in a vacuum. Organizations need to work cooperatively and competitively to support the development of new products, satisfy customer needs, and continue to innovate. Moore suggests that organizations should be viewed as part of a business ecosystem that crosses a variety of industries, drawing on capital, partners, suppliers, and customers to create a cooperative network.

The business ecosystem offers a dynamic, system view that includes not only the organizations within its supply chain but also those with more indirect roles, such as from companies producing complementary products, regulator bodies, financial institutions, research institutes, media, universities and even competitors (Iansiti and Levien, 2004). Figure 3.6 provides a representation of the business ecosystem.

The diagram in Figure 3.6 indicates where the business ecosystem fits into the environmental analysis. Note that the general environment, which is represented by a PESTEL style analysis, sits on the outer rim, and the ecosystem then contains the relevant stakeholders. This links closely to stakeholder analysis in that consideration of the ecosystem encourages the organization to think of the wider impact that certain stakeholder groups have on their organization and, conversely, the impact that a strategic choice has on various stakeholder groups.

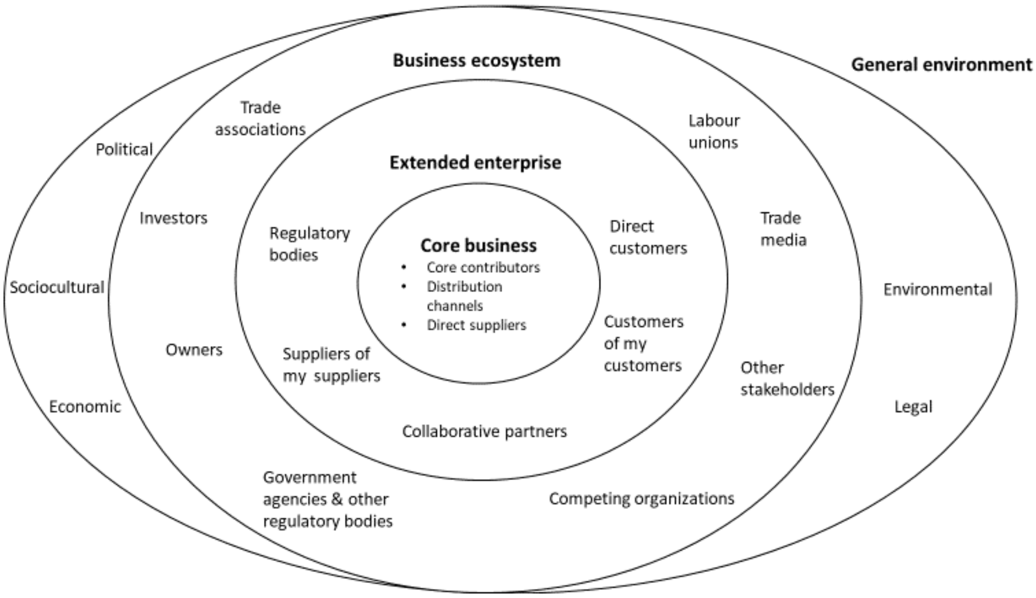

Figure 3.6 The business ecosystem

It could be argued that there has always been the need for organizations to work together through the supply chain, as a delay anywhere in the system from the provision of raw materials, production, distribution, retailers, finance and customer service would impact adversely on the customer experience (Iansiti and Richards, 2006). The concept of the ecosystem, however, can extend beyond the traditional supply chain and, in some cases, act as a disrupter of the conventional supply chain via disintermediation, that is, cutting out the middleman, as in the case of eBay or Airbnb.

The evolution of the ecosystem structure in which organizations operate has been facilitated by factors such as developments in technology; the Internet; increasing competition; increased awareness of the need to be socially responsible and the impact of organizational activity on communities and society in general; the rapid pace of change and innovation; and the growing sophistication of customer demands.

The definition is captured by Deloitte Consulting (2015: 5), who suggests that “Ecosystems are dynamic and co-evolving communities of diverse actors who create and capture new value through increasingly sophisticated models of both collaboration and competition.” Ecosystems are also sometimes referred to as value webs, as they represent a web of loosely connected organizations that work towards creating value.

There are distinct advantages to developing and being part of an organizational ecosystem.

They include:

- The ability to develop new collaborations to address rising social and environmental challenges.
- They present opportunities to harness creativity and innovation to lower costs of production and service provisions or to enable members to reach new customers.

- They enable an acceleration of the learning process via collaborations, sharing of knowledge, skills, and expertise.
- They facilitate ways to address fundamental human needs and desires.

Examples of how technology and creativity have provided new ways to satisfy human needs that are visible to the consumer are the emergence of companies such as Uber, Airbnb, and Just Eat and Grub Hub. These companies have changed the business model in their industries. They use technology to act as an intermediary between companies in the case of Just Eat, Grub Hub, or Uber, or in the case of Airbnb, between end-users so that they replace the traditional intermediary, such as the travel agent, altogether.

In Business-2-Business (B2B) scenarios, there are many stakeholders involved, of which some may be unseen by the end consumer. They include suppliers, distributors, customers, competitors, government agencies and regulatory bodies, finance providers, local communities, consumer groups, and pressure groups, and so on.

There is often a controlling company that occupies a vital role in the ecosystem. These are also known as 'leaders' or 'central contributors' (Moore, 1993). For example, Microsoft's Windows operating system and tools or Walmart's procurement system, to which its suppliers are linked, that provide a stable and predictable set of common standards. Over time the members of the ecosystem co-evolve so that they tend to align themselves with the direction set by one or more of the control companies. The control companies may change over time, but the community members value the leadership function they perform as it allows them to align their investment decisions to work towards a shared vision and goals (Gueguen, 2009).

Ecosystems may go through periods of internal turbulence. For example, several organizations that operate in the gig economy have faced criticism over their practices. One high profile case is that of Uber. Drivers who had signed up to Uber began to argue that they should be treated as employees. Uber, like many other organizations built around a digital platform, relied on treating workers as independent self-employed contractors rather than employees, thus avoiding social charges and employee benefits such as holiday pay. In 2016 in the U.K., the drivers won a tribunal that ruled they should be treated as employees. The judgment was upheld in 2018 by the court of appeal. Similar laws were passed in some U.S. states that indicated that Uber drivers should be treated as employees. The competitors from established taxi operators were also suggesting that the competition was unfair, and regulators have been struggling to find ways to regulate the activities.

It is often the case that the rules and regulations do not always cover the new business models and the regulations governing the operation of the market lag. Indeed, it is one of the ways in which new business models can gain an advantage over the competition. The gig economy, which is dominated by the use of zero-hours contracts, under which workers only get paid for the hours they work and when the organization wants them, has caused regulators to examine the equality and fairness of such contracts. Some pressure groups argue that they are exploiting vulnerable sections of the workforce and are ignoring workers' rights.

Internal and external ecosystems

Despite the concept of collaboration and competition and the benefit for society and sustainability, ecosystems can be established that seek to create a barrier to entry and to exclude others from participating. This situation builds on the concept that ecosystems encourage collaboration and cooperation in the form of coopetition, as well as competition. There may be an opportunity to gain a competitive advantage through mutual exchange. For example, a pharmaceutical company financing innovative technology at a small biotechnology firm, on the basis that it gains access to the research findings first. These exchanges of resources are referred to as closed-loop ecosystems and seek to limit the number of participants.

More extensive external ecosystems are often developed from closed-loop systems due to the benefits that could be gained from broader participation. For example, a supermarket chain may work closely with a packaging supplier, designer, and supplier to develop a more sustainable way of packaging food so that both the packaging company and the supermarket gain a first-mover competitive advantage in the marketplace. There are, however, arguments to suggest that as the supermarket industry sector operates on low margins, and is highly price-sensitive, that it is too expensive for one company to go it alone. There is the viewpoint that recyclable packaging may be more costly, and therefore eliminating the problem of non-recyclable packagings, such as single-use plastic, will only be solved by the industry working together. This issue may also be aided by government regulation and consumer groups; therefore, the benefits of an enhanced ecosystem encourage more collaboration between a wider group of participants. The acceptance of consumers also must be encouraged. Packaging protects, preserves, transports, informs, and sells the products. If less or no packaging is used, there is a trade-off between these elements, and the packaging industry argues that consumers must accept that compromises may be necessary if recyclable packaging is used. The challenge for the ecosystem is to work together to achieve the overall goal.

A key aspect of developing a strategy is the activity of environmental scanning in which potential opportunities and threats can be identified. This scanning includes spotting potential competitors or substitutes for the product or service provided. Recognizing and working with the stakeholders that make up the business ecosystem can aid this process. For example, in the early days of office technology and automation, a company noticed many organizations had a range of printers from different manufacturers and that they did not always talk to each other very effectively. This problem of 'handshaking' was common in that different manufacturers had different specifications, and getting different products to talk to each other was often problematic, particularly for small organizations that did not have in-house technical expertise. The company, working solo rather than in collaboration with the printer manufacturers, developed a software package that integrated the printers solving many of the 'handshaking' problems.

It did not take long, however, before printer manufacturers worked together with hardware and software providers and began to incorporate integration software into their products, which made the software product of the original provider obsolete. It would have been advantageous for the original company to have recognized the potential ecosystem and worked closely with the printer manufacturers to develop an integrated product. They would then have retained a viable long-term interest in the product. The point here is that it can be beneficial to recognize those parties with a wider interest and that independent competitive advantage can be short-lived when collaboration would provide a more sustainable business proposition. The critical element that the original organization missed was identifying the relevant stakeholders in their ecosystem and assessing their degree of influence and power. As a competitive response, the printer manufacturers chose to collaborate to eliminate the original innovator.

This winner takes all strategy often happens with new innovative technology, where in the early stage of the life cycle, competitors develop different standards. Competing organizations vie for supremacy to make their standard the industry standard. This competitive element can be problematic for collaborative organizations in that it creates compatibility issues. Do they back one standard only, or ensure compatibility with more than one? This dilemma means that they must work closely with more than one central organization, for example, mobile phone app developers whose apps must work with Apple iOS, Google Android, Microsoft's Windows OS, HarmonyOS, and other operating systems. Does this situation mean that app developers are part of several organizations ecosystems — or is it better viewed as just one vast ecosystem relevant to the mobile phone sector?

Identifying ecosystem stakeholders

It is essential to identify the different stakeholders and their vested interests. Ideally, the most effective and ultimate aim of an ecosystem, or value web, is to work towards common goals (Gueguen, 2009). However, note that the definitions suggest that organizations collaborate *and* compete within ecosystems. Innovations and progress are often made through competition, and one value web could compete with another value web. Indeed, some organizations may be members of more than one value web in what amounts to overlapping ecosystems creating a much larger ecosystem. This concept can become complex as the formal and informal relationship between organizations ebb and flow and change over time.

In creating the ecosystem, there may be different levels inhabited by various stakeholders who have different levels of interest and influence. Indeed, each organization is said to have its own ecosystem, and the power and influence of certain stakeholders could be expressed differently depending on its relationship with other organizations. For example, Walmart or Amazon are powerful players in their respective ecosystems. It is, however, possible to buy certain products from either Walmart or Amazon, so they compete. Some organizations supply products to Walmart and also make them available via Amazon, thus being members of both ecosystems. Still, the supplying organizations may see Walmart and Amazon as large players (customers) within the same ecosystem. These different viewpoints become significant in negotiating the relationship between the organizations. Walmart could exercise its buyer power over smaller suppliers, and Amazon could impose contract terms for using its trading portal. However, the supplier has two potential outlets for its products and could make tradeoffs between the benefits of selling its products via either, or both, of the two options.

Amazon has expanded into sports and entertainment provision, and so is a member of a separate ecosystem where they currently may not have as much power and influence. It is possible to see both the complexity and the potential benefits of the concept for members of a management team in developing strategy as it provides a fresh way of thinking about business relationships, the business model, what markets you compete in, and against who you compete.

The IT industry represents some of the early examples of ecosystem development. If an organization develops an operating system such as Android, or iOS, and apps are developed by other parties that use the operating system, the provider of the operating system needs to ensure that as the product develops everyone in the ecosystem is considered, thus creating the need to collaborate and share information. Open-source software such as Linux is an example of a product produced via the collaboration of many partners. And, of course, these products are developed by people situated anywhere in the world. The nature of the product means that organizations, particularly software companies, can recruit the best talent from anywhere as and when needed. The connectivity, often across different ecosystems, provides a degree of flexibility and responsiveness not previously enjoyed by organizations.

The Internet has also enabled the development of new products that offer connectivity. It is now possible to remotely control physical devices in the home from a mobile phone, such as changing the heating controls, recording TV shows (which can be watched anywhere on a mobile device), manage a bank account, place bets, and many other activities that require the cooperation of the manufactures of devices to conform to industry standards.

Ecosystem platforms

Ecosystems are often formed on top of a business platform (Iansiti and Levien, 2004). These platforms are typically created and owned by a single business or entity and are designed to attract a range of participants that work actively to perpetuate the platform's use. An early example is the formation of VISA. Dee Hock had noticed that many banks were attempting to create a credit card payment system of their own, and investing high levels of resource and marketing effort in doing so. Dee Hock proposed the creation of a common platform which would aid banks in developing and managing credit card payments, which later became VISA, and essentially taking away the burden of each bank attempting to create their own system.

The use of a technology platform that brings individual buyers and sellers together is demonstrated by eBay and at a wholesale level by Alibaba. Uber is a good example of an app using a platform provided by the providers of cellular networks accessed by devices supplied by mobile phone companies. Members of a business ecosystem often invest in a shared platform. The platform upon which the ecosystem is based provides all parties with the tools and frameworks to assist them in driving innovation and improvement in performance (Eisenmann et al., 2006).

There are said to be three types of platform:

Aggregate platforms

Aggregate platforms facilitate transactions, connect users to resources, and tend to operate on a hub and spoke model with a controlling entity. These can be platforms that are based on the provision and sharing of information via access to a database, such as stock performance platforms that provide information on performance for investors, or scientific databases that can be accessed by many organizations as part of their research and development. In the case of scientific databases, these can often speed up the development of new products to treat diseases and conditions via the sharing of information and data. Within this category, there are also marketplace aggregate platforms such as eBay and Apple App Store, Android apps on Google Play, that put buyers and sellers in contact with each other. There are also contest platforms where a problem is posed, and solutions are invited with a reward for the best solution. These are often used by organizations running a competition as part of their promotional activities, many of which are run in conjunction with social media campaigns.

Social platforms

Social platforms, as the name suggests, enable lots of people to interact. Facebook and Twitter are common examples. These facilitate social interactions and connect individuals to communities.

Mobilization platforms

Mobilization platforms are platforms where the purpose is to change opinion or mobilize people to act together. The #MeToo campaign or #BlackLivesMatter are examples of where Twitter acts as a mobilization platform. The use of Twitter and Facebook to mobilze public opinion illustrates that the typologies are not necessarily discrete but can merge their purpose. From a purely organizational viewpoint, the platforms are the most valuable when they become learning platforms in which organizations share and build trust relationships that work for the good of society and sustainability in general.

Benefits of ecosystems

By sharing learning and innovation, the development and use of ecosystems accelerate growth in economic development. Enabling organizations from around the globe to work together can stimulate economic growth in different countries as well as providing social and environmental benefits. For example, the Global Food Safety Initiative promotes quality and food safety standards. Many of its members compete for markets, but together they share best practices to ensure that standards are kept high, and food safety is maintained as a priority that benefits the industry and helps to increase end consumer confidence.

The use of cloud computing and intelligence sharing is bringing positive benefits in the world of science and social projects. These projects range from monitoring food waste, changes to weather patterns, surveys of changes to the population of certain species beneficial to the human ecosystem, such as bees, birds, and other animals, monitoring the incidence of diseases in different countries, and widening the research base for science projects. These examples illustrate the potential of the new ecosystems to provide opportunities for organizations to tap into projects that have a much wider benefit to society and the sustainability of the planet.

Ecosystems are removing many of the boundaries that constrained traditional business models. For example, the increasing use of advanced manufacturing technology, office automation, and more recently, artificial intelligence in business applications is changing the way humans and machines interact. This change in the human-machine interface has changed the way industries operate and the business models necessary to survive, such that they can be viewed as ecosystems, often without the actors consciously setting out to create an ecosystem. Technology has also impacted on the producer-consumer interface, where consumers are now the active participants in the system rather than the passive recipient at the end of the chain.

The case of newspapers

Newspapers were traditionally produced by journalists gathering news, creating copy, which was edited by in-house editors, typeset by typesetters, and then the typeset plate prepared for printing the paper, which was delivered to retailers, who sold it to the consumer. With the development of the Internet, newspapers produced an online version, and now, much of the news content consumed is via social media.

As technology changes, news providers must take note, not only of the way news is consumed, but of any changes in the mobile technology as updates in the end-user technology could mean that content is not accessible in a readily useable format. For example, when mobile phones and tablets became the medium of choice by the consumer, organizations had to make changes to their web pages so that they were optimized for use on a mobile phone and tablet. This compatibility issue requires collaboration between all those involved in the collection and dissemination of news content. It highlights the need to be aware of the impact that changes by one organization, or group of organizations, makes in the broader ecosystem. This requirement has cost implications for members of the ecosystem that could be intentional or unintentional, and recognition of this should be included within the strategic planning process.

The ecosystem behind the news media today is a good illustration of how both competitive and collaborative elements can thrive within the system. The traditional newspapers, while having to embrace the new technology in terms of consumption of their output, would ideally like to have some form of control over how news is presented and consumed. Yet they need to harness the social media content, not just for consumption but also for generating the content, as many stories now emerge via social media. Many stories receive their first public airing on platforms such as YouTube, which is a competitor, but in another sense is a collaborative provider of news content. Anyone with a mobile phone now becomes a potential reporter of news. Adhoc news gathering also brings with it potential problems of fake news and regulation of the industry. But what it does illustrate very clearly is how the business model has changed significantly due to the technology and how humans interact with it.

3.13.1 Risks and regulation of the ecosystem concept

Active reading. Note how redefining the business model impacts on the broader general environment and creates opportunities but also risks from the PESTEL elements.

Cybercrime

As business ecosystems develop, primarily enabled by technology, it is not without its risks. Cybercrime has grown in recent years, making the cybersecurity and data protection industry a crucial part of any ecosystem. This potential risk highlights the societal and ethical impacts of the new business models. The use of artificial intelligence to determine customer preferences, tailor content, and promote specific offers, is one example of potential difficulties regulators are faced with in deciding where the new boundaries lie. There have been accusations of data analysis being used to influence general elections and tamper with the political systems in different countries. The development of a new business model breaks down traditional boundaries. Still, regulators must work hard to determine where the new boundaries are to be drawn to stop the abuse of the system and ultimately to protect society and the consumer.

Old regulation - new business model

One of the difficulties is in determining how the existing regulations apply to the new business models. For example, is Uber operating on the same basis as a traditional taxi company, or not? What rights do drivers have? Are they treated as employees or self-employed? A case that has received some discussion in the media is whether people using Airbnb have the same protection as if they had booked through a traditional travel agent? It is often difficult to apply existing rules to a new business model. The process of challenging the rules helps the regulations to develop, but there will inevitably be a time lag, as regulators cannot regulate based on anticipated new methods of operation.

Rigid regulations may deprive society of value in the future

One of the dangers is that if regulations are applied rigidly, then it could deprive society of value in the future. Proponents of new business models recognize that there needs to be a balance between the quality of life and innovation. A case in point is the development of personal monitoring devices for medical conditions where patients wearing a digital device can be monitored remotely. How safe is the data, and how is it shared? The same could be said of fitness apps, diet apps, and other personal wearer devices where data has been collected and shared with other companies. Concern over medical data and medical records is that they could eventually be used by insurance companies to assess risk.

Who is in control of the ecosystem, and its development or widening participation is a problem of regulation? The same issue arises over the use of big data and the sharing of data across government agencies. For example, the use of mobile phones to track individuals, CCTV footage, vehicle registration plate recognition systems, and more general surveillance systems are causing debate about how to regulate the use of data. Many of these systems are used by commercial organizations to understand customer habits and for targeting marketing campaigns.

The issue over data security has been raised in many countries concerning the track and trace policy to counter the spread of the covid-19 virus. The majority recognizes the importance of the policy in combating the spread of the virus. However, the means of tracking via mobile app still carries with it the concern over data privacy and security. There is an issue of trust between the platform controllers and the users.

Impact on jobs, skills, and employment

The impact on skills and ultimately, jobs and employment has been raised as an issue. The development of peer-to-peer transactions is much easier to undertake, even across nations, such that organizations are now able to take advantage of the prevalence of factor conditions such as labor, capital, and technology in different countries, and in effect remove the advantage of being physically located in a particular country. For example, organizations can take advantage of highly skilled workers but at lower labor costs. Activities such as computer software development, and call centers are often situated in counties with low labor costs, but good levels of education. Some social commentators are worried about the economic effects and governance of such systems that creating value from a range of diverse organizations that the benefits may have long term consequences which governments are not considering.

Self-regulation

There is a move towards promoting the self-regulation of the ecosystems. In some cases, this is done by the rules and incentives set by the central organization operating as the hub. For example, eBay, an online marketplace, is keen to share the value it creates with the members of its ecosystem - the commission is much less than other retailers, seven percent (at the time of writing) as opposed to the thirty to seventy percent that is often charged. They have tools to assist the sellers, such as the Seller's Assistant, which helps sellers to create a professional-looking online presence. These are like website providers such as GoDaddy and ensures, at the very least, a certain level of quality and functionality on the website. eBay's buyers and sellers rate one another, which helps to regulate and control the system as well as increasing overall confidence in the system. Those that achieve high ratings achieve PowerSeller status, which acts as an incentive and benefits the whole ecosystem. Amazon Services provides its customers with an e-commerce infrastructure for order-taking and fulfillment. Other online marketplaces operate similar practices. By creating an element of transparency through inviting feedback from customers and making them visible, benefits the whole ecosystem, and provides a level of control over rogue practices.

In B2B, auction sites became popular for the procurement of components in manufacturing industries allowing firms to bid for contracts. These sites are governed by specific criteria but essentially switches the focus of procurement onto the supplier organizations to actively seek out opportunities to sell their products to manufacturers.

3.13.2 Governance of ecosystems and networks

Active reading. Note how collaboration within a competitive environment relies on informal controls and trust between the business partners. How effective do you think this will be?

The development of ecosystems has enabled the development of more complex relationships, which are more informal than being tied to formal contractual terms, as in the case of outsourcing. They also allow smaller players to work together to either contribute to more extensive networks or to compete with the larger organizations via their collective resources.

Some business commentators have suggested that the development of ecosystems will reduce the merger and acquisition activity undertaken by organizations as the benefits can be gained without ownership. However, the governance elements need to be considered as to how the network will be managed. For ecosystem networks to operate effectively, several factors need to be considered. These include:

Trust

Trust becomes a significant factor in the successful operation of an ecosystem. As the linkages become more informal, rather than being governed by a formal contractual arrangement, parties need to build up trust in each other. Trust is something that develops over time during a relationship and can be enhanced by reputation and status so that the individual members become recognized as a partner that always delivers what is promised.

Goal consensus

The goal consensus can act as an element of governance as all organizations are working towards a common goal and hence have a vested interest in making the alliances and relationships work for mutual benefit. It is in everybody's interest to collaborate.

Number and size of organizations

The number and size of organizations comprising the network can influence the governance as a few organizations can operate with common consent much more easily than a large number. There may be different levels of commitment required to create and provide value to the end recipients. The nature of the task can have a similar impact. Complex tasks that require a high level of competency are more difficult to control than simple tasks.

The need for guidelines

For large complex networks, there may be some guidelines laid down by a key participant or lead-hub organization that is agreed by major participants to which minor participants must abide when joining the network. The lead-hub organization may be more powerful due to size, resource capability, or legitimacy, as in the Amazon Services and e-Bay are examples.

Separate entity as overseer

In some instances, there may be a separate entity that does not actively participate in the ecosystem's creation of value but oversees the governance of the network. Large humanitarian projects that constitute an ecosystem are often managed by an organization that undertakes a purely administrative and management role.

3.13.3 Ecosystems and strategy

Active reading. Note how the concept of the business ecosystem can be encompassed within existing strategic activities, but also how it can add a different dimension to thinking about potential opportunities and threats.

There are several activities that managers can do to take advantage of the development of ecosystems.

Monitor the environment

It is now more critical than ever that senior managers monitor changes in the environment so that they are able, not just to identify the changes from PESTEL, Porter's five forces model, and competitor analysis, but that they monitor the development of the relationships between industry members, and how these are changing.

Analyzing the stakeholders

It is also essential to analyze the various stakeholders in the ecosystem, together with the degree of influence and power to dominate or dictate terms. The relationships with the stakeholders need to be fully understood. In the case of platforms, this helps to identify the key players in the network.

Key competencies

Identifying the key competencies and ascertaining whether these are best performed by the organization or performed by others in collaboration.

Seek out opportunities

Organizations can seek out opportunities for collaboration to develop innovations, products, and markets. These may come from environmental analysis or strengths and weaknesses. A strength could be developed to create a competitive advantage from a collaboration with another organization, or a weakness addressed.

Raise awareness

Organizational ecosystems are a relatively new concept in business practices, and raising awareness that organizations are operating within an ecosystem will help managers to identify and monitor changes in the inter- and intra-organizational relationships that exist. Ecosystems are fundamentally about relationships, and managers need to work towards accentuating the positives and minimizing the negatives from their relationships with other organizations.

3.13.4 Ecosystem and management accounting

Active reading. Note how management accounting techniques can facilitate the collaboration for mutual benefit within the ecosystem, but also provides an element of regulating behavior.

As ecosystems and network organizations require greater cooperation between parties, the concept of transfer pricing (see section 10.8) becomes much more significant. Ensuring that each organization involved in providing the product or service to the end customer receives a fair reward for its contribution requires a full understanding of the costs each organization incurs. This also has implications for the pricing of the product or service. It would not be good for consumers to find there were hidden costs involved within a purchase.

The sharing of the profit margin becomes relevant when goods and services are bundled together. This practice was widespread in the IT hardware and software sector in the early days of this market, as many retailers adopted the strategy of bundling the software and hardware together. In the commercial sector, this would often include elements of training and consultancy, which requires the cooperation of the various providers and has profit implications for all parties.

Where products and services are used together by the end-user, changes to one aspect can have implications for other members of the ecosystem. For example, changes to an operating system can affect the functioning of apps and other software. Therefore, there needs to be consideration of the potential implications on other members when changes are made. Design considerations need to be shared between partners as design choices by one organization can lock in future costs of other organizations, for example, in the maintenance and repair of products. The concept of life cycle costing (see section 7.9) can aid the management of product development.

Techniques such as target costing (see section 7.8) have significance where a range of organizations are involved in the provision of goods and services, as the understanding of costs and where potential savings can be made requires cooperation and the sharing of cost information between parties. This sharing of information leads to the concept of open-book accounting in which each organization provides access to the costs and revenues so that the margin can be shared between participating organizations.

Techniques such as activity-based costing (see section 6.6) can lead to a better understanding of what drives costs and strategy models such as the value creation system (see section 4.9) aid the identification of where value can be added to the customer. It is helpful if the costing method adopted is consistent throughout the ecosystem so that a full understanding of the cost implication can be gained. Inconsistent methods could lead to inappropriate decisions being made by members of the ecosystem. Ensuring that costing methods are consistent becomes significant when considered as part of the transfer pricing model.

Management accounting can make a significant contribution to the successful operation of the business ecosystem, and accountants should not be afraid to highlight the cost implications of operating jointly with other organizations. Every action within a business has cost implications, and accountants within an ecosystem should work together to achieve the best economic benefits for all the organizations involved and the ultimate customer.

Learning activity. Think of the ecosystems of which you are a member, either as a student, consumer, employee, or member of the public. Include social networks as well as commercial networks. What interactions do you have with other members of the ecosystem, and what, if any, influence do you have? Do you have any concerns about being a member of the ecosystem? What actions could you take as a member to mitigate these concerns?

3.14 Sources of environmental data

Active reading. Note the variety of sources available and the need to establish mechanisms to collect, evaluate, and disseminate information in the organization. Also, note that information is gathered to identify opportunities and threats. Think about the PESTEL areas that can be monitored from the various sources mentioned.

There are numerous sources of information that can be used to undertake an analysis of the business environment relevant to an organization. Environmental scanning can be difficult due to the volume of information available and that most will be unorganized, fragmented, and unchecked (Du Toit, 2016). It is, therefore, essential to test the validity, reliability, and credibility of the sources used. Cross-checking information from different sources and being always alive to the possibility of 'fake news' are useful habits to adopt. While information can reduce uncertainty, there is a danger of too much information, creating overload, such that the significant changes get lost in the sheer volume.

Jennings and Lumpkin (1992) suggest that the types of information required by the chief executive officer will differ according to the organization's competitive strategy. Therefore, gathering information for its own sake is not a good idea, but continuously scanning the environment for events, actions, and trends that will impact on the current strategy provides more focus to the activity. It is beneficial if the act of environmental scanning is merged into the normal activities and responsibilities of those persons in the organization that can access the information.

The common sources where this is possible is through contact with **customer**s and **suppliers**, **manufacturers, intermediaries,** and **retailers**, with which the members of the organization come into regular contact. It is important not to underestimate the significance of monitoring internal information, as a trend within an organization's customers could be indicative of a more general trend in the environment. For example, perhaps a particular demographic group within the customer base is beginning to migrate to different product groups. If the organization can spot this before their competitors do, it could provide a short-term advantage. Suppliers may be aware of factors affecting future supplies, development of new materials, sources of materials, or potential forthcoming legislation concerning the use of materials.

Financial institutions and providers of finance are a source of external information with which the organization, and in particular the accountant, will interact regularly. Also, **trade**

associations, **user groups,** and **professional bodies** are sources that members of the organization will be in contact with, often in a personal capacity in the case of professional associations. These often produce reports on the industry or future of the profession that contain useful information. Bodies such as the Federation of Small Businesses in the U.K. publish information that is useful for its members, for example, concerning changes in government policy that will affect small businesses. Other countries will have similar bodies dedicated to sectors of the economy. In some countries, **cooperative societies** are prevalent in certain sectors of the economy, which provide the opportunity for mutual exchange of information. The **annual reports** of competitors may contain information on their view of the way the industry will develop in the future. This viewpoint will be accessed as part of competitor analysis.

Organizations may undertake marketing research for specific purposes, but several organizations produce **market research reports** which are made available to subscribers or available to purchase separately. **Think tanks and consulting firms** often provide reports for which brief headline information is available for free, with more detailed reports available to purchase. **Consumer groups** fall into this category. **Pressure groups** also provide information, but bear in mind that these often have a specific agenda, so there may be a slight bias to the information provided. Always look for other opinions. The same can be said of **Blogs** by individuals with a specific interest in an industry sector, but remember these can be opinion only and not necessarily backed up by any research or facts. **Expert opinion** is also worth seeking out but check the credibility and associations of the individual concerned.

Government statistics are generally available via government agencies and government websites. Also, **business directories** can be useful sources of information, as can **academic and professional journals**. Some **databases** can be accessed for free, such as EDGAR (Electronic Data Gathering, Analysis, and Retrieval system). **Credit agencies** and organizations such as the **World Bank** provide headline information for free that can be a useful source of emerging trends. Organizations such as **The World Economic Forum** produce a series of reports from which valuable information about trends can be accessed.

The **media** can be a good source of information. Reports, articles, and news items can often contain information relevant to the industry and the organization, whether it is listening to business reports on the radio, television, or scanning news media and newspapers online, or via a hard copy.

There is also the universal access to the **Internet**. The Internet provides a wealth of information, other than access to many of the sources mentioned above. Still, as with all other sources, care needs to be exercised to check the reliability, credibility, and validity of the information provided.

The value of information

Information has value in that it can reduce uncertainty. However, the value is subjective and difficult to calculate, as the value increases as the probability of an outcome based on the information become more certain; that is, the value increases as uncertainty reduces. The use of the value of information in decision making is based on the fact we will have some information or knowledge about an event occurring, or possible outcome being achieved before the decision is made. We can assess the probability of the event occurring, or outcome being as we expected. If additional information is provided that can improve the estimate of the probability of the event occurring, or the outcome being as expected, it can enhance the payoff achieved from obtaining the information.

There is, of course, a cost to collecting the additional information, and there would be a maximum price at which the payoff would be beneficial. In terms of the business environment, this has limited practical application, as developing a strategy is often not just a case of making a single decision. However, thinking about the value of information does serve to highlight the fact that there is a cost to collecting information. The cost can be managed more effectively if environmental scanning becomes a regular activity incorporated within the usual job roles of individuals or groups. This process needs to be controlled via an effective collection and dissemination mechanism through which the information gathered can be communicated to the right people. Information is often disseminated at meetings, within reports, and proposals for future developments. It is beneficial to establish a formal mechanism for the dissemination of information, such as regular strategy meetings at which formal reports are considered, rather than relying on the informal network.

There is scope for the information concerning the business environment to be included within the regular management accounting information provided to management, which fits well with the concept of management accounting in support of strategy. The management accountant will need to liaise with functional managers to act as a central coordinator for the dissemination of environmental information, and to report the potential impact on the future strategy. This practice not only ensures that the management accountant takes a proactive role within the strategic management process, but that the senior management team is aware of the impact that changes in the business environment could have on the achievement of the strategy.

3.15 Scenario planning

Active reading: Note the difference between a forecast and scenario. Also, note the contribution of management accounting to the preparation of forecasts. Think about how management accounting can contribute to the development of various scenarios.

During the past few decades, the business environment has become increasingly more complex and dynamic. This dynamism has led to an increase in the degree of uncertainty about what the future holds. In turn, this puts pressure on senior executives who bear the responsibility for developing and implementing the strategy to deliver the corporate objectives (Oliver and Parrett, 2018). Management accounting can contribute to reducing the uncertainty by helping to produce forecasts and scenarios based on various potential outcomes.

Forecasting, scenario analysis, and strategic planning

Organizations create forecasts to estimate how the current strategy will play out. Management accountants play a crucial role in the use of forecasting, as they can provide insight into the potential impact of observed changes in the environment on the achievement of the organization's objectives. These can be expressed in financial terms and used as the basis for more detailed budgeting of the forthcoming fiscal year. Furthermore, they form the basis for updating rolling budgets, where the plan for a set period, for example, the next 12 months, is updated on a monthly or quarterly basis. The use of the latest estimated forecasts and rolling budgets allow plans to be updated to take account of known changes.

Forecasts typically make use of quantitative models based on past behavior using techniques such as time series analysis to help identify seasonal and cyclical trends, and regression analysis and econometric models to identify possible correlations and relationships between variables. It is, however, not just the relationship between variables that is interesting, but identifying the driving forces for change, and responding to these promptly. For example, leading indicators, such as a change in demographics created by an increase in the number of children, will affect the market for children's clothes, toys, and, more broadly, the number of schools, and so on. The trend can be built into an economic model to forecast the proportion of the population at various age ranges, with the resultant data being useful for many organizations whose products and services are affected by the demographics of the population. Different assumptions could be built into a forecast and sensitivity analysis undertaken until a realistic forecast is achieved. A similar study can be conducted on any segmentation of the market that forms the basis of a forecast.

Some of the impacts of the changing demographics are relatively easy to estimate based on extrapolating existing trends in the makeup of the population, but the impact of disruptive technology is more complicated. There is a lack of base data on which to predict the effect. It is possible to see the impact that the Internet had on industry sectors such as retailing and banking with the benefit of hindsight, but at the time, the degree to which this would change the industry was difficult to predict. The social and economic impact of the development of the mobile phone would have been difficult to predict. It takes innovative thinking and a strong sense of vision to use developing technologies to disrupt the existing way of working. New technologies also present opportunities for new industries and threats to existing industries. They herald the rise of new organizations and the demise of those that do not adapt.

Forecasts are useful for projecting past data into the future or setting targets for a new venture, for example, a projection of the level of sales expected based on market research. Forecasting does not, however, necessarily prepare organizations to deal with the increasing level of uncertainty caused by the high level of complexity and dynamism in the business environment. Coping with uncertainty is where the role of scenario planning can help.

A scenario is not a forecast, but a narrative of a possible future outcome. Scenarios are not predictions of the future but rather developed to enhance organizational learning about possible actions that can be taken in response to potential events and shocks to the business environment (Wright et al., 2013). They are expressed in qualitative rather than quantitative terms. The timespan used can vary from five, ten, to twenty years from now, but the further away from the horizon, the more speculative the outcome becomes.

The key benefit is that the development of scenarios allows organizations to gain an understanding of how they might respond and to test possible strategies against changes in the business environment. This process enables organizations to be better prepared for changes should they materialize in the future. Also, potential triggers and environmental indicators can be identified and tracked as part of an early warning system that the changes imagined in a scenario might happen (Wilburn and Wilburn, 2011). The more prepared an organization is, the better they can sense, seize, and handle external changes quickly (Teece, 2007). Flexibility, responsiveness, and a willingness to change are undoubtedly vital attributes for success in today's business environment.

Writers such as Hamel and Prahalad (Hamel and Prahalad, 1994; Hamel, 1996) emphasize the importance of looking to the future, and the dangers of becoming trapped in the ritual of strategic planning as a routine annual activity. Organizations need to be prepared to embrace change and avoid the status quo. Taking a broader look at the environment, and creating multiple scenarios of what the future may look like, can aid the understanding of the business environment by providing the opportunity for strategic conversations, in which possible views of the future are debated (Grant, 2003; Bowman et al., 2007). Undertaking scenario analysis enables an organization to stay relevant to the times and to anticipate changes.

Using scenarios can have a positive impact on performance as managers are better prepared to deal with changes in the environment, and challenge the status quo (Visser and Chermack, 2009; Bouhalleb and Smida, 2018). Scenario planning can not only help to identify indicators to monitor, but also identify areas where the organization can attempt to influence the future environment. It should not just be a case of accepting and responding to changes as they develop. Organizations can proactively engage with the environment to change the way the industry looks in the future, for example, by lobbying governments, or developing and applying disruptive technologies and disintermediation strategies. This degree of proactiveness requires organizations to ask the question, what do we want the industry to look like in five or ten years, and what can we do to make sure it does?

3.15.1 Objectives of scenario planning

Wright et al. (2013) suggest that there are three objectives to scenario planning: enhancing understanding; challenging conventional thinking; and improving decision making, although they felt there was little evidence to suggest that the third objective was achieved. In truth, all the objectives have a degree of subjectivity, and there is little empirical research that categorically proves the benefits in quantitative terms. Still, the intangible benefits emerge through contributing to the process of organizational learning and an enhanced sensemaking ability from undertaking the scenario planning activity. This can be illustrated by looking in more detail at the three objectives proposed.

Enhancing understanding

By exploring multiple scenarios incorporating a range of possible events, emerging trends, and environmental shocks, organizations can gain a better understanding of how the environment might change and explore the possible strategic responses available to the organization. Playing through the scenarios using role-play, round table discussions, and business planning activities can aid the understanding of how the organization currently operates, as well as its capabilities for dealing with change. This process may suggest areas where flexibility can be enhanced, not just to be able to deal more effectively with changes in the future but to make improvements to operations within the current environment. This flexibility can have positive benefits in improving current efficiencies, effectiveness, and identifying possible opportunities to gain competitive advantage.

Challenging conventional thinking

Forecasting the future within known parameters is relatively easy, but to move away from the conventional thought processes and to dare to imagine a new future can be rewarding. Thinking "outside of the box", or opening up the mind so that "there is no box" can be beneficial in stimulating change. Even if the most radical scenarios might not materialize, the experience of exploring possible strategic responses prepares the organization to deal with events and shocks when they do arise. This process may also generate ideas where the organization can apply disruptive technologies or disintermediation strategies to change the environment to its advantage.

Improve decision-making processes

The experience of playing through potential strategic responses to a range of envisioned environmental changes can enhance the decision-making capabilities of the organization due to the practice of creating and playing through the scenarios. Creating scenarios requires the acquisition of information via research skills, the organizing of the information into a plausible narrative, communicating the story to relevant business units and participants, and analyzing and evaluating various scenarios. The opportunity to do this improves the sharing of ideas, the discussion of potential impacts, and the development of strategic responses. These exercises can provide positive benefits within the effectiveness of the decision-making processes in the organization and highlight areas where improvements can be made. The very act of creating the scenario, and playing though potential outcomes, can have intangible benefits that emerge from organizational learning and staff development, which will manifest themselves in enhancing the skills required for decision making.

3.15.2 Benefits and issues of undertaking scenario planning

There are several reported benefits claimed for scenario planning (see, for example, Wright et al., 2013) which include:

Enhanced perception and better observation of the environment

Scenario planning involves making assumptions about future environmental shocks and helps to identify aspects of the environment that can be monitored as indicators of change. This focus on the environment, and potential views of the future, serves to heighten awareness of the importance of environmental scanning on an on-going basis.

A structure for dealing with uncertainty

The use of scenarios to stimulate debate about the potential views of the future, which are generated from modeling the impact of possible events, emerging trends, and environmental shocks, provides a framework for dealing with uncertainty. The scenario presents a rationale for confronting the difficulties created from the increasingly complex and dynamic environment.

Integration of corporate planning function

Although scenarios are not a prediction, they enhance the skill set within the organization for analyzing and evaluating various strategic options. These can be translated into the activity of corporate planning so that when the indicators of change or events materialize, they can be incorporated into the corporate plan. Scenario planning can be conducted at the business unit level as well as the corporate level, which provides opportunities to explore how different events, and so on, impact on various business units or functions.

Communication tool

Scenarios need to be communicated through the medium of a plausible narrative. The use of scenarios, and the dissemination to business units and managers within the organization, increase the awareness of potential changes in the environment throughout the whole organization, and possible strategic options that could be adopted. The creation and communication of the scenario also enhance the ability of those involved in its preparation to communicate information clearly and succinctly, in a way that facilitates decision making.

Organizational learning

The use of scenarios provides a means of generating debate about how things are, should be and could be, done in the future. They provide opportunities for staff development, improving the current operations, and enhancing the organization’s ability to anticipate and deal with uncertainty. If scenarios are updated and used frequently, they form a useful platform for organizational learning and development.

Improving the process of sensemaking within an organization

Van Reedt Dortland et al. (2014) suggest that scenario planning aids the process of sensemaking within an organization. Sensemaking is a social process in which members of the organization interpret the environment through interactions that allow them to comprehend the world around them (Weick and Roberts, 1993). Weick (1995) stresses the importance of *cues* – observable events that are inconsistent with people’s expectations and require further attention. Sensemaking involves noting and interpreting these cues into concrete actions.

It is not practical to react to every cue; therefore, several cues taken together can create a *shock* that initiates the sensemaking process. The typical shocks that scenario planning seeks to address are ambiguity and uncertainty. The process of scenario planning can act to challenge existing models of thinking and thereby create shocks to enhance sensemaking (Wright, 2005). Cues make sense to individuals within a certain frame or context. Therefore the process of sensemaking can encourage strategic conversations, as members of the organization bring their knowledge and experience to the interpretation of cues within a given context.

3.15.3 Issues to be aware of in scenario planning

There are, however, some aspects to be aware of when using scenario planning.

Implausibility

If the scenario is not plausible, participants will not buy-in to the scenario, and the usefulness of the exercise will be diminished.

The lack of quantitative data

Most scenarios are qualitative as to apply quantitative data is complicated based on the level of uncertainty being considered. Indeed, a characteristic of uncertainty is that it is difficult to quantify.

High degree of subjectivity

Due to the nature of scenario planning, there is a degree of subjectivity in their creation. The subjectivity can be reduced by using expert opinion and checking the internal consistency; that is, does it make sense? Hence the plausibility of the scenario is enhanced.

Participant bias

It is essential to involve a range of participants to avoid the views of influential individuals dominating the construction of scenarios, outcomes, or strategic responses.

3.15.4 Developing scenarios

Active reading. Note that although there is no one set method of developing scenarios, there is a need for some ordered approach to ensure their credibility and participation of various actors. Think about the practicalities of the process described.

There is no one set method of developing scenarios. The following phases, however, represent a logical sequence of activities that can be compressed, extended, re-ordered, or amended as suits the organizational needs.

1. Define the scope of the scenario – this involves determining the time frame to be used, and the business units, products, markets, and so on, to be included.

2. Identify the major stakeholders that can influence events or the future business environment. This helps to identify information sources and influential people to consult about the potential future scenarios that could emerge. Scenarios are inevitably subjective and are often based on extrapolations of team members' experience, bound by their knowledge of the environment in which they operate (Keough and Shanahan, 2008; Marcus, 2009). It is often advisable to consult with industry experts outside of the organization, such as academics and consultants, to inject an element of externality, which reduces the potential for scenarios to be unduly influenced by the bias of the participants. The use of the Delphi technique can help to ensure a range of opinions are given due consideration and thus avoid bias or groupthink, which may result in scenarios being produced with which the current management is comfortable. It is better to take the management team outside of their comfort zone.

   The Delphi technique is a structured communication and consensus-building method in which experts are interviewed separately, or asked to complete a detailed questionnaire, to elicit their opinions on the future environment. These are then summarized, and the results circulated to the participants who are asked to consider the issues again, taking into account the opinions expressed from the first round. These can be summarized again, and the process repeated until a reasonably consistent view is reached.

3. Identify the major events, trends, changes that could emerge. The use of frameworks such as PESTEL and industry analysis can be used to generate potential ideas. It is crucial, however, not to become trapped by thinking solely about known and short-term factors. O'Brien (2004) noted that there is often a predominance of economic factors highlighted, and there can be a lack of imagination, resulting in future scenarios staying close to the current state.

4. Identify the critical uncertainties. Scenario planning is about learning to deal with uncertainties and therefore reviewing the events, trends, and so on, needs to be examined critically to identify the real uncertainties. Garvin and Levesque (2006) suggested identifying the critical focal issue, driving forces, and significant risks before designing the scenarios to encourage strategic conversations with real relevance to the organization.

5. Identify potential scenarios. There may be a range of ideas generated. These can be merged to create possible scenarios that can be developed into workable scenarios for consideration. There are different suggestions within the literature as to the number of scenarios that should be generated, but keeping it to a manageable number is the consensus view, probably around four or five. Constructing and evaluating scenarios takes time, resources, and effort, not just from those involved in their construction, but also on the part of the participants engaged in the strategic conversations that follow. In practice, therefore, the number of scenarios that can be constructed and considered may be limited, in which case it is vital to deal with scenarios that cover the main uncertainties that have been identified.

6. Conduct research and construct initial scenarios. Once the initial scenarios have been identified, research needs to be conducted to ensure that the constructed future is grounded on a solid observable start point. Scenarios must be plausible; otherwise, managers will not take them seriously. Therefore, undertaking research in their preparation is not just highly desirable; it is essential. Wilburn and Wilburn (2011) note that there are scenarios available from organizations, such as industry associations, government agencies, and consultants, that engage in future thinking that businesses can use. The use of scenarios prepared by industry experts avoids the time and resources required to research the preparation of original scenarios.

7. Check internal consistency and plausibility. The scenarios need to be plausible; otherwise, those asked to participate in the discussions concerning possible strategies to deal with the outcomes will not buy-in to the exercise. The potential cause and effect relationships also need to be checked for both internal and external consistency to ensure that the scenarios developed are plausible. Checking consistency involves making a judgment about whether the cause and effects included are reasonable and flow logically. The involvement of experts to review the scenarios before dissemination within the organization is a useful and practical method of checking for consistency.

8. The scenarios can be written as a narrative story and disseminated to participants in the activity.

3.15.5 Schools of scenario planning

Huss and Honton (1987) suggest that there are three primary schools of thought in scenario planning. These are intuitive logic, trend-impact analysis, and cross-impact analysis.

Intuitive logic

Intuitive logic is the process of developing plausible qualitative scenarios that generate strategic conversations. This process is the most common form of scenario planning and is the one described above. It is often called constructive logic as the method applies intuition and logical reasoning to construct likely events and outcomes without the need for definitive proof. It is based on identifying cause and effect relationships between variables, events, and trends, and can be used to consider potential strategic responses.

The emphasis of scenario planning is to uncover the causal nature of the unfolding future. The driving forces, which can be independent, can then be identified along with the areas of influence that are associated with each variable. Events, driving forces, and variables can be clustered together to indicate the interplay between the independent elements. Two or three outcomes, some of which may be extreme, are determined for each event or cluster. The scenarios are checked for internal consistency in that the narrative explains the dynamic interplay of the predetermined events and uncertainties, such that the future is arrived at via a logical sequence of consequences. This check ensures plausibility, as well as injecting an element of reality into the resulting strategic conversation that evaluates the various strategic responses that could be employed.

Trend-impact analysis

Trend-impact analysis is the use of quantitative models and simulations, including econometric models. This method lends itself well to the use of accounting and economic data, but it is not as easy to generate a strategic conversation around the potential outcomes. Instead, there is a tendency to focus discussion on the validity of the assumptions built into the data.

Cross-impact analysis

Cross-impact analysis is associated with the La Perspective Institute and is the use of quantitative and qualitative scenarios to which probabilities can be associated. This method is a process of developing a range of scenarios to which probabilities are assigned. The process enables potential strategies to be developed and can aid the development of the best case, worst case, and most likely outcomes.

Backcasting or backward logic

Gioia et al. (2002) suggest that a process known as backcasting can be used where a future state is envisaged. Then a process of retrospectively looking at the events that would need to happen to reach the future state is undertaken. This process is similar to the backward logic method (Meissner and Wulf, 2015), in which participants try and work out what caused the future state. It uses the benefit of hindsight or prospective hindsight. It is a form of sensemaking that helps decision-makers generate potential explanations for a future event by going forward in time and then looking backwards. This can be used to help establish the degree of plausibility of an envisioned future state, in that, when looking at the changes that would need to take place to make it a reality, the probability, of it actually being achieved can be assessed. A recent trend in television murder mystery programs begin by showing the audience the murder, so the audience knows who did it, and we then spend the next hour watching the detectives work backwards to understand how and why it happened.

3.15.6 Using scenarios

Active reading. Scenario planning is by no means a precise science but seeks to enlighten managers as to possibilities and inform strategic decisions. Given that different outcomes will impact performance, think about how management accounting can assist in the evaluation of strategies proposed to deal with the different outcomes.

The scenario planning activity can take several forms, but fundamentally, they are intended to generate discussion about the future and the organizational response. There are several ways in which scenarios can be used in practice which include:

Roleplay

Scenarios can be used for role-playing exercises in which various stakeholder reactions can be tested. This activity is particularly useful in testing different strategic responses for acceptability to stakeholders, particularly the key players. It can also enhance the participants' understanding of the various stakeholder perspectives on strategic actions that can influence the development of the current strategy.

The use of critical incidents

The use of critical incidents is, as the title suggests, a technique in which scenarios are rigorously tested against critical incidents that could occur, and participants engage in identifying a range of potential strategic responses to the question, what happens if? The possible strategies are evaluated as to plausibility and practicality. This method can help to assess the organization’s resources and capabilities to deal with uncertainty in the future.

Best-case and worst-case scenarios

Best-case and worst-case scenarios can be assessed, bearing in mind that they are not predictions but a range of possible scenarios. These can be used to focus on strategies that proactively push the environment towards the best-case scenario, and away from the worst case. This evaluation also enables the organization to consider, and to an extent, increase its ability to deal with the worst-case scenario should it materialize.

Multi-attribute value analysis

Multi-attribute value analysis can be applied in which various strategies, including a range of attributes, are evaluated against the scenarios. The scenarios can be used to assess strategy and outcomes against the achievement of different objectives. These can then be ranked, which helps the organization to enhance its degree of preparedness should events and trends materialize.

Developing antifragility strategies

Derbyshire and Wright (2017) suggest that scenarios can be assessed as to the degree of fragility, that is, the ability of the organization to deal with the event, or change. Scenarios can be categorized as fragile or antifragile. Strategies can then be developed to make all scenarios antifragile, thus increasing the ability of the organization to deal with uncertain events.

A resource-based view

A resource-based view (Barney, 1991) can be adopted in that scenario planning is used to assess the resources and capabilities required and obtained to deal with various scenario outcomes. It is a useful methodology as resources are obtained from the environment, so environmental changes can impact on resources. Fink et al. (2005) make an important distinction between resources and capabilities. They define resources as assets that an organization possesses, controls, or to which it has access, and capabilities are activities that an organization performs. Capabilities are usually generated by the interaction of resources combined with the knowledge about how to use the resources in combination, and individually. Possession of, or access to, the resources, does not automatically mean that the capability is present. Scenarios can be used to assess where resources and capabilities need to be strengthened to deal with potential events that may occur in the future. This is where anticipating the time impact of events is useful as resources cannot always be increased, or capabilities enhanced, at short notice.

Develop strategies from SWOT

The scenarios can be used in conjunction with SWOT (strengths, weaknesses, opportunities, and threats) analysis to develop strategic responses to potential outcomes. If a degree of quantitative analysis is applied, the identification of potential strategic gaps is possible, enabling strategies to be evaluated as to their ability to close the gap. The use of SWOT and gap analysis is discussed in Chapter 5, section 5.4.

The use of real options

A technique that has been borrowed from financial markets is the concept of options – and is referred to as real options. A real option is the right, but not the obligation, to invest in real assets by, or at the end of, a given period (Dixit and Pindyck, 1994). The basic idea is that significant investments can be broken down into a series of smaller decision points. Following an initial investment, the organization has opportunities to make different decisions as events unfold in the environment. For example, further investments could be made (analogous to a call option) from which future benefits can be derived. The exercise price is the additional investment required to deploy the resources. Alternatively, there may be an opportunity to divest assets or discontinue a project (analogous to a put option), thus limited the potential future losses. The exercise price is the net value realized when exiting a business.

Options may include opportunities to defer, grow, abandon, phase, or select elements. This choice enables organizations to consider a range of scenarios and options within the individual scenarios, and to identify the potential upside and downside of each available option. Scenarios can be updated as the future unfolds so that it enhances the understanding of the environment (Schoemaker, 1993). For example, certain long-term projects can be the subject of scenario planning and analysis at several points during their lifetime. At the beginning of the project, there is the option 'not to go ahead' or 'abandon', but once the project is underway, the options to 'exit', or 'make additional investments', become available. Real options are discussed in more detail in Chapter 8, section 8.6.

Scenario planning was popularized during the 1970s, primarily by Royal Dutch Shell, but the practice waned a little during the 1980s. It has, however, enjoyed a resurgence in recent times with many organizations and senior executives promoting its use and benefits. The primary benefit is that it encourages organizations to think about the future and the organization's ability to deal with uncertainties. Thinking about how the business environment might change, or could be changed, and the strategic responses or initiatives that can be made ensure that organizations are better prepared to face the uncertainties of the future. At the time of writing this learning resource, the covid-19 pandemic has created interest from commentators and academics, as well as organizations, in thinking about what the world and the business environment will look like post-covid-19.

3.16 Summary

Management accounting can contribute to the environmental analysis aspect of the strategic management process in the following ways.

Evaluating the potential financial impact

The principle behind evaluating the potential impact of environmental changes on the organization is to facilitate a proactive response. An area where this can prove to be invaluable is where governments propose regulatory changes, or where a potential change in government could indicate a possible shift in policy. The evaluation can provide the basis of a case for lobbying against such a move. It is more difficult to estimate the potential impact of changes in technology, or sociocultural shifts in domestic and global markets. The evaluation inevitably involves estimates and "what if" scenarios, with a considerable number of informed guestimates in the initial stages.

A case in point is BREXIT in the United Kingdom, where the decision to leave the European Union created considerable uncertainty for organizations in developing strategic plans. The nature of the negotiations and the political dimension means that very little information emerges that can be relied upon with any degree of accuracy. This uncertainty means that organizations need to monitor the situation closely and update their forward plans as information becomes available. As the outcome becomes more defined, the initial estimates can be made more robust, and various scenarios investigated. In this way, the organizations will be more prepared to implement specific strategies to deal with the outcome once it is decided.

Evaluating opportunities and threats and the strategies to deal with them

Evaluating the strategies to deal with changes in the environment is like assessing the financial impact of potential changes, but in this case, the information available is more accurate, and the likely outcomes can be evaluated with more certainty. The role of the accountant is to help management to understand the potential financial impact of various strategies, for example, by using a financial model of the business to estimate the possible effects of worst-case, best-case, and most likely forecast/scenario. Maintaining the model and making comparisons with actual results as strategies are implemented, can build up experience and understanding so that future impacts can be estimated with increasing levels of sophistication and confidence. This practice contributes to organizational learning in that future forecasting becomes more reliable as knowledge is built up of the impact of environmental changes on the achievement of various strategic responses.

Interpreting environmental data of a financial nature

Certain elements of the environment are financial in nature, and the accountant can use this expertise to both capture and interpret the impact of data such as inflation, exchange rates, economic cycle, and commodity market prices that will affect the organization. Industry and media reports often carry data of a financial nature where accountants can assist in the interpretation and in understanding the potential impact on the organization.

Evaluating financial strengths and weaknesses of competitors

The accountant is well placed to assess the financial strength of the key competitors and their ability to acquire resources to respond to changes. This analysis contributes to building the competitor response profile and hence developing the organization’s strategic response.

Identifying benchmarks on the performance of key players in the industry

The accountant can assist in the identification, development, and monitoring of industry benchmarks. Competitor analysis can be a useful source of benchmarks to help to improve the performance of the organization or assess relative strengths and weaknesses.

Monitoring trends from internal financial information

The use of internal information should not be underestimated in environmental analysis. Internal trends may be an early indication of an environmental trend that has not yet been identified. For example, recognizing upward pressure on costs from suppliers may prompt an investigation to uncover the fact that purchasing managers are finding it more difficult to negotiate lower prices due to structural changes in the supply market. Or that marketing and sales staff are increasingly having to resort to sales discounts and promotions to encourage buyers to buy, which in turn puts pressure on margins, and may be indicative of the increasing choice and power in the hands of the buyers. Or that certain products are being purchased by a specific demographic group being indicative of a more general trend in the market that has not yet emerged from environmental data. Noting these trends and prompting investigations can often result in an early warning system for identifying the forces that are affecting the industry more generally. These can help develop a future strategy to deal with the changes and, indeed, to gain a competitive advantage.

Assisting in the preparation of scenario planning and forecasting

The management accountant can make a valuable contribution to preparing scenarios and building financial models of the business through which different scenarios can be reviewed. Building a complex economic model is an activity that large organizations with adequate skills and resources are more likely to be able to achieve. A simple spreadsheet, however, on which ‘what if’ analysis could be undertaken can assist the smaller businesses in evaluating potential strategies and outcomes.

3.17 Review questions

(1) Discuss why it is important for organizations to undertake environmental analysis.
(2) Explain and discuss the significance of the different levels of environmental analysis as part of the strategic management framework (Hint: consider the general, industry, and task levels of the environment).
(3) Illustrate with reference to an industry of your choice elements contained within the different levels of the environment.
(4) Discuss how competitor analysis can aid the development of a strategy.
(5) Discuss, with examples, the three headings under which Davidson (1997) suggests competitor information can be categorized.
(6) Critically evaluate the concept of the business ecosystem. How useful do you think it is in helping to develop a competitive strategy?
(7) Discuss the role of management accounting in the business ecosystem.
(8) Discuss the use of scenario planning in the strategic management framework – is it only for the large organizations with more resources, or could small and medium-sized organizations use it?
(9) Discuss the role of the management accountant in scenario planning and forecasting.
(10) Critically evaluate the contribution that management accounting can make to environmental analysis.

3.18 Case study activity 3 - HW Inc. environmental analysis

Turn to Appendix A of this learning resource, read sections A.2 – A.3, and attempt the following activity.

(a) Using the frameworks of PESTEL and Porter's five forces model, undertake an analysis of the business environment in which HW Inc. is currently operating.
(b) What do you think are the key challenges facing HW Inc?
(c) Critically evaluate how the management accountant of HW Inc. can contribute to the activity of environment analysis.

3.19 References

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CHAPTER 4 - Internal analysis and resource capability audit

4.1 Introduction

The internal appraisal is often referred to as a resource audit. It involves an assessment of the resources and capabilities of the organization and aids the identification of an organization's strengths and weaknesses. In so doing, it also confirms that the organization has retained the necessary core competencies required to achieve its strategy or indicates that changes need to be made to resource capabilities in response to changes in the environment. Strengths can be used to create a distinctive competence that could provide the basis of competitive advantage. Core competencies are those competencies that are essential to overall performance and success in the industry sector. In contrast, a distinctive competence is any competence that distinguishes an organization from its competitors and hence is a source of competitive advantage (Mooney, 2007).

A resource audit should not, however, be conducted in isolation from the external analysis. Many of the resources reviewed under the heading of the internal appraisal are acquired from, or feed into, elements of the task environment. This is evident in the 9Ms framework that is reviewed in this chapter. Following the 9Ms framework, which sets out the broad areas that can be considered, the chapter focuses on reviewing the main elements of the interface with the task environment covering the product life cycle and managing a portfolio of products, customer profitability analysis, the value creation system, and supplier evaluation. These are also areas where management accounting can make a significant contribution to the strategic management process. Customer profitability analysis is frequently cited as being a strategic management accounting technique. For this reason, the discussion of the technique draws more heavily on relevant research literature than the other sections. Two accounting techniques are referred to for which additional support is provided in Appendix B. These are cost-volume-profit (CVP) analysis and interpretation of financial ratios.

4.2 Learning outcomes

After studying this chapter, you will be able to:

- Explain the importance of undertaking an internal analysis as part of the strategic management process
- Describe the 9Ms framework as the basis for conducting a review of an organization's capabilities and resources
- Critically evaluate the use of the product life cycle in strategic planning

- Critically evaluate and apply the use of portfolio analysis, both of products and customers
- Critically evaluate the technique of customer profitability analysis and undertake a basic analysis
- Discuss the importance of designing an appropriate value creation system as a customer-centric approach to strategic management
- Discuss the significance of supplier evaluation in the value creation system
- Undertake basic financial interpretation of ratios
- Critically evaluate the contribution that management accounting can make to the internal analysis of an organization and the management of products and customers

4.3 The 9Ms framework

Active reading. Note how the 9Ms framework provides a range of areas under which the resources and capabilities of the organization can be assessed. Think about the interdependencies of the elements and how they will all need to be consistent with the overall strategy of the organization to achieve the objectives.

Video link [Resource audit and the 9 Ms framework](https://www.youtube.com/watch?v=SVXrL9TqgJo)

[https://www.youtube.com/watch?v=SVXrL9TqgJo]

A common framework that can be used to aid a structured review of resources and capabilities is known as the 9Ms framework. Although not strictly an academic framework, it provides a series of headings under which the entire organization can be reviewed.

- Manpower - men and women
- Management
- Money
- Makeup
- Machinery
- Methods
- Markets
- Materials
- Management information

Manpower - men and women

Men and women include anything to do with human resources. It is not just about how many people are employed, but whether they have the right skill set and experience. It raises questions such as, are the recruitment and retention strategies working? Is the organization undertaking enough staff development to keep the skill base current and the staff motivated? It is essential to bear in mind that an organization obtains its human resources from its task environment, so there is a strong link between the resources and environmental trends. Certain industries require certain skills.

A key message is that the internal analysis is not undertaken in isolation and is not just about assessing the current capability but assessing the supply of, and the ability to acquire, future resources from the environment. As with most resources, their acquisition involves financial aspects where the accountant can provide expertise and assistance to the HR professional to evaluate potential strategies. For example, changes to the pay and benefits package to reward, improve retention and recruit staff, and to assess the overall impact on profitability. It is accepted that in large organizations, the HR professionals will be equipped with this expertise. Still, the accountant is a valuable resource and has an overview of the financial situation that other functional specialists may not have.

Management

The element of management is not just whether the organization has a management team, but does the organization have an appropriate management structure, that is, is decision making centralized or decentralized, and is that appropriate? Linking this to human resources (men and women), a review of the skill base within the senior management team can be included to ascertain whether the management has the correct skill set or mix of skills to cope with future strategies.

Money

Money is not just about how much money the organization has now, but the organization’s ability to raise sufficient finance in the future to finance the chosen strategy, that is, what does the balance sheet look like, current levels of gearing, assets for security, and so on. This also serves to illustrate that elements of the 9Ms framework are not to be viewed in isolation. For example, the asset base, considered under the heading of machinery, can have an impact on future finances. Assets can be used as a source of security for a loan or can create the need for additional investment to replace aging assets.

Makeup

Makeup refers to the organization’s structure and culture. The question being posed relates to whether the organization has the right structure and culture to successfully implement the chosen strategy, given the changes in the environment? For example, a more dynamic and complex environment may require a shift to a more flexible and decentralized organization structure, granting autonomy to business units to facilitate speedy responses to competitor actions.

Machinery

The heading of machinery refers to all assets. It includes reviewing aspects such as the age of assets and whether the organization has the finance available to replace them when required—reviewing whether the technology being used is up-to-date or it is putting the organization at a disadvantage? The asset value can also be considered under this heading. For example, organizations in high street retailing or property management would be interested in what is happening to the value of the asset base.

Methods

Methods refer to the way of working and asks questions such as, could things be done more efficiently and more effectively? This could include manufacturing, design, administration, and customer service—indeed, in any activity undertaken by an organization. Techniques such as benchmarking (see section 10.9) or analysis of the value creation system (section 4.9) could be used to explore if the organization's performance can be improved.

Markets

The markets heading facilitates a review of the markets in which the organization currently operates or is planning to enter. This could mean withdrawing from markets as well as expanding into new markets. Portfolio analysis, such as the Boston Consulting Group matrix (section 4.5), can be used to help review the product portfolio and the markets in which the organization operates. This analysis aids the development of strategies to manage the balance of the portfolio and the relative competitive position.

The product life cycle (section 4.4) is a useful tool as organizations need to assess where products are within their life cycle. This assessment again illustrates the link to the environmental analysis as any change in the environment could potentially impact on the product mix and product life cycle. For example, changing social trends, such as a change from voice to text communications, or political influences, such as governments setting targets to ban the sale of fossil fuel vehicle, or legal changes, such as increased fire resistance standards on building materials, or environmental factors, such as increased pressure from consumer groups to enhance the recyclability of products. Customer profitability analysis can also be considered under this heading (section 4.7). Not all customers provide the same level of profitability due to the different demands placed on the organization's resources, which results in varying degrees of "costs to serve."

Materials

The materials heading includes an evaluation of supplier relationships (section 4.10) as well as changes in the materials that are used. Aspects such as reliability, quality, cost, and location relative to supply can be evaluated. Do current suppliers have the capacity to grow with the organization? If not, then alternative suppliers need to be sought, or the possibility of dual sourcing needs to be considered.

Management information

The heading of management information encompasses reviewing the capability of the systems to provide the information to managers required to manage the business effectively and to develop, implement, evaluate, and monitor strategy. Many organizations find that they are still relying on the information systems and technology installed ten years ago but that the business has changed. Consequently, the managers do not have access to the information they need to run the company as it is now.

Information systems develop entropy over time and become less useful, unless the information provided keeps pace with the business as it grows, develops, and changes in response to the environment. Legacy systems, including the financial systems, have developed in a piecemeal fashion, often by implementing workarounds to cope, only to find that the lack of integration creates inefficiencies such that the cost of providing information becomes expensive or prohibitive.

Learning activity. Thinking of an automotive manufacturer or other large organization in a sector that interests you, what resources and capabilities do you think it will need under the 9Ms heading?

4.4 The product life cycle

Active reading. Note the accounting techniques that can be used to aid the development and launch of new products. Also, make a note of elements of the task environment and the business ecosystem that have important roles in the management of the product life cycle. Think about the impact of the increased awareness of sustainability on the product life cycle.

Video link Product life cycle

[https://www.youtube.com/watch?v=qis6HfkijBM]

The product life cycle (PLC) is a commonly referred to model and represents the life of a product from initial launch to eventual decline. The representation that is often referred to includes the four stages of the product sales life cycle: introduction, growth, maturity, and decline (Figure 4.1). A development/design phase has been added at the start of the life cycle (Kaminski and Rink, 1984), which reflects the significance, and impact, of product development and design on the sales life cycle. Techniques such as target costing (section 7.8) and life cycle costing (section 7.9) provide considerable support at the development stage. Certain industries such as pharmaceuticals and automotive vehicles traditionally have lengthy and costly product development times, although these are becoming shorter. The high levels of development costs make it desirable to extend the product life cycle for as long as possible.

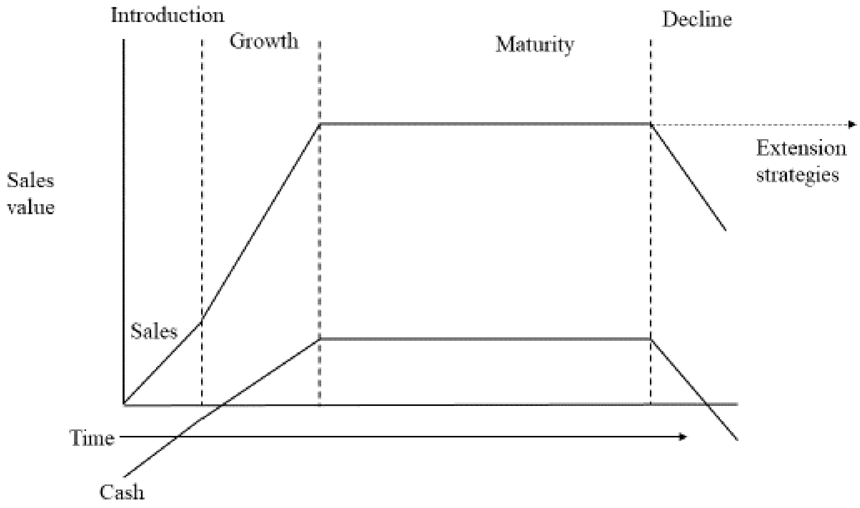

Figure 4.1 The sales product life cycle

Figure 4.1 illustrates the typical stages of the sales product life cycle. The top line indicates sales growth, typically measured in sales value. The bottom line represents cash, which can also be indicative of profit. This line illustrates that at the introduction stage, due to initial marketing expenditure and low sales, the product is using, rather than generating cash (or making a loss). As the product sales grow, and the marketing strategy changes from one of awareness to building brand loyalty, the product begins to generate a positive cash flow (or profit) as the total value of sales revenue begins to outpace the costs. Once the product reaches maturity, it is hopefully generating positive cash flows and profits, which decline as the product becomes out of date or loses its market appeal, and sales volumes decline.

The product life cycle is not just a framework that aids the deployment of marketing and operational strategies depending on where in the life cycle a product might be but should be used in conjunction with customer relationship management and supply chain management. Srivastava et al. (1999) emphasized the need to link product development and life cycle management with customer relationships not just as a strategy for building customer loyalty and extending the product life cycle, but as a means of gathering feedback for future product development purposes.

Minor product developments are frequently used as part of the extension strategies to keep the product alive and customers interested. In like manner, supply chain management does not just ensure that resources are available to match the growth in sales volume to meet customer demand but also provides valuable input to product development. Restuccia et al. (2016) go a little further. They stress the importance of obtaining feedback through the intermediaries, particularly distributors, as they can provide valuable feedback, for example, on ease of product handling, storage, and transportation.

Product life cycles have been getting shorter in recent years due in part to increased product complexity, increased global competition and demanding customers, increasing use of outsourcing providing flexibility and reducing the need for an organization to generate high sales volumes to cover the investment in dedicated plant and equipment, and the expanding number of business partners within the business ecosystem that contribute to the customer experience (Teresko, 2004). As a result, managing the product life cycle and the product portfolio has become a strategic priority in recent years (Jüttner et al., 2006). Many organizations will have multiple products, and if not carefully managed, the upper and lower extremes of demand could occur at the same time. Therefore the timing of a new product launch, upgrades, and degree of marketing support all need careful management.

Technology and consumer electronics (Chien et al., 2010) and fashion apparel (Şen, 2008) are examples of industries that typically have short product life cycles. In the case of fast fashion items, these can be noticeably short, and as a result, this industry sector has been receiving criticism from a sustainability viewpoint (McNeill and Moore, 2015; Pal, 2016). There is a growing demand for sustainable products, which is due, in part, to increased public awareness of sustainable development (De Medeiros et al., 2014), not just for fashion products but for all industry sectors. This awareness of sustainability issues has implications for the length of the product life cycle, and the disposal, or recyclable aspect, of the product at the end of its original purpose as organizations seek to become, and seen to be, more socially responsible (Campbell, 2007). Indeed, products with sustainable characteristics could now constitute a source of competitive advantage (Bevilacqua et al., 2007; Gmelin and Seuring, 2014).

4.4.1 Strategies for managing the product life cycle

Active reading. Note the strategic intent and the tactics that can be used at each stage.

In Chapter 2, the strategies of build, hold, and harvest (Gupta and Govindarajan, 1984) were highlighted (shown in Figure 4.2) as being appropriate for the product life cycle.

The representation in Figure 4.2 brings in an element of the market life cycle to include the shakeout phase. Typically as a market develops and shows signs of growth and profitability, it attracts new entrants, but as the market growth slows the weaker competitors get shaken out of the market, often due to a lack of resources to match the growth, or the inability to gain sufficient market share to enjoy economics of scale. This shakeout can lead to the mature stage being dominated by a few large organizations.

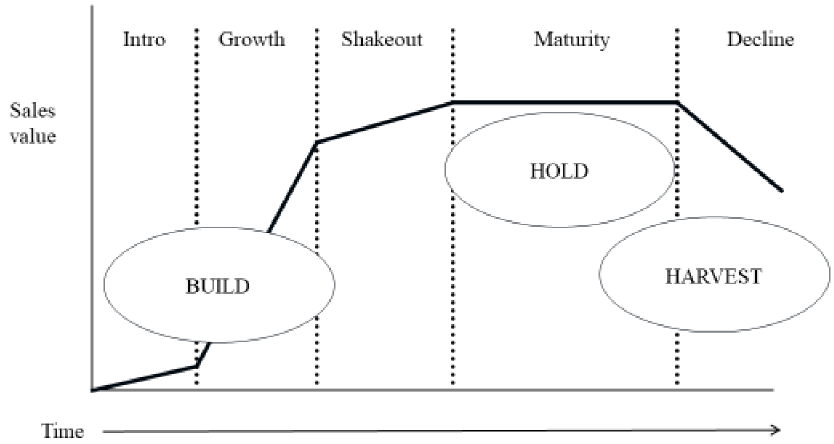

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Figure 4.2 Strategies at stages of the life cycle

The strategies outlined by Gupta and Govindarajan (1984) are summarized in Table 4.1.

Table 4.1 Typology of strategies from Gupta and Govindarajan (1984)

Build	Strategy to increase market share, invest in capacity, best in high growth industries
Hold	Strategy to maintain existing market share, competes by effective marketing campaigns, minor product developments to maintain market interest, best in mature industries
Harvest	Focus on short term earnings, minimizing investments, relatively high market share, best in declining industries

Build/invest

A build strategy, as the label suggests, attempts to build the market share of new products, which requires investment in marketing and resources, hence the cash using aspect of this phase. A key factor is the ability to meet increased demand as the market and market share grows. This requires coordination through the supply chain to ensure that organization's suppliers can also match the growth, as there is nothing worse than developing a new product, only for competitors to quickly copy the product and satisfy the growing demand. This highlights the significance of developing a product or service that is difficult to replicate, thus gaining a competitive advantage, which allows time for brand awareness and customer loyalty to be built before competitors enter the market. Barriers to entry, such as product or technology patents, can also give time for the product to recoup some of the development costs before competitors developing similar products.

The build strategy is also appropriate as products move through the growth phase and into maturity. The strategy is to continue to build the market share. Therefore, investment is still required to increase the capacity and build brand loyalty via the marketing strategy. The growth in the product sales and market for the product will attract competitors to the market. As the weaker competitors are shaken out of the market, the focus is on retaining customers so that when the market matures, the organization maintains a dominant position. If the investment is cut back, the danger is that competitors will capture the growth in the market.

Hold

A hold strategy, as the label suggests, seeks to maintain the current market position and a high level of sales. This strategy involves encouraging repeat purchases and maintaining customer loyalty, which in some consumer markets today, such as broadband provision, mobile phones, insurance, also involves managing the customer churn rate. It is at this stage that extension strategies such as minor product developments and market development (section 7.4) can be employed to keep the market alive.

Harvest

A harvest strategy seeks short-term earnings and profits at the expense of long-term development. This often involves a discounting or promotional policy to maximize sales revenue. Using the farming analogy illustrates that if a product is harvested, it requires a new product to replace it. This strategy is often appropriate for end-of-line products that are being replaced by a new model.

4.4.2 Management accounting and the PLC

Active reading. Note the range of management accounting techniques and strategy models that can be used to support the strategic management of product life cycles. They are not used in insolation but used together to supplement and complement each other.

Management accounting at different stages

Management accounting techniques must be applied appropriately to business decisions, and as the product life cycle progresses, different techniques may have more relevance. For example, before the introduction phase, management accounting techniques can provide considerable support to the evaluation of potential new products and assistance at the development and design phase. Techniques such as investment appraisal in the form of net present value calculations, discussed in section 8.5, can be undertaken to help assess the viability of a new product, or the timing or manner of the launch by investigation different options using investment appraisal and real options theory (section 8.6). Scenario analysis (section 3.15) is also useful here, particularly where data and the experience from previously launched products of a similar nature could be used in estimating the growth patterns and potential costs at various stages. Life cycle costing (section 7.9) where the costs are considered from design right through to disposal or recycling, and target costing (section 7.8) where the desired profit margin is deducted from an anticipated market price to derive a target cost for a viable product offering, are highly relevant at the development and design stage. Techniques such as breakeven point or cost-volume-profit (CVP) analysis (see Appendix B) are also useful in assessing product viability.

Investment appraisal techniques are still relevant at the growth stages, perhaps linked with real options analysis (section 8.6), as again, there are alternative options available, such as withdrawing a product from the market instead of making further investment. At this stage, it is essential to monitor the profit margins earned on products as, if competitors have entered the market, the price, as well as the functionality of the product offering, may become more relevant to the customer choice. Competitors may use price as a weapon to gain a foothold in the market. However, if volume sales can be built before the competition obtains a strong presence in the market, the first mover can use price as a preemptive strike or as a defensive weapon as there may be more room to move on price due to the volume sales.

At the maturity stage, cash generation, maintaining margins and ensuring that the profitable customers are nurtured and retained through customer profitability analysis (section 4.7), product and customer portfolio management (sections 4.5 and 4.8), and customer relationship management. It is at this stage that extension strategies and the elements of the marketing mix, such as product, price, promotion, place, physical evidence, processes, and people, can be adjusted to maintain customer interest and attract new profitable customers to counter customer churn. Management accounting can assist the marketers in their endeavors to extend the life cycle by helping to evaluate the impact of adjustments to the marketing mix.

At the decline stage, freeing up cash flow, containing costs, and perhaps managing a strategic withdrawal of the product becomes more important. Withdrawing a product from the market, however, is not an automatic decision for declining products, as the reason for decline needs to be investigated. Often declining sales are market-led rather than product-led; that is, an environmental change causes the market to reduce. A reasonable profit stream can often be maintained for some time from products that serve a declining market, especially if the market becomes a niche market that is preferred by a select demographic of consumers. There is also the possibility of the market reviving. For example, vinyl records appeared to decline but is now a growing market again, reportedly due to the actions of purists who consider vinyl to provide a superior sound and prefer the tangibility of the product.

Production pattern and inventory decisions

Once a product has been developed and the market testing carried out (if applicable), the organization has a decision to make as to the inventory and production pattern with its related impact on finance and cost. If the product is marketed in such a way that the anticipated sales upon launch will be high, then a significant volume of products might need to be manufactured in preparation for the launch. If the product does not sell well, then there will be a high inventory level taking up space and tying up capital, which might have to be scrapped and written off if not sold. An alternative approach might be to gear up for very flexible manufacturing such that replacement inventory can be manufactured at short notice to satisfy demand. Organizations such as Dell and Zara operate on a "produce to demand" principle. The concept of lean manufacturing and lean accounting (section 6.7) can assist when dealing with a customer-focused demand-pull system of production.

The initial production volume and production method decision are crucial as there could be a lot of wasted marketing effort and investment in creating demand for a product that is satisfied by a competitor because the organization cannot satisfy the demand it has generated. The accountant needs to work very closely with marketing and production staff to ensure that the costs and benefits of various strategies are understood. The same is true for the provision of a new service in that the resourcing decision related to the provision of skills to meet growth in the market is just as significant, that is, it may take time to recruit sufficient staff and undertake any training required to deal with a surge in demand. During this time, sales are being lost.

Pricing decisions

The initial pricing decision is critical; for example, whether to go for a high price associated with market skimming or a low price targeted at market penetration (section 6.4). Choosing a pricing strategy that can be maintained throughout the product's life, allowing for promotional adjustments from time to time, can be critical in positioning the product in the market as well as the long-term viability of the product. Maximizing and maintaining the contribution (or gross margin) per product can be vital to the cash generation and profitability of the product as volume increases, and the average cost per unit reduces. Understanding the dynamics of this in a specific market can feed into future product developments, and target costing analysis, as the experience of the cost behavior, linked to marketing strategy, is gained through monitoring product launches over time. As organizations begin to develop a better understanding of the cost behavior of the organization and the market sector, this can be applied to competitor analysis (section 3.11), and competitor costs can be estimated with a higher degree of certainty.

Cost implications of competitive strategy

The level of competition and structure of the market can change as the product/market life cycle progresses, requiring a review of the strategy. For example, in the early stages of the product life cycle, competition is often based on price. The initial product, such as the first mobile phone, is often quite basic. For example, early mobile phones only made telephone calls and allowed SMS messaging. Once the new product is launched, competitors copy the concept and produce similar products with much the same functionality.

As the product moves through growth to maturity and the market price ranges are established, competition tends to move away from price toward product differentiation, that is, mobile phones are developed with different features and functionality. For example, new features such as cameras are added such that the fact that they make telephone calls is now incidental to the purchasing decision. This shift in the importance of features can have implications for pricing as the first phones were mostly provided with little cost to the consumer, and costs were recouped via the tariffs charged for calls made. As competition and the sophistication of the product increased, the charging mechanism changed so that now the consumer pays for the phone, usually over some time in the form of a credit agreement. The competition now focuses not just on the quality of the physical product, but on the service provision, unlimited calls, texts, internet access, and so on, and the monthly tariff charged.

This scenario was also the case for TV set-top boxes, which went the other way where the original providers charged for the box to recoup some of the initial development costs, then as other competitors entered the market the boxes began to be provided for free, but a charge was made if the contract was changed within a specified time. Now the technology is provided for a minimal upfront cost to the consumer, and the cost recouped via the monthly subscription, but still within fixed-term contracts.

The technology sectors such as mobile phones, broadband provision, and subscription services are among the sectors where customer churn is highly relevant as providers compete for new subscribers with lower introductory offers. The concept of bundling has also become popular in this sector, such as buying broadband, mobile phone, and TV subscription services together. The financial implications of these strategies need to be understood by the decision-makers.

Differentiation and fragmentation of the market

Towards the end of the growth phase and into maturity, the development of products for different segments of the market becomes more relevant, for example, mobile phones targeted at teenage boys with ease of online game playing, or those aimed at the business market with personal organizers and other functions useful for the busy executive. This segmentation of the market is linked to the process of fragmentation as product variations are targeted at specific segments of the market. When fragmentation takes place, the cost base changes due to the loss of some economies of scale that were achieved from the production of a single standard product. When a range of product variations are required, the economies of scale can be lost, causing the cost base to rise.

Sports shoes provide an excellent example of the fragmentation of the market. One only needs to look at the range of different shoes available for your chosen sport. Not so long ago, when jogging became extremely popular, the demand for trainers or running shoes grew. This market has grown to the extent that there are running shoes targeted at the way you put your foot down when you run. For example, you could be a front foot, midsole, or heel striker. Or pronate (inward roll of the foot), supinate (outward roll of the foot), or neutral strike. Add to this a range of different terrains, and the range of shoes available increases almost exponentially. There are even people who wear trainers as fashion footwear, with no intention of running or jogging anywhere. Not to mention those who collect trainers without wearing them at all.

Deliberately fragmenting the market is a potential strategy for competing against a cost leader. This strategy can sometimes allow smaller players to enter the market by targeting a single segment assuming that there is enough volume. This situation is discussed in more detail under competitive strategies in Chapter 6.

4.4.3 Difficulties of managing the PLC

There are some difficulties with the PLC in that it is not a precise science. For example, it is difficult to estimate how fast the market will grow or how long the maturity phase will last. It can also be a function of how good the organization is at developing new products and marketing. The extension strategies are often marketing-led, and if an organization is good at this activity, the product may have a long life, however, if the extension strategies do not work, the product may decline. Indeed, if it is thought that the product is about to enter the decline phase, and marketing activity is reduced or even stopped, the product will most likely decline. In other words, it can be a self-fulfilling prophesy.

Learning activity. See if you can think of examples of products that might be in the growth phase or the maturity phase of their product life cycle. Remember, it is not a precise science, so think of relatively new products and products that have been around for a long time. Can you think of any products that have declined?

4.5 Managing a portfolio of products and the BCG matrix

Active reading. Note the mapping of the categorization of the products on the quadrants of the BCG matrix and the match to the stages of the product life cycle. Neither model is precise, and each only represents the situation at the moment in time. Note the strategies used to manage the product portfolio and from what you know of the product life cycle think, as you read, of the way that management accounting can contribute to the management of the portfolio before reading section 4.5.4 – financial controls and accounting techniques.

Video link [Portfolio analysis - BCG matrix](https://www.youtube.com/watch?v=1L8TTD1MWvM)

[https://www.youtube.com/watch?v=1L8TTD1MWvM]

Most organizations would be operating a portfolio of products and therefore managing the timing of the launch of new products, product enhancements, and so on, is critical. It would be wrong to wait until a product enters the decline phase to launch a new product, so the product life cycles in the portfolio will ideally overlap (see Figure 4.3). New products need to be developed and launched before the existing products go into decline.

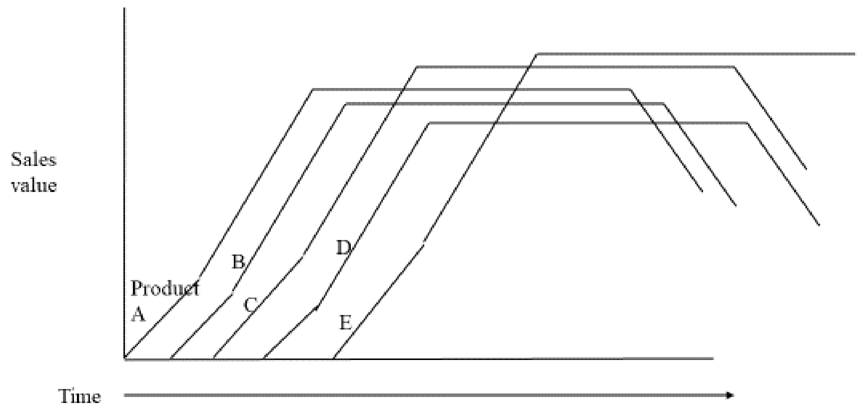

Figure 4.3 Portfolio of product life cycles

The organization is, therefore, managing a portfolio of products and consequently needs to make decisions about where additional investment is most beneficial to the overall mix of products.

4.5.1 Portfolio analysis—The Boston Consulting Group matrix

The Boston Consulting Group (BCG) matrix, developed by Bruce Henderson and promoted through the Boston Consulting Group, helps organizations in managing a portfolio of products. The portfolio analysis matrix, shown in Figure 4.4, can be used to analyze an organization's portfolio of products. In the case of a conglomerate organization that comprises of many different businesses, or business units, the model can be used at a corporate level, that is, managing a portfolio of businesses. The model is still useful, but as conglomerates have become less prevalent, it has fallen out of use a little regarding the corporate level. The axis of the relative market share provides a measure of the competitiveness of the products, and the axis of the market growth indicates the attractiveness of the market.

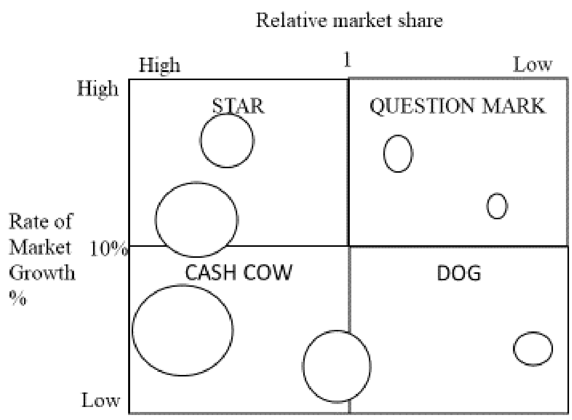

Figure 4.4 The portfolio analysis (BCG) matrix

The axes

The rate of market growth can be calculated by using the formula:

$$\frac{Market\ sales\ this\ year - Market\ sales\ last\ year}{Market\ sale\ last\ year}\ x\ 100 = x\%$$

The apparent difficulty can be in identifying the value of market sales accurately. The market could be obtained from external sources, but it is not always possible to determine the total market. The assessment also depends on how the market is defined, for example, is it the local market, the national market, the global market, or is it a segment of the total market? For example, the market for accountancy training or a broader market such as business education, of which accountancy training is only a small element. Determining the market is one of the difficulties of the portfolio model, or indeed most strategic analysis tools, in that it is not a precise science; hence best estimates often need to be used. It is possible to use the organization's sales as a proxy for market sales to obtain a view of the likely growth in the overall market. This approximation assumes that the organization's sales are growing at the same rate as the market, but in the absence of any better information, it is probably good enough.

The midpoint of the rate of market growth axis was originally denoted as 10 percent, that is, greater than 10 percent represents high growth, and below 10 percent is low growth. This midpoint is not necessarily fixed at 10% and can be changed based on an organization's experience of the market. Ideally, organizations would want to look for markets where there are high growth rates, and their product offering gives them a strong chance of achieving market leadership.

The relative market share is assessed as a ratio. It is the market share of the organization compared with the market share of the largest (or nearest) competitor and is assessed on a logarithmic scale. The Boston Consulting Group chose to use market share as a way of estimating the costs associated with given products. The rationale for this is that both costs and market share are connected with production experience, as experience in satisfying a particular market demand increases, market share can be expected to increase and costs to fall, due to the effects of the experience curve. However, as already mentioned, defining the market can be a subjective process. It also presumes that the market size can be estimated with some degree of accuracy. It is not always possible, and therefore the actual position of a product within the matrix can be a subjective opinion rather than a definitive outcome. The critical point here is that if the assessments for products are undertaken consistently, then a reasonable representation of the product portfolio can be achieved. The relative market share is calculated as follows:

$$\frac{Market\ share\ (or\ sales\ vlaue)\ of\ the\ organization's\ product}{Market\ share\ (or\ sales\ value)\ of\ the\ nearest\ competitor's\ product}$$

Generally, the midpoint of the relative market share axis can be denoted by the number one, that is, unity. Therefore, if the relative market share is greater than one, it has a relatively high market share (and is probably the market leader in the market or market segment) and, if lower than one, a relatively low market share.

Categorization and balanced portfolio

The products or business units are categorized as question marks, rising stars (or just stars), cash cows, and dogs. The question marks are cash using as the organization tries to grow the market share, with rising stars still requiring investment to match the growth in the market. As the market growth slows, and if market share is retained, the cash cows provide the cash for investment in question marks and rising stars, with dogs potentially becoming a drain on cash resources. The ideal situation for an organization is to maintain a balanced portfolio of products. Each circle shown in Figure 4.4 represents a product, the size of which represents the proportion of total sales. Ideally, the cash cows are the most substantial proportion of total sales with question marks and dogs representing much smaller proportions.

As product life cycles become shorter, products may move around the matrix more quickly. Although there are many more factors that influence a product's life cycle other than market growth, it emphasizes the need for organizations to review, and indeed, renew their competitive advantage frequently.

Figure 4.5 illustrates that the same strategies that were discussed with the product life cycle in section 4.4 are relevant to the BCG matrix categories.

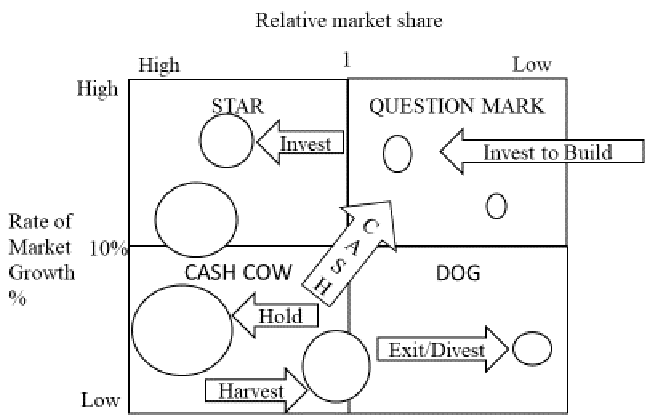

Figure 4.5 Strategies appropriate to categories of the BCG.

A rough matching can be made at a business level strategy in that the introduction stage of the PLC equates to the questions mark category, the growth to rising stars, maturity to cash cows, and decline to dogs (Hambrick et al., 1982). Figure 4.5 illustrates that initial investment is required to build market share to become the market leader. Once the market becomes mature, the cash cows provide the cash to invest in question marks and rising stars to replace the cash cows once these begin to decline.

4.5.2 Uses of portfolio analysis

Balanced portfolio

The prime objective is to achieve a balanced portfolio, that is, to ensure that the company has new products that can replace the old products as they begin to lose their market appeal or technology begins to make them obsolete. It emphasizes the importance of monitoring the environment, particularly the competitive environment, and evaluating the potential impact of changes on the profitability and cash generation properties of product combinations.

Assess trends over time

Portfolio analysis can be used to assess trends over time to monitor the impact of the strategies being adopted. For example, are the question marks turning into stars? What is happening to the market growth rate? Have the stars maintained the market share to become cash cows?

Assessing the potential of strategies within the portfolio

The analysis can be used to test the risk of various strategies by undertaking scenario analysis, or a "what happens if?" style of analysis, to examine the impact on the overall balance of a portfolio if certain strategies are adopted for different products or business units. Used over time, this can encourage organizational learning as the impact of various strategies is monitored and evaluated.

Competitor analysis

Information about the competitors' products and market share needs to be gathered as part of the analysis, which makes it possible to use portfolio analysis as part of competitor analysis, that is, to gain an understanding of the strength of a competitor's portfolio of products. It can help to formulate an organization's strategy, which makes portfolio analysis a useful tool to monitor potential competitors via trend analysis, as small competitors can often grow to pose a significant threat.

4.5.3 Further considerations of using BCG analysis

As with all models and frameworks, it is important to note that running a business is not necessarily a precise science and that care needs to be exercised when interpreting the information provided by the models. Just as decisions should never be taken based purely on the numbers, decisions should never be made based on using one model in isolation.

Possible synergies between products

There is the potential to miss possible synergies between products. Consideration needs to be taken of the existence of complementary and substitute products within the portfolio when formulating strategy. It can affect the timing of product launches and withdrawals from the market. Scenario analysis and experience aid the strategic decision-making process, emphasizing the need to monitor the mix of products, and purchases of product combinations, regularly.

An underlying assumption that high market share is always good

Assuming that achieving a high market share is the ultimate aim can send the wrong message to nonfinancially aware managers. They may push sales at any cost rather than selling to profitable customers. Also, high market share does not necessarily lead to high profits as markets can be extremely competitive with low margins. Similarly, it could be that it is possible to make a reasonable profit from a small market share. It is also worth remembering that market share is not the only indicator of success.

High volumes of data required

A potential drawback is the need to acquire data about market share and competitors' products. If an organization has a large volume of products, it requires high amounts of data to be collected. For this reason, it is often only practical to undertake the analysis for key brands. However, the use of technology and external information that is available in electronic format can help alleviate the information overhead.

4.5.4 Financial controls and accounting techniques

The financial controls and accounting techniques that are appropriate for each product category on the BCG can be linked to the critical success factor of each stage.

Question marks

The critical success factor for products in the question mark category is to develop and launch new products into the market successfully. It requires investment in new product development, the control of that investment, and the evaluation and approval of the business case for new products. Investment appraisal techniques (see section 8.5) are a crucial part of the business case and evaluation phase. The investment appraisal included within the plan will not only include targets for the initial investment in operational capability, but also marketing spend, sales, costs to serve, and time frames for critical stages.

The accountant will be involved in monitoring the success of the product launch. They will also have been involved before this in evaluating the viability of the product at the development stage. The approval process may have included the use of techniques such as target costing (section 7.8) and life cycle costing (section 7.9), as well as strategic pricing (section 6.4). Activity-based costing (section 6.6) may be used to establish the cost of a product in relation to pricing strategies, or as part of target costing exercise to ensure a reasonable margin is made.

Rising stars

As the product moves to the star category, the critical success factor is growing the market share. The concept of investment appraisal is still highly relevant at this stage as further investments in marketing are made to increase the market share. The focus of the marketing spend switches from awareness advertising to building brand loyalty. The experience curve will begin to impact on costs as market share rises; therefore, the impact of costs needs to be carefully monitored.

While activity-based costing (ABC) may have been used at the question mark stage, as the volume grows more accurate data becomes available to estimate future activity levels, ABC can play a key role in helping to identify areas for improvements, and where the costs of activities can be reduced. ABC analysis can also be undertaken in conjunction with the analysis of the value creation system (section 4.9). The impact of promotional activity on margins needs careful monitoring to ensure that it does not jeopardize the future viability of the product by creating a perceived level of pricing that is not viable in the long term.

Competitive responses also require monitoring to retain market share. At this stage, it is important not to revert to a reactive strategy but to continue to evaluate the potential impact of increased investment on the future viability of the product and to maintain the balance of the portfolio. The potential impact of investment in one product on the balance of the portfolio could be considered via a form of "what-if" analysis.

Cash cows

The critical success factor of the cash cow category is to maintain the market share and margins. Here we are expecting a return on the total investment made to enable the product to achieve the dominant position in the market. The importance of maintaining the contribution (or gross margin) per product and customer profitability analysis (section 4.7) takes on more significance at this stage.

Dogs

At the dog stage, the critical success factor becomes minimizing the cost base with an emphasis on freeing up cash flow to invest resources in other products. The potential to find niche markets where the product could still provide a positive cash flow should also be investigated.

4.5.5 The Case of Nokia

In 2008 Nokia was a leading manufacturer of mobile phone handsets and provider of network infrastructure. The company operated within three divisions: Devices and Services, Here (digital mapping/location), and Nokia Siemens Networks (the provision of network infrastructure). In the Devices division, Nokia's phone lost market share as the development of the smartphone became the consumer preference. To compete with the smartphone, Nokia developed the Lumia range of products, which linked up with Microsoft to use the Windows Phone 8 operating system. The basic premise was that, as many consumers used a Microsoft operating system on their computers, linking it to the phone would be an attractive offering.

Nokia attempted to compete with the established smartphone providers by launching the Lumia 1020, which was described by reviewers as a digital camera with some phone features built-in. However, this was not as successful as Nokia had hoped, and the Devices division began to lose money, and market share continued to decline. The Network division was also seeing its markets becoming more competitive and, although still profitable, Nokia's sales had been relatively flat, causing a decline in market share. The Here division was the only division to show signs of growth in both sales and profits. The movement in their product portfolio between 2008 and 2013 could be represented, as shown in Figure 4.6.

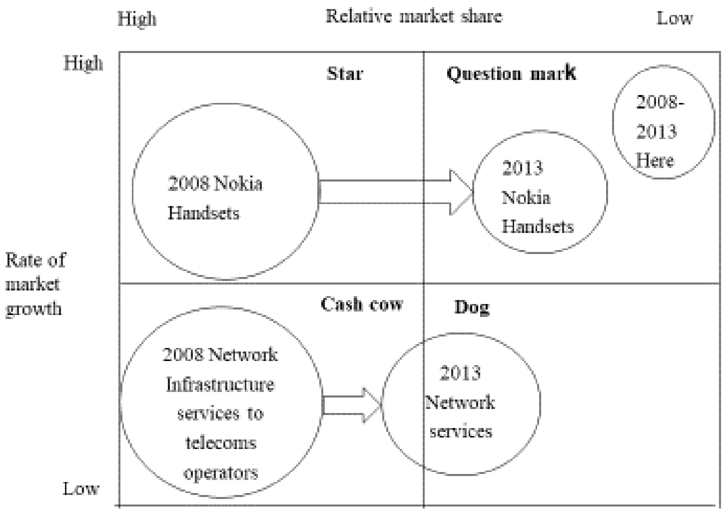

Figure 4.6 The Nokia portfolio of business units

Nokia reviewed its strategy and identified that its key strengths were technology development, brand recognition, and experience of the telecoms market. They sold the mobile devices business to Microsoft mobile and focused on the provision of network infrastructure and its digital mapping business. The company was restructured into two divisions to take advantage of its key strengths—a Networks division and an Innovation division, which included digital mapping. The Here business was sold in 2015. During 2015 they began talks with Alcatel-Lucent, a deal which was concluded in 2016, with the rationale that it would give them a strategic advantage in developing 5G technologies and build on Nokia's strengths in technology and innovation. A few years after this, Nokia re-entered the mobile market with a company called HMD-Global to build on the Nokia brand name. The success of strategies can only be seen over the long term. Still, the brief example illustrates Nokia taking decisions to redress the balance of its business and implementing a strategy that built on its key strengths.

4.6 Understanding customers

Active reading. Note the range of factors that are considered in understanding the customer base and informing marketing strategies to attract the most desirable customers. Part of that desirability is the profitability of the customers, but note why it might not always be appropriate to eliminated loss-making customers.

Video link [Customer profitability analysis](https://www.youtube.com/watch?v=4rUPXXQvXJM)
[https://www.youtube.com/watch?v=4rUPXXQvXJM]

It is often said that the customer is the most important stakeholder in any business. In business-to-business situations, however, the concept can be extended through to the end consumer. George (2003), a past CEO of Medtronic, a global leader in medical technology and services, stated that the most important customers are their customers' customers, that is, the end patient or the ultimate consumer or beneficiary.

While it is necessary to focus on satisfying customer's needs, organizations need to be aware that due to the different demands placed on the resources by different customers or customer groups, not all customers generate the same level of profit. Indeed, some may be unprofitable. Customer analysis includes looking at various aspects associated with meeting the needs of customers in a way that is mutually beneficial to both customers and the organization. Ideally, the company wants to retain profitable customers and lose, or reduce, the unprofitable ones. However, it is a marketing-led strategy that achieves this. It is not good public relations to tell one group of customers they are not wanted. Organizations can, however, change the focus of the marketing strategy so that they do not attract the unprofitable customers.

The following factors shown in Figure 4.7 enable a good understanding of customers and their potential to generate profit for the organization.

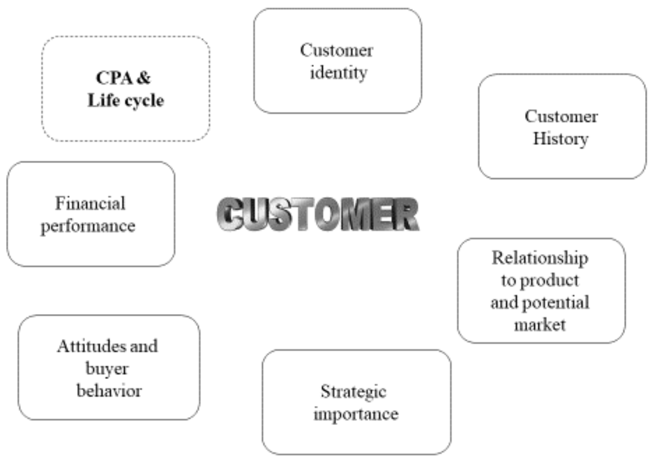

Figure 4.7 Aspects of understanding the customer

Customer identity

Identifying the customer is easier in business-to-business markets than in retail markets. Still, understanding who the customers are in terms of the status in the market place, the products they make or sell, and the size and potential for growth can be useful in establishing their potential for the organization. In retail markets, loyalty cards provide a valuable means of gaining insight into consumer buying behavior and understanding who the customers are.

Customer history

Analyzing customer history in terms of volume of purchases, ordering patterns such as regular or ad hoc, and how long they have been a customer helps to identify loyal customers.

The relationship of the customer to the product and the potential market

Understanding the relationship of the customer to the product is vital for developing relationships and in business-to-business negotiations. For example, what does the customer do with the product? Is it a component of their final product, and, if so, how important is it and how many other competitor organizations can supply it? If a customer is a key player in their market, other organizations may opt to follow their lead and also purchase the product or service. Thus, the customer becomes a strategic customer and significant for attracting other potential customers.

Strategic importance

There may be customers from which the organization makes little or no profit, but there are strategic benefits from continuing to supply the customer. For example, this may be due to aspects such as the kudos gained from supplying a prestigious customer, feedback provided that is highly beneficial for future product development, or a new customer that has the potential to develop into a highly profitable mutual relationship in the future.

Customer attitudes and behavior

Some customers can be very demanding, while others are less so. Demanding customers can be useful in driving improvements in both product and service levels but can also make these unprofitable if the costs to serve become prohibitive. The strategic importance of the customer will impact on the willingness to satisfy the demanding customers.

The financial performance of the customer

Customers that are growing and successful are likely to continue to be in business. Therefore, the aim is to develop an ongoing profitable relationship with successful customers. The payment record is also relevant here as this will impact on the working capital cycle and the cost of financing different customers. In business-to-business markets, it is common to undertake a financial evaluation of the customer to ensure that they can pay for the products. The reciprocal is also true in that supplier evaluation is common practice (see section 4.10). Certain retail products may also require a credit check before the sale is made, for example, purchasing an automotive vehicle, or white goods, via a personal hire contract.

Customer profitability

Ideally, the organization wants to ensure that its customers are as profitable as possible and hence will strive to minimize the costs to serve. Analyzing customer profitability leads us into a detailed discussion of what many authors consider to be a strategic accounting technique but has been popular among marketing managers for many years.

4.7 Customer profitability analysis (CPA)

Active reading. Note the link between marketing and the use of CPA. Think about the need for accountants and marketers to work together and make notes on how the technique of CPA is used strategically. Also, note the reasons why it is not just a case of dropping unprofitable customers.

The marketing concept and customer-centric approach have been recognized in the marketing literature for many years (Bell and Emory, 1971; Jobber and Ellis-Chadwick, 2012). It was not until around the 1990s that the importance of customers, or more significantly customer profitability analysis (CPA), began to appear in the accounting literature (Bellis-Jones, 1989; Foster et al., 1996; Hoque, 2003; Ward, 2016).

Performance management frameworks, such as the balanced scorecard, include metrics associated with the customer perspective (Kaplan and Norton, 1996, 2005), and Kaplan and Cooper (1998) promote using activity-based costing as a means of allocating costs-to-serve to customers in CPA. But despite the use of the words *profitability* and *costs-to-serve*, McManus and Guilding (2008) found in their review of the accounting and marketing literature that coverage in the accounting journals was little more than fledgling. Detailed coverage of CPA in mainstream accounting journals is still relatively sparse compared to the marketing literature. It is, however, frequently described as a strategic management accounting (SMA) technique (for example, in Guilding et al., 2000; Cadez et al., 2005; Cinquini and Tenucci, 2007).

The fact that customers yield different levels of profit, and that some customers are unprofitable, is widely accepted. Indeed, some studies have identified that 20% of customers can generate as much as 225% of total profits (Cooper and Kaplan, 1991) or that 60% of customers can generate two to three times the total profit, with the remaining customers consuming considerably more resources than the revenue they generate (Cokins et al., 1993). This phenomenon is often represented in the literature as the 'whale curve' (Kaplan and Narayanan, 2001), or as an 'inverted Lorentz curve' (Mulhern, 1999) or 'Stobachoff' curve (Storbacka, 2000). A curve created by progressively adding the profits generated by each customer from the most profitable to the least profitable (Figure 4.8).

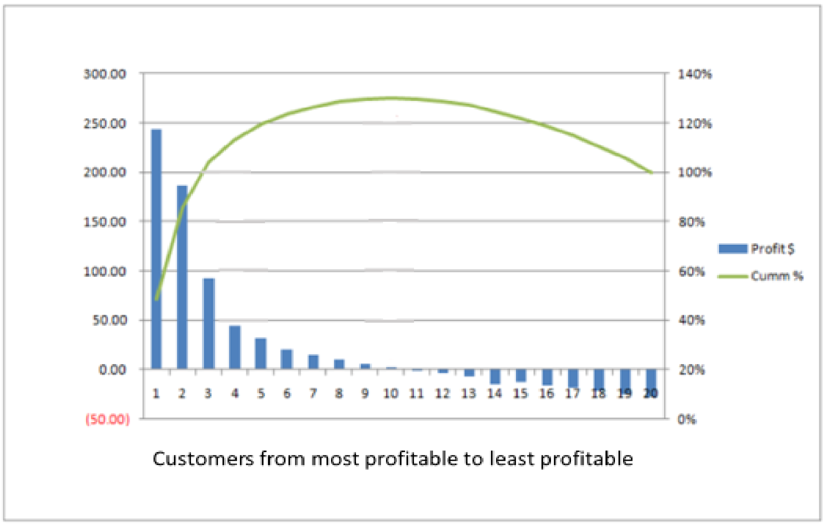

Figure 4.8 Whale curve showing cumulative profits from most profitable customers to the least profitable customers

Understanding the relative profitability of customers allows management to act to improve the overall profitability of the company (van Raaij, 2005). It is not, however, just a case of dropping the unprofitable customers. In some regulated industries, this may not be an option. Therefore, managers need to find ways of improving profitability, for example, by developing new products for specific market segments or changing purchasing behavior (McManus, 2007). Kaplan and Cooper (1987) highlighted that new and growing customers might be unprofitable initially, but then become profitable as the relationship develops. It is also suggested by Epstein et al. (2008) that unprofitable customers may have a hidden value such as influence or knowledge, a phenomenon that Horngren et al. (2000) refer to as unexpected revenue generation.

By using CPA van Raaij et al. (2003) point out that managers can identify opportunities in strategic marketing management, revenue generation, and cost management activities. According to Kumar et al. (2004), CPA can aid managers to develop relationship-marketing strategies targeted at the most profitable customers, and as part of a customer relationship management (CRM) system attempt to influence customer behavior, customer acquisition, retention, satisfaction and hence overall profitability (Swift, 2001; Boulding et al., 2005; Ngai, 2005). The objective of the strategies adopted would be to lift the whole whale curve, but also to flatten the curve after it begins to dip.

Previous studies of CPA have been explored in the existing literature with the reviews by McManus and Guilding (2008), Bates and Whittington (2009), and Roslender and Hart (2010), providing good coverage of the literature, for further study.

4.7.1 CPA – the what and why

Active reading. Note the strict basis on which costs-to-serve are allocated to customers and how using another accounting technique, activity-based costing (ABC), in conjunction with CPA aids the analysis. Also, note that there are often practical difficulties that need to be overcome in applying the techniques.

In its simplest form, CPA is the difference between the revenue generated by a customer or customer group, minus the costs-to-serve (Ward, 2016). An example of a customer profitability report is shown in Table 4.2.

Table 4.2 Customer profitability analysis report

	$	$	
Sales revenue from actual product mix		267,000	100%
Less sales discounts		(1,000)	
Net invoice amount		266,000	
Less sales returns and allowances		(2,000)	
Net sales revenue		264,000	
Less direct product costs		(132,000)	
Product contribution		132,000	49.4%
Less customer costs:			
Order processing and cost of invoicing	(1,500)		
Sales visits	(5,000)		
Cost of dealing with returns	(500)		
Distribution costs	(15,000)		
Cost of customer-specific promotions	(6,000)		
Costs of holding customer-specific inventory	(2,000)		
Cost of financing of outstanding receivables	(5,000)		
Costs-to-serve	(35,000)	(35,000)	
Customer contribution		97,000	36.3%

Ideally, the CPA should be carried out by directly allocating costs to customers or customer groups. However, some costs, such as administration costs in raising invoices, deliveries, and so on, can be assigned to customers. Still, the acid test is whether supplying the customer or customers, changes the cost. In other words, the question that determines whether the cost is allocated to customers or not, is: If the organization stops supplying the customer, or customers, is the cost still incurred and remains unchanged? If the answer is yes, then the cost should not be allocated to customers. For example, it would not be appropriate to allocate part of the marketing manager's salary to customers as this is unlikely to change. The chances are that a marketing manager will still be employed even if no customers are attracted. The idea is to include only those costs that can be allocated on some meaningful basis to customers and not merely apportioned on some arbitrary basis. Apportioning costs across customers detracts from the analysis. Only those costs that causally relate to the customer or customer group should be allocated.

Murphy (2005) suggests that costs-to-serve can usefully be grouped and classified as product costs, selling costs, relationship costs, and business (or sales) sustaining costs. The use of activity-based costing (ABC) (Kaplan and Cooper, 1998), and later time-driven ABC (Anderson and Kaplan, 2004), is promoted as being an appropriate technique to enhance CPA due to the ability to allocate the costs-to-serve to customers using an appropriate activity as the basis. (See section 6.6 for a discussion of ABC). Using ABC does not, however, provide the answer, nor does it reduce costs. Instead, it provides information that aids understanding of the relative customer profitability by raising questions as to why some are more profitable than others (Shea et al., 2012) and facilitates better-informed decision making to improve the profitability of customers (Searcy, 2004).

The marketing literature includes many examples of CPA being calculated using ABC demonstrating the versatility of the technique in the service and manufacturing sectors and its varied use by marketers. For instance the hospitality industry (Noone and Griffin, 1999; Guilding et al., 2001; Dalci et al., 2010; Hajiha and Alishah, 2011); banking (Storbacka, 1997; Zaman, 2008); restaurants (Raab et al., 2009); paper industry (Shea et al., 2012); order handling industry (Helgesen, 2007); and manufacturing (Smith and Dikolli, 1995; Rahman and Ghafeer, 2014). There is a danger, however, that the reporting of CPA glosses over the practicalities of ABC linked to CPA.

The fact that much of the data required to undertake a CPA (and ABC) analysis will not automatically roll off the accounting system and, to conduct the analysis regularly, will require changes to the procedures, responsibilities, and information systems (van Raaij et al., 2003). Indeed, Cooper (1991) suggests that the initial analysis is often undertaken outside of the conventional information systems as a stand-alone exercise. The ideal approach would be to incorporate the analysis into routine reporting, but this can be more time-consuming and problematic in the short term, which deters management from investing the effort to establish the necessary systems.

To use ABC and CPA strategically involves estimating and forecasting costs and activity levels, unless undertaken retrospectively, which means it is not necessarily a precise tool, due to the element of estimation involved. Also, the complexity of customer behavior in dynamic markets can add to the difficulties of incorporating results into marketing planning (Wang and Hong, 2006). For these reasons, Ward and Ryals (2001) argue that the implementation of CPA requires an iterative approach to understand the real implications for the customer base fully, and this inevitably increases the demands on resources in terms of time and effort, and commitment on the part of management (Cardoş and Cardoş, 2014).

An added complication was identified by van Raaij et al. (2003) in that the results of a CPA analysis may well be met with disbelief if the analysis produces information that is different from management's expectations. Managers often have a feeling for which are the most profitable customers. When the detailed analysis shows that their 'gut feeling' is incorrect, they do not believe the accounting figures often criticizing the findings. It is, therefore, important that managers are actively involved and supportive of the exercise when undertaken for the first time (Noone and Griffin, 1999). There is an educational role to be played by the marketing and accounting staff here in ensuring that managers understand how the analysis has been derived and its implications for decision making.

4.7.2 Calculation of CPA using activity levels

Active reading: Note the process of calculating CPA and think about how the data required could be collected.

Understanding the relative profitability of customers is not just about ranking them in order of sales value. First, we need to ascertain the net revenue received from each customer by adjusting for discounts, returns, and the financing cost. The cost of financing customer debt, the time it takes customers to pay for the goods or services, is often overlooked. Undertaking a calculation to estimate how much interest could be saved on a bank overdraft, or indeed earned if the bank balance is positive and in an interest-bearing account, could justify the salary of a credit controller to manage the customer receivables.

Figure 4.9 shows the underlying data for three customers and the calculation of net sales income.

Customer profitability analysis	Month of January		
	Customer A	**Customer B**	**Customer C**
Sales at list price $	500,000	480,000	520,000
Sales discount	5%	2.5%	2.5%
Payment terms	2% within 14 days	Net 30 days	Net 30 days
Sales returns and allowances	0%	2.50%	5%
Actual payment time taken	paid within 14 days	paid on time	paid 1 month late
Bank interest rate is 2% p.a.			
	$	$	$
Total sales at list price	500,000	480,000	520,000
Less: Sales discount	(25,000)	(12,000)	(13,000)
Net invoice value	475,000	468,000	507,000
Less: Sales returns and allowances	0	(11,700)	(25,350)
Net sales	475,000	456,300	481,650
Less: Cash discount	(9,500)	0	0
Interest earned/(incurred)	408		(792)
Net sales income	465,908	456,300	480,858
	Interest earned on early payment ($475,000 - $9,500) x 16/365 days at 2%		
	Interest incurred on late payment $481,650 x 30/365 days at 2 %		

Figure 4.9 Calculation of net sales income by customer

Next, we need to look in detail at the costs-to-serve the customers. Activity-based costing (see section 6.6) provides the means to allocate costs to customers on a meaningful basis. Activity-based costing methods help to identify the cost of each activity undertaken to serve the customer. Figure 4.10(a) shows the activities and the cost of each activity calculated using ABC.

Customer profitability analysis		
	Cost driver	Rate
Costs-to-serve		$
Order taking	cost per order	15
Order processing	cost per order	10
	cost per item	0.5
Delivery	orders loaded	25
	per mile	1
	total delivery miles	1
Express delivery	per order	75
Customer visit by sales executive	per visit	100
Monthly billing - invoice	per invoice	3
Statement reminders	per statement	5
Sales returns	per item returned	50
Special item inventory	per product line	100

Figure 4.10(a) Cost of each activity using ABC principles

The next step is to identify the number of times each activity is used to service each customer. The analysis is shown in Figure 4.10(b)

	Month of January		
Activity volume	**Customer A**	**Customer B**	**Customer C**
number of orders	10	20	40
number of orders	10	20	40
average number of items	160	40	20
number of orders in month	10	20	40
delivery miles per order	30	10	20
delivery miles per order	300	200	800
number of express deliveries requested	0	4	10
number of visits	4	2	1
monthly invoices	1	1	1
number of reminders	0	0	1
items returned	0	20	30
number of special items held	20	0	1

Figure 4.10(b) Analysis of activity by customer

The costs to serve can now be calculated by multiplying the volume of activity (Figure 4.10(b)) by the rate (Figure 4.10(a)). The result is shown in Figure 4.10(c)

		Customer A	Customer B	Customer C
Costs-to-serve		$	$	$
Order taking	taking orders	150	300	600
Order processing	processing orders	100	200	400
	processing lines	80	20	10
Delivery	loading	250	500	1,000
	delivery cost	300	200	800
Express delivery	delivery cost	0	300	750
Customer visit by sales executive	cost of visits	400	200	100
Monthly billing - invoice	invoicing	3	3	3
Statement reminders	reminders	0	0	5
Sales returns	dealing with returns	0	1,000	1,500
Special item inventory	holding costs	2,000	0	100
Total costs-to-serve		3,283	2,723	5,268

Figure 4.10(c) Analysis of cost-to-serve by customer

The analysis in Figure 4.10 (a), (b) and (c), indicates that customer C is relatively more costly to serve than customer A or B. The analyses of costs-to-serve aids the management of customers and enables the organization to take a proactive approach. For example, looking at the reasons for customer returns may indicate that more information needs to be provided about the products before sales to inform the customer buying decisions. It may be that certain elements, such as special deliveries could be charged directly to the customer. Changing a policy, however, requires consideration of the impact on all customers. Nevertheless, the analysis provides the basis for the organization to have the discussion. Using ABC also highlights costly activities and can encourage managers to look for efficiency improvements to reduce the cost of the activity.

Finally, we bring the elements of the analysis together to identify the profitability of each customer. Notice that we also include the cost of goods sold in the calculation shown in Figure 4.11, as the product mix taken by each customer can influence their profitability. For example, a customer that purchases only the high margin products will provide a higher contribution before the costs-to-serve are deducted. Therefore, it is necessary to look at the margin earned from the products, as well as the sales incentives and the costs-to-serve.

Customer profitability analysis	Month of January		
	Customer A	Customer B	Customer C
Customer profitabilty	$	$	$
Net sales proceeds	465,908	456,300	480,858
Less cost of goods sold	(349,431)	(319,410)	(355,835)
Contribution	116,477	136,890	125,023
Contribution percentage of sales	25%	30%	26%
Less costs-to-serve	(3,283)	(2,723)	(5,268)
Net contribution per customer	113,194	134,167	119,755

Figure 4.11 – Customer profitability analysis.

If the customers are ranked using the list price values from figure 4.9, the ranking is C, A, and B. When using CPA, taking into account adjustments to list price, and the costs-to-serve, the ranking becomes B, C and A. The analysis can be used to develop strategies to attract more customers that are profitable but also to develop strategies to change customer behavior for the benefit of both parties. For example, working together on inventory management could benefit both customer and supplier by reducing inventory management costs for the customer and costs-to-serve, such as delivery costs, for the supplier.

4.7.3 Benefits of CPA

Active reading. As you read, think about whether the benefit is strategic or operational. Strategic benefits will have long term implications for the customer portfolio, whereas operational will have a more immediate impact on costs and profits in the short term. Do you think that some of the benefits will have both operational and strategic implications?

CPA facilitates a better allocation of resources towards the more profitable customers (Zhang et al., 2010; Holm et al., 2012). Also, the marketing effort can be targeted more effectively (Mulhern, 1999), and linked to market segmentation, for example, demographic analysis of customers or sales via marketing channel (Storbacka, 1997; van Raaij, 2005). It aids the development of marketing strategies to target the acquisition of profitable customers. Or, conversely, strategies to discourage the unprofitable customers, which could, for example, be as simple as setting a minimum order quantity or charging for delivery on orders below a specific value, which passes the cost onto the customer.

CPA helps to identify opportunities for cost management, revenue management and pricing policies, and strategic marketing management (Gurău and Ranchhod, 2002; van Raaij, 2005; Cugini et al., 2007; Al-Mawali et al., 2012). It enables the firm to learn more about the behavior of individuals and groups of customers (Chang et al., 2012). Understanding the customers better and the cost implications can aid negotiations. Indeed Chang et al. (2013) argue that sharing of information with customers can result in benefits for both parties in improved supply chain costs and better joint outcomes of the negotiations. Understanding the financial impact of losing key accounts can aid negotiations as the organization has a better understanding of the limits within which it can negotiate a profitable relationship with the customer, or even knowing when to walk away.

Kumar and Rajan (2009), however, point out that preferred and loyal customers often know their worth and can be more demanding. Still, the benefits of being an attractive customer may lead to an enhanced understanding of the customer-supplier relationship (La Rocca et al., 2012), and as a result lead to more profitable relationships in the long run (Dwyer et al., 1987; Ellegaard and Ritter, 2006). CPA can highlight the cost of obtaining new customers and the benefit of retaining existing customers as retention rates and acquisition costs can be considered to establish the benefit of various marketing strategies. This knowledge is built up over time by close monitoring of the marketing strategy and its impact.

CPA allows the organization to make decisions as to the level of service provided, or functionality required by customers. It may be that demanding customers are continually requesting changes to the standard product, making both the product and the customer unprofitable. Understanding the relative profitably of the customer base can aid the decision as to whether to charge a higher premium for changes to products or additional levels of customer service. This policy must be balanced with the strategic importance of the customer to the organization in that it may be that other more profitably customers are attracted to the organization because of a key customer, who happens to be very demanding. The overall impact on the profitability of the organization of losing the customer needs evaluating before making such policy decisions.

Improved knowledge and understanding of the customer base can create a source of competitive advantage (Dikolli et al., 2007; Heitger and Heitger, 2008) and, as Christopher et al. (1991) suggest, be used to help target customers with whom the firm will wish to build a long-term relationship.

4.7.4 CPA as part of CRM

Active reading. It has already been noted that one of the difficulties of CPA is the data collection for allocating costs-to-serve to customers. Note, however, that what might initially be a benefit has a flip side and can create issues for managing customers. It is always good to develop a healthy skepticism and to challenge statements. The technique does not necessarily provide an answer but aids understanding so that decisions are made on a more informed basis. Many authors suggest CPA should not be used in isolation but should be part of a broader customer relationship management (CRM) system.

Roslender and Hart (2010) highlight the danger of attempting to quantify what is a relationship primarily built on loyalty and mutual benefit. They suggest that customer relationships and their involvement with product and service offerings could be determined via informal methods that more directly involve the customer, such as sales staff and feedback via social media. The inherent danger of the CPA is that the relationship is being constructed from an internal perspective without the input of the customers. CPA puts a numerical value on the relationship from the perspective of the organization.

To fully understand customer behavior, a range of information is required, both quantitative and qualitative. Vaivio (1999) describes a case in which a “quantified customer” is represented by a set of twelve metrics. The concept of the quantified customer was used by management for developing and subsequently evaluating improvements to operational aspects of servicing customers. Vaivio goes on to describe how the sales function used its experience and knowledge so that a “sales customer” perspective emerged.

The management recognized that the sales staff had an intimate understanding of customer specifics and problems that were better able to inform operational decisions concerning the servicing of customers. Bruns and McKinnon (1993) and Zaman (2008) highlight that managers have access to a range of information based on past decisions and interactions, and the CPA should ideally be part of the information that feeds into a more comprehensive customer relationship management (CRM) system. Ellegaard and Ritter (2006) suggest it is not just about profitability, but the nature of the relationship, or as Gronroos (1990) notes, CRM is about developing a long-term relationship for mutual exchange and fulfillment of promises.

Undertaking CPA can promote a customer focus within the business, and it is suggested that by aligning customer strategy and business processes, customer loyalty and profitability will improve (Zeithaml, 2000; Rigby et al., 2002). Kumar and Rajan (2009), however, note that managing customer loyalty does not always amount to increased profitability, as loyal customers can be more demanding. Customer loyalty results in increased profits due to repeat purchases, lower acquisition costs, knowledge and experience, and positive messages (Zeithaml, 2000; McManus and Guilding, 2008).

Loyalty programs, however, are more often linked to the past and are based on spending and frequency rather than profitability (Reinartz and Kumar, 2003), and perhaps, as Fornell (1992) suggests, only loyalty of profitable customers increase profitability. Nevertheless, customer satisfaction and loyalty enhance financial performance (Nelson et al., 1992; Anderson et al., 1994; Ittner and Larcker, 1998; Bernhardt et al., 2000; Yeung and Ennew, 2000; Smith and Wright, 2004). In contrast, Tornow and Wiley (1991) and Wiley (1991) found no specific or direct link between customer satisfaction and financial performance, but much of the evidence suggests it helps.

The key to using CPA is to develop and implement relationship-marketing strategies targeted at the most profitable customers (Kumar et al., 2004; Payne and Frow, 2005). Relationship-marketing is the essence of CRM: influencing customer behavior, customer acquisition, retention, satisfaction, and profitability (Swift, 2001; Ngai, 2005) or acquiring, retaining, and partnering with selective customers (Helgesen, 2007).

CRM can make the business more profitable by formulating a value proposition and developing mutually beneficial relationships with the most valuable customers (Gronroos, 1990; Andon et al., 2001; Malthouse and Blattberg, 2005). Johnson et al. (2012) found, however, that in business-to-business relationships, firms were better at developing strategies to retain customers with profit potential than they were at acquiring new customers based on their potential to yield future profits. Bearing in mind that some customers may have strategic value, managers need to recognize the importance of managing the customer base, that is, managing a portfolio of customers (Paltschik and Storbacka, 1992; Ford et al., 1998; Wang and Hong, 2006). There may be occasions, as previously discussed, when it is beneficial to service unprofitable customers. It is, however, just as important to maximize the total profit from the customer portfolio.

4.7.5 Dimensions of the CPA calculation

Active reading. Note the different dimensions of the CPA. Think about where each would be appropriate. The choice of the CPA dimension is often related to the practicalities and availability of sensible data. Also, note that the CPA can be performed on historical data, as well as estimated future data. Think about the usefulness of both. There is no guarantee that historical data reflects the future, and there is a degree of estimation and probability involved in taking a future perspective.

Guilding and McManus (2002) outline four dimensions of CPA, within the overall umbrella of customer accounting.

- Customer profitability analysis - the historical analysis of individual customers.
- Customer segment profitability analysis - for example, where analyzing historical data for different customers may not be practical, but revenues and costs-to-service identifiable segments are possible.
- Lifetime customer profitability analysis - the calculation of the accounting profitability of a customer, calculated on an accruals basis over its lifetime. The calculation takes into account previous years and as well as future transactions.
- Valuation of customers - described as the net present value (NPV) of the future cash flows, rather than profits, related to the customer, and may consider as part of the calculation any customer-specific assets required to service the customer.

Many companies look at the relative profitability of customers but often only use gross profit (Shea et al., 2012; Pitcher, 2015), which can be for practical reasons, for example, lack of data or resources to undertake an ABC analysis of costs-to-serve. While the benefits of ABC are well documented (Kaplan and Cooper, 1998), it is still the case that much of the information required for ABC, and indeed for CPA, is not collected as a matter of routine by the information systems used (Cardoş and Cardoș, 2014). However, merely using gross profit can provide misleading results, as the vital element of the costs-to-serve is missing. The use of ABC, however, is only justified if the cost/benefit in terms of resources and effort required of undertaking the exercise is favorable (Smith and Dikolli, 1995). The dilemma is that this might not be known until after the analysis has been completed.

The marketing literature refers to customer lifetime value (CLV) as a popular measure among marketers (Berger and Nasr, 1998; Wang and Hong, 2006; Estrella-Ramon et al., 2013). It is said to be the upper bounds of expenses to acquire a new customer (Bonacchi and Perego, 2012; Shea et al., 2012).

There are different levels of sophistication that marketers use to calculate customer lifetime value. At its simplest, it is:

> Estimated customer revenue over the lifetime, minus the costs of acquiring the customer and costs-to-serve, equals customer lifetime value.

A simple variation might be:

> (Average order value) x (Number of repeat sales) x (Average retention time) x (Number of customers) = Total customer lifetime value.

Suppose you run a hair and beauty shop. On average, customers spend $75 per visit and visit six times a year. On average, customers stay loyal for about three years before drifting away to competitors or a new experience. The average customer lifetime value is \$75 x 6 x 3 = \$1,350. The lifetime value can provide a guide as to how many customers are required for a viable business, known as the breakeven point, and can be used to set targets for increasing retention rates and a budget to spend on attracting and retaining more customers.

There are variations to the calculations of customer lifetime value as marketers frequently apply a discount factor to arrive at a net present value of the CLV. The term lifetime value echoes the concept of economic value, which occurs when returns are greater than the cost of capital (Doyle, 2007). Therefore, the lifetime value is the present value of the future cash flows (Mulhern, 1999; Pfeifer et al., 2005) discounted at the company's cost of capital over a reasonable planning horizon (Andon et al., 2001). Whether previous and future cash flows are included can depend on the stage in a customer's lifetime that the calculation is undertaken, and the number of prior years included and for how long the future period is extended can vary. For example, it may be appropriate to include previous and future cash flows or profits where the early years of the relationship have resulted in losses, but the future potential of the customer promises positive returns. Sensitivity analysis could be undertaken to test how long it will take to recoup the initial losses.

Unfortunately, there can be confusion between the definitions of customer lifetime value and the valuation of customers. The definitions applied to customer lifetime value and valuation of customers provided by authors such as Guilding and McManus (2002) and Lind and Strömsten (2006) provide some distinction. Customer lifetime value deals with profitability and includes previous and future years. The valuation of customers deals with future cash flows and calculates the net present value. Nevertheless, variations do occur, and customer lifetime value is frequently calculated using cash flows and net present value. CPA is not static but ideally should be carried out at intervals to ensure that relationships are moving in the right direction. The key to the analysis is to do what works best for the organization, so long as the limitations and implications are understood.

Marketers prefer the concept of CLV as it is future-oriented (Reinartz and Kumar, 2000). In contrast, simple customer profitability is retrospective (Pfeifer et al., 2005) and, although historical data is useful, the potential relationships between actions and effect can only affect the future (Jacobs et al., 2001). Therefore, although the past can inform us, marketing strategies need to be formulated with the future in mind. It is, however, recognized that anticipating future cash flows and profitability is inherently difficult (La Rocca et al., 2012). To help with this, Pfeifer and Carraway (2002) suggest using a probability-weighted average of the set of potential cash flows, and Damadoran (2002) indicates the analysis can be refined by adjusting the discount rate to reflect the degree of riskiness of the cash flows associated with the customer. It can also be beneficial to undertake a sensitivity analysis to test how the various estimates affect the outcome.

A typical formula applied, and cited in marketing literature, to calculate the CLV is:

$$CLV = \sum_{t=1}^{t=n} \frac{(M_t - c_t)\ x\ (retention\ rate_t)^{t-1}}{(1+i)^t} - Initial\ acquisition\ cost$$

M_t = the margin (revenue less marginal product cost) from a customer in year t
C_t = any additional costs-to-serve (and retain) the customer in year t
i = cost of capital (often the weighted average cost of capital)

The calculation assumes several factors can be ascertained or estimated. For example, the probability and cost of retaining customers over time (included in the costs-to-serve), by expending customer-sustaining costs (such as sale visits and entertaining), and the profit margin earned by each customer and the costs-to-serve all need to be estimated. The discounted cash flows derived from the lifetime of the customer are compared to the acquisition costs. (See section 8.5 for a discussion of discounted cash flow and net present value). By analyzing the costs and activities over time, the organization is building the experience to make the model more accurate.

This method of calculating customer lifetime value can be particularly useful in organizations that can provide a series of different products during a customer's lifetime. For example, banks seek to acquire customers during their student years and retain them through employment to retirement. The bank can encourage these customers to access a range of different products and services at various stages of the customer's lifetime, thus increasing their profitability. Based on this information, it is possible to determine the level of marketing investment to spend on the acquisition of new customers to ensure an adequate return on investment. The acquisition and retention of customers are becoming more difficult in many markets today, where the rate of customer churn is quite high. For example, customers are more willing to switch broadband providers, mobile phone services, and energy providers, and even banks, and therefore estimated the retention rate needs to consider the customer churn rate. The functions included within the formula need to be adjusted to consider the changing behavior of customers and the market.

It is worth noting that other measures more akin to accounting ratios have been suggested; for example, the return on customer-oriented assets (Rust et al., 1995). Or, in instances where asset utilization by various customers or customer groups can be ascertained, such as in plant hire businesses, a return on investment can be calculated (Devine et al., 2005) by taking the profits as a percentage of the investment in assets used by customers.

4.7.6 When are different dimensions of CPA appropriate?

Active reading. Note that Lind and Strömsten suggest that when an organization serves a range of customers, more than one dimension of CPA might be appropriate. Think about the need to establish a system to collect the data regularly if the customer portfolio consists of different types of customers. Also note that although a framework can be developed to illustrate the kinds of relationship, the dimension of CPA and the type of relationship, is by no means mutually exclusive.

Lind and Strömsten (2006) undertook an analysis to help explain why companies use different forms or dimensions of CPA. They recognized that businesses might have different resource interfaces with different customers. They discuss the interfaces of transactional, facilitative, and integrative, identified by Ford et al. (1998), to which they add connective. By linking this with the technical and organizational types of resources identified by Håkansson and Waluszewski (2002), they demonstrate how different forms of customer accounting are appropriate for different customer-relationships.

The technical interface can be thought of as the degree of interaction between the two parties regarding the product. The organizational interface is the degree to which the parties make structural or organizational changes to their operations to facilitate the exchange. Figure 4.12 illustrates the mix of interfaces and dimensions of the CPA that might be appropriate. The framework adapted from Lind and Strömsten is useful to aid the understanding of the types of customer relationships that can exist and the potential use of CPA.

Organizational interface to customers

Technical interface to customers	High	Low
High	Integrative (Collaborative) customer relationship Lifetime profitability analysis Or Valuation of customer	Connective (Strategic) customer relationship Valuation of customer Analyze from a strategic perspective
Low	Facilitative customer relationship Customer profitability analysis	Transactional customer relationship Customer segment profitability analysis Or Lifetime profitability for a typical customer

Figure 4.12 Forms of customer profitability analysis and customer relationships (Adapted from Lind and Strömsten 2006)

Transactional

Put simply, customers who buy standard products via standard marketing channels will have a classic arm's-length transactional customer relationship. An example might be a retail shop where customers buy products off the shelf, pay for the goods, and go. In this instance, individual customer profitability analysis that would be possible in a business-to-business relationship is challenging. It might, however, be possible to undertake a review of the relative profitability of customers who shop in-store compared to those who buy online. The in-store and online split is a crude example, and there may be some overlap of customers who shop online and occasionally go into the store, and vice versa. However, the idea of being able to find meaningful segments where customers can be grouped might provide some useful information on which to develop a future strategy to increase profitability.

Business-to-business organizations may find that customers fall within segments of low volume users, medium volume users, and high volume users. The segmentation of customers also enables a profile to be developed of a typical customer that falls within each group. In this case, it would be possible to calculate the historical customer segment analysis and potentially the customer lifetime value of a typical customer and to develop marketing strategies to attract more of the same.

In retailing, the use of loyalty cards can be used to ascertain the historical purchasing habits of individual customers to target promotions for future purchases. This data could be used to create a profile of a typical customer within a market segment using a revenue value generated via data mining from loyalty card data, deducting the cost of goods, and using an estimate of the average costs-to-serve. The results of this analysis can be projected to estimate the lifetime profitability of a typical customer profile and used to inform marketing strategies. Therefore, it could be argued that where historical customer profitability is possible, either individually or in a segment, a future projection could be undertaken to produce a CLV. Using this information as part of customer relationship management can be a powerful tool for marketers.

Facilitative

A major customer who regularly buys a large number of standard products may stimulate the company to invest in organizational resources to facilitate the exchange and will have a facilitative relationship. For example, the supplier of components to a major automotive manufacturer and assembler may develop production or distribution facilities close to its customer to facilitate the supply of parts to the customer on a just-in-time basis. The facility may also benefit other customers. As there is an identifiable relationship between the organization and the customer, individual customer profitability would be possible.

In situations such as this, the organizational change may take place after the acquisition of the customer and is made with the principal benefit accruing to the supplying organization. There is also a case for undertaking CLV as once the relationship is established, the focus would be on maintaining the relationship and improving the benefits for both parties.

Collaborative

In cases where the customer and supplying organization work closely together, for example, to develop products denoting a high product interface, and the company dedicates specific organizational resources to satisfy these customers, they will have an integrative (or collaborative) relationship. As there is an investment in resources to facilitate the trade between the two parties, and an exchange of information to customize the products, this should be a long term relationship.

It is appropriate to treat this as an investment in a long term stream of potential revenues and undertake a customer lifetime calculation, or if future cash flows only are included, the valuation of customer form is appropriate. The investment in creating the organizational interface would be treated as part of the acquisition costs. Ideally, the organization would seek to leverage the product development for the benefit of all customers, thus spreading the investment. Historical CPA could be undertaken on the individual customer basis to monitor the profitability of the relationship.

Strategic

Where, however, the customer is demanding as to the product specification but has little interest in a close working relationship, the decision becomes one of assessing the nonfinancial benefit of the customer. The resources used to satisfy these strategic customers potentially are high, but the financial rewards are low, due in part to the high costs-to-serve. There need to be other benefits derived from the relationship such as kudos, referral, or knowledge acquisition; hence the term strategic can be attached to this type of customer, as the benefits are more intangible but have strategic importance to the company. In these instances, there needs to be an assessment of the long-term strategic advantage, as well as the potential profitability of the customer.

It would be appropriate to use the valuation of customer format and calculate a net present value based on future cash flows and the investment costs to acquire the customer. If the NPV is low or negative, an assessment needs to be made as to whether the management team feels that the strategic benefits arising from the relationship exceed the negative NPV. A benefit could be other revenue derived from customers that are attracted to the organization due to the presence of the strategic customer in the portfolio. In this case, the negative NPV acts as part of the acquisition costs of other customers.

Strategic customers can be beneficial for organizations, even if they are unprofitable. For example, a provider of accountancy training provided courses that were publicly available for several major accountancy bodies, such as ACCA and CIMA. Many of the students taking these courses worked in commerce and industry. Courses were also provided for the Chartered Institutes. These were mainly offered to the large and medium-sized chartered accountancy firms involved in audit and consultancy who put their training contracts out to tender. These were won, or lost, under intense competition from other providers of accountancy training. The large accounting firms have significant buyer power. They are very demanding as to when courses run, and often set targets for the pass rate of their trainees achieving the externally examined professional qualifications. The margins on these contracts were extremely low but worth competing for, even if a loss was made, as being known as the preferred trainer of a major accounting firm attracted many smaller firms to send their trainee accountants to the trainer. These smaller and more numerous contracts were more lucrative due to the relative power being with the trainer.

Subjective nature of CPA

It is essential to realize that the CPA is not a precise science. Subjective decisions are inevitable. Customer profitability analysis is just a part of the more comprehensive customer analysis, and other factors should be considered, such as the strategic importance of the customer. Decisions should never be made based on numbers alone. The critical point is that organizations gain a better understanding of the business and the customer base from having undertaken the analysis.

Ideally, organizations should be providing profitable products to profitable customers, so merely conducting customer profitability analysis does not mean that the direct product profitability analysis is ignored. Every product does not necessarily carry the same margin due to operational costs or functionality. The trick to a successful strategy is not just attracting customers, but encouraging them, via marketing and promotions to purchase higher-margin products. Understanding the customer illustrates the link between product profitability, customer profitability, operational decisions, and marketing strategies.

4.8 Customer portfolio management

Active reading. Note the strong links between marketing and accounting. CRM is about using historical data collected about the customer to manage the future relationship. Think of how the different dimensions of CPA could be used within the CRM.

In their paper, Lind and Strömsten (2006) provided two case studies, Ericsson (telecoms) and Holmen (paper industry), and in so doing, they recognize that businesses have a mix of customers that may have a different relationship with the company. Hence, organizations may use more than one form of CPA. As noted at the beginning of the section on understanding the customers (section 4.6), it is vital to develop good relationships with profitable customers. The use of customer relationship management software is becoming widespread in many organizations, and linked to customer profitability analysis can be an immensely powerful strategic tool.

Although not strictly an accounting technique, CRM is about understanding and maintaining positive relationships with customers (Blattberg and Deighton, 1996) to enhance overall profitability. Supplier-customer relationships contain a complex array of formal and informal exchanges (Stein et al., 2013) and as such requires a range of information, not all of which will be financial, but should include the knowledge and expertise of those in contact with the customer (Roslender and Hart, 2010; Stein et al., 2013).

CRM is about gaining insight into customer preferences and behavior (King and Burgess, 2008) to develop mutually beneficial relationships (Gronroos, 1990). CRM systems should be designed to capture as wide a range of information as possible (Verhoef and Lemon, 2013). Although Roslender and Hart (2010) suggest that the customer should be involved in this process, Arbough and Sexton (1997) identified that customers could be reluctant to share information with suppliers. This reluctance is particularly true of business-to-business relationships where negotiation is involved; however, Chang et al. (2013) identified that better mutual outcomes could be achieved through sharing information.

Interestingly, Stein et al. (2013) identified that few firms use CRM data at an executive level in the organization, but that it is structured and prepared to provide tactical guidance for managing individual customers and sales opportunities. Different types of relationships, however, require different strategies and tactics, and therefore, as noted by Johnson and Selnes (2004), firms are managing a portfolio of customers. As such, firms should be striving to optimize the risk and return of their customer portfolios by structuring the mix of customers to reduce vulnerability and volatility of cash flows (Verhoef and Lemon, 2013). Firms should be seeking to maximize value from a diverse portfolio of customers (Tarasi et al., 2011).

Portfolio analysis can be undertaken using a range of factors for axes such as volume purchased and frequency of purchase. Customer profitability and key attributes of customers can be used to review a portfolio of customers. Using customer profitability as one of the axes can prove to be highly informative, especially when set alongside a measure that relates to customer potential.

A customer rating can be ascertained for each customer based on a range of factors, which could include:

- Loyalty—a reference to past purchases and number of other suppliers with which the customer does business
- Core market—the industry sector it is in, that is, is it in a core market serviced by the organization?
- Finance—a reference to payment record and financial strength
- Value-added factor—is there potential for the organization to add value to the customer?
- Growth potential—the potential of the customer to grow and generate future sales
- Degree of support required—how demanding they are as a customer? Are they a high-maintenance customer?

These factors can be given a score of between 1 and 5 and then combined to create an overall weighted rating of between 1 and 5 for the customer. Weightings as to the importance of each factor can be applied as determined by the organization. The position is then plotted on a grid with the axes denoting profitability and customer rating as illustrated in Figure 4.13

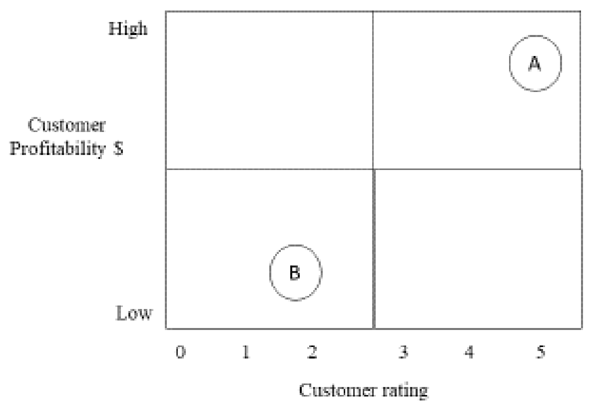

Figure 4.13 Customer-positioning grid

The rating produced has an element of subjectivity, but the grid provides a basis for discussions, such as how the position of customer B could be improved. Or whether customer B has potential, and it is worth investing resources to nurture the customer to achieve a higher position on the grid. Ideally, the organization needs to target other customers with similar characteristics to customer A. The analysis can indicate profitable segments within a market to which customer A belongs. This analysis can also be used as a motivational tool for sales personnel to improve the customer profitability associated with individual sales staff who take responsibility for specific customers, such as key accounts. This form of analysis links the customer profitability analysis with the information gained via the CRM systems.

Research supports the view that CRM systems and customer profitability analysis can generate better firm performance (Gupta et al., 2004; Ryals, 2005). Developing a better understanding of how the firm can add value to customers could lead to changes in the way the organization manages its customer portfolio (Verhoef et al., 2007).

Learning activity. Thinking about the different forms of customer profitability analysis (individual customer profitability, customer segment profitability, customer lifetime profitability CLV, strategic customer valuation), decide which kinds of analysis would be beneficial for the following organizations. [Note: in some cases, more than one form may be appropriate if the organization potentially serves more than one type of customer.]

- A large pharmaceutical organization that sells volume purchases to HMOs (Health maintenance organizations) and primary health providers.
- A retail organization selling household goods on the high street and online.
- A small retailer outlet selling convenience goods to passing customers.
- A management consultancy providing services to international clients.
- A financial institution providing retail banking services to individual private customers via high street branches and online, as well as corporate customers.

4.9 Value Creation System

Active reading. Note how the value creation system forces a customer-focus on developing strategy. It is a conscious decision on the part of the organization how it configures its value creation system with the objective of gaining a competitive advantage. Think about whether this requires an outside-in approach (focus on market needs and positioning), or could it be used to support an inside-out (resource-based) approach to strategy? Also, note how the activities create costs and understanding how these interactions can aid the management of cost within the value chain.

Video link Value creation system

[https://www.youtube.com/watch?v=qRCP1j1nLM0]

Customers are prepared to pay more for the goods and services than it costs to produce or provide them, due to the value they perceive is added by the organization. Customers are essentially paying for the value-added. Organizations choose to undertake certain activities to add value to the customer. Considering the value creation system and how value is added to the end customer ensures that the organization adopts a customer-centric approach.

Porter (1985) suggests that competitive advantage arises out of how organizations manage and perform activities. It is not just the individual activities but how well the organization manages the interdependence and linkages between activities that make added value more than just the difference between purchase cost and selling price (Dekker, 2003). Nor is it just a case of considering the organization's activities, but the activities through the whole supply chain need to be considered.

It is, as authors such as Christopher (1998) and Lambert and Cooper (2000), among others, suggest that it is no longer organizations that compete, but the entire supply chain or value system. These supply chains can now be extraordinarily complex, and the design and management of value systems require as much attention as the internal activities, for example, organizations such as Walmart and Amazon deal with many different suppliers. Dell prides itself on the built to order system, and Zara operates a quick response manufacture system. The management of the interdependence and relationships within the whole value system is now a source of competitive advantage.

Shank and Govindarajan 1992) describe the core idea behind the value chain as the chain of activities that runs from basic raw materials to end-use customers. These activities can be separated into strategically relevant segments to understand the behavior of costs and the potential source of differentiation. Notice that this includes the interrelationships between suppliers and customers. The way supplies and customers interact with an organization can impact on the cost, and degree, of differentiation within the product or service.

This aspect is captured more tellingly by Holweg and Helo (2014). They used the term *architecture* to describe the design of large network structures of value chain partners, for which objectives and processes can be set for the whole network. They go on to define the value chain architecture as the network structure consisting of suppliers, manufacturers, distributors, and customers designed in such a way as to maximize the value creation for the focal firm. This links closely to the growing use of the term business ecosystem in that organizations now need to consider the much wider field of operations than perhaps they did in the 1980s, as illustrated in Figure 4.14.

Figure 4.14 Value system as part of the business ecosystem

They also put forward five determinants of a value chain architecture as:

1. Value provision – a focus on value creation activities, not just internally but through the whole value system
2. Operational footprint – from where does the organization operate and source supplies? It emphasizes the relationship with the task environment and ensures that the current and future provision of resources is considered as well as current and potential future markets. Think of fit as the extended enterprise.
3. Risk management – focusing on supply chain risk within the system. This has implications for risks arising from the task environment and links to supplier evaluation (section 4.10), and can also extend the thinking to potential threats emanating from the general environment that could affect the supply chain.
4. Order fulfillment and product customization – focusing on the customer interface, how does the organization respond to customer orders? This focuses on the front end of the supply chain and works backward from the customer. Dell's built to order, and Zara's quick manufacturing systems are examples of starting with the customer and designing a flexible system to respond to customer-led demand.
5. Buffering mechanism – the mechanism in place to deal with uncertainty. This can include environmental scanning, ensuring that systems can adapt to changes, and simple strategies such as holding inventory of raw materials and components, which links to risk management and the costs of holding inventory, or dual sourcing.

Thinking about the organization as a value creation system offers a model of corporate activities that can be used to analyze what an organization does and hence improve where it can add value to the customer. It helps to ascertain how value is created, how costs are caused, and how competitive advantage can be gained. A critical factor in its application is that the objective is to add value to the customer and hence helps to develop a customer focus on the organization's activities.

A typical value chain is illustrated in Figure 4.15.

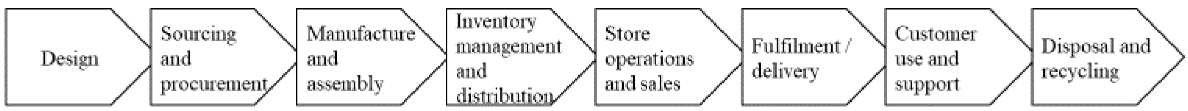

Figure 4.15 A typical value chain

Porter (1985) identified that the activities could be separated in primary (physical) activities and support activities. The primary activities encompass inbound logistics, operations, outbound logistics and marketing and sales, and after-sales service. The support activities include procurement, human resource management, technology development, and firm infrastructure. A modification of Porter's value chain is illustrated in Figure 4.16. The representation adopts a system view of inputs, processes, and outputs, and recognizes that marketing and sales can be the start point of the operations. For example, in Dell's build to customer order, or Zara's quick response manufacture system, it is sales that drive the manufacturing process rather than following the storage of finished goods inventory in outbound logistics.

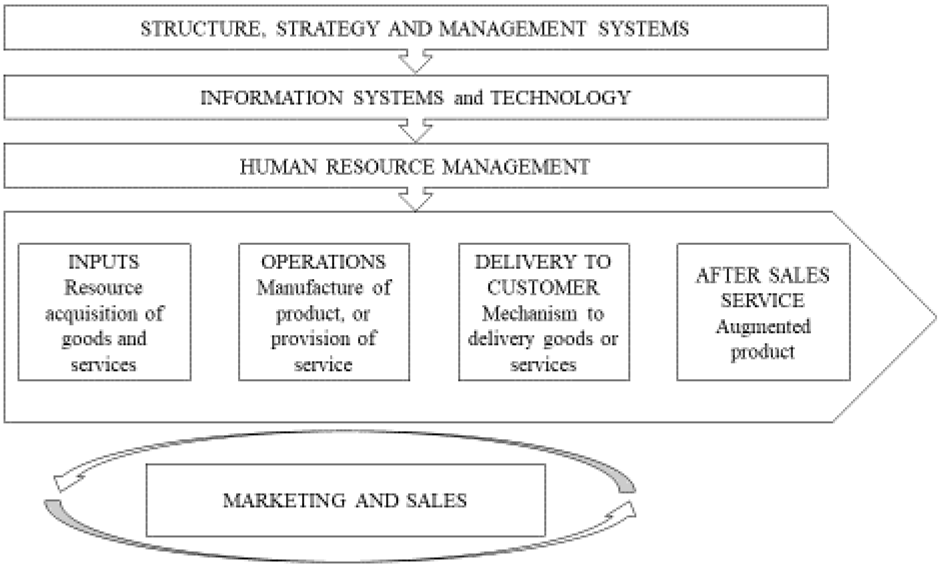

Figure 4.16 The value creation system

The inputs and resource acquisition involve the activities of receiving, handling, and storing of inputs required to undertake the operations of the organization.

Operations involve the activities of converting inputs into outputs such as manufacturing an automotive vehicle. In the service sector, operations are represented by the activities involved in providing the service, for example, in the provision of the meal in the restaurant, the provision of a haircut, carrying out an audit, or providing consultancy advice.

The delivery to the customer activity involves storing the product prior to purchase if appropriate and its distribution to customers. It is essentially getting the product or service to the customer. Therefore, in the case of a venue, such as a theatre, night club, or university, the location is a vital element of the delivery activity. In the case of an entertainment venue, a critical factor in its success is whether the customer can get to and from the place easily? Therefore, transport links are an essential consideration within delivery to the customer.

Marketing and sales involve informing the customers about the product or service, persuading them to buy it, and facilitating their ability to do so. It will include decisions concerning marketing strategy and means of selling, such as whether to use a physical sales force or online systems. In cases where products are manufactured to customer order, marketing, and sales impacts on the acquisition of resources as much as the final product. It, therefore, spans the activities of inputs from suppliers, operations, and delivery. Indeed, in a customer-focused business, the marketing and sales activity determines the level of production required.

After-sales service includes activities such as installing products, repairing, upgrading, and so forth, including customer care programs. Anything that is provided after the customer has received the main product or enjoyed the service. In marketing terms, this is referred to as augmenting the product. There is often a fine line between the product produced from operations and what is classified as the after-sales service, that is, when does the operations element stop?

Functions such as human resource management, IT systems, and the organization's structure, strategy, and management systems support the primary activities. These activities support all the activities undertaken to provide the product or service to the customer.

The way an organization chooses to configure its activities can provide the means for competitive advantage (Porter, 1985). An organization can decide which activities it needs to undertake to satisfy customer needs. For example, organizations may opt not to provide any after-sales service.

Part of the design of the value system is in managing the interlinkages and ensuring that all activities undertaken do actually add value. It is of no benefit if the organization can manufacture products to customer orders within a short time frame if suppliers are not able to provide the same flexibility. The way around this might be to hold high levels of inventory, but this incurs an unnecessary cost, which could be reduced by better management of the inputs and management of the supply chain, perhaps via the use of technology and just-in-time systems.

There is also an information flow around the value creation system, and this needs to be facilitated. If the organization's competitive advantage is to manufacture to customer demand the information flow from the customer, via the marketing and sales activities, backward through the value system, even to the extent of procuring components from suppliers, needs to be highly efficient. It requires an effective management system potentially supported by technology. Therefore, the competitive advantage is in the efficient operation of the whole value creation system.

Several authors have focused on the accounting aspect of the value chain, where the focus is on managing the costs. Shank (1989) discussed these under two main headings. Structural cost drivers and executional cost drivers, shown in Table 4.3.

Table 4.3 – Structural and executional costs in the value chain

Structural cost drivers – influences the cost base	**Executional cost drivers – firms ability to manage itself**
Scale – of investment in capacity, etc.	Workforce commitment to continuous improvement
Scope – degree of vertical integration	The use of Total Quality Management
Experience – accumulated experience	Utilization of capacity
Technology – process technology employed	Product design and formulation
Complexity – the breath of the product lines	The exploitation of external linkages

Structural cost management refers to the cost management activities aimed at changing the cost structure of the firm in a way that is consistent with the overall strategy of the organization.

Executional cost management refers to the cost management activities aimed at improving performance for a given strategy.

Henri et al. (2014: 269) suggest that the purpose of value [supply] chain management is “to align a firm’s resources and associated cost structures with (i) short-term tactics through cost reductions (executional cost management), and (ii) long-term strategy through the re-engineering of the value chain and production of a different cost structure (structural cost management)”.

Hergert and Morris (1989) highlighted a difficulty of managing costs through the value system in that most accounting systems are good at collecting costs related to products, cost centers, and responsibility centers but less good at collecting costs associated with value chain activities. They do note that activity-based costing (ABC) can be useful in allocating costs to customers (see section 6.6). However, studies were undertaken by authors such as Al-Omiri and Drury (2007), Askarany and Yazdifar (2007), and Askarany et al. (2010) that indicate that ABC has not been widely adopted. ABC has its difficulties in execution, which include its complexity, compatibility with existing systems, and difficulty in the observability of results, which makes it is hard to report promptly in a way that managers can readily understand. Interestingly, Hergert and Morris (1989) quote an article from Fortune by Keichel (1981) who found that when formulating corporate strategies 70% of the analyst’s time was devoted not to obtaining external data (about the industry, market shares, activities of competitors and so on), but to reworking internal accounting data. It strengthens the case for developing strategic management accounting systems within organizations, but also the need for accountants to work closely with other professionals and be involved within the strategic management process.

4.9.1 Using value creation system analysis

Active reading. Note the uses of the value system analysis. Following on from section 4.9, continue to think about whether this requires an outside-in approach (focus on market needs and positioning), or could it be used to support an inside-out (resource-based) approach to strategy and identifying a potential competitive advantage?

The analysis of the value creation system can be used to identify potential activities that could be outsourced. It, therefore, sets up strategic debates within the organization. It could be said that if an activity is not critical, then it could become a candidate for outsourcing. This is also said of nonvalue-adding activities.

There is a trend toward outsourcing the basic accounting functions to specialist firms as they are nonvalue adding but essential activities. In other words, the focus is on performing the activities as efficiently and cost-effectively as possible. However, consider an organization such as Flying Flowers. It is an organization that began delivering fresh flowers to customers within a region known as the Channel Islands off the coast of the U.K. and covered a relatively narrow geographical area. As the organization expanded its global reach, the requirement for exceptional logistical capabilities to deliver fresh flowers became more strategic as it formed the basis of the competitive advantage, that is, fresh flowers for next-day delivery. As the expertise of the organization lies in growing flowers outsourcing the logistical activity to a specialist logistics organization made strategic sense and was more cost-effective.

Each organization configures the value creation system to suit its own needs. The competitive advantage may come from how the value system is configured, which activities the organization chooses to do itself, and which it chooses to allow others to do, even the customers.

Consider the case of Dell (Figure 4.17), an organization that sells computers online with the marketing proposition of tailoring products to meet the specific requirements of customers, and IKEA (Figure 4.18), an organization that predominantly sells flat-pack home furnishings from out-of-town stores. IKEA has stores around the world, three of which are in the U.S. (at the time of writing).

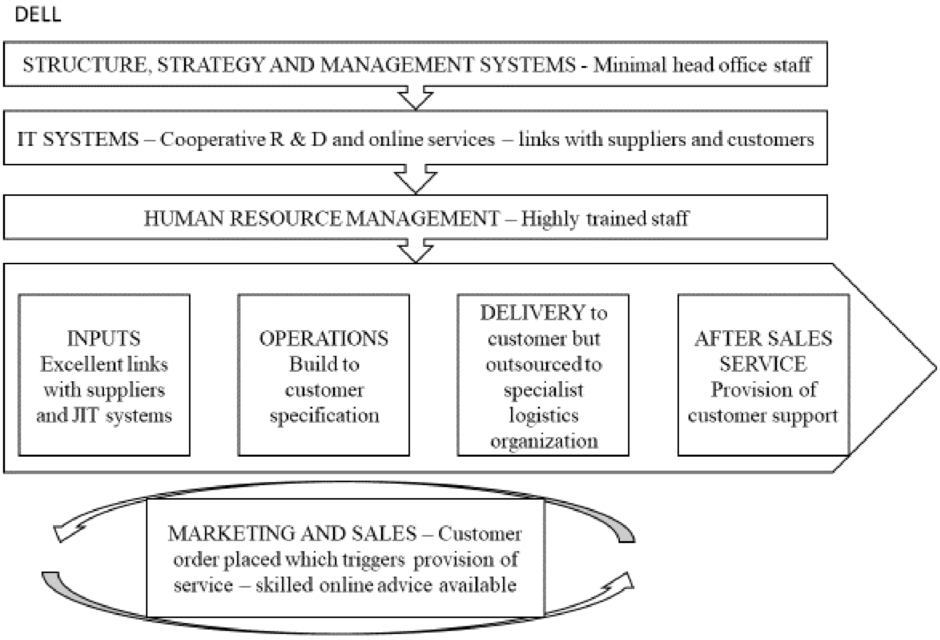

Figure 4.17 DELL value system

The principle behind Dell is to add a significant amount of value to the customer while keeping costs low. In contrast, IKEA encourages the customers to do as much as possible for themselves, to keep costs and prices low. In the early days of IKEA, the customer did nearly all of the work, including selecting products for themselves, taking the product home, and assembling the product. Over the years, IKEA has responded competitively by offering these services but as an optional extra for an additional cost. This development of services retains their core market offering to customers who want a value for money product but also enables them to attract customers who are prepared to pay extra for the additional added value.

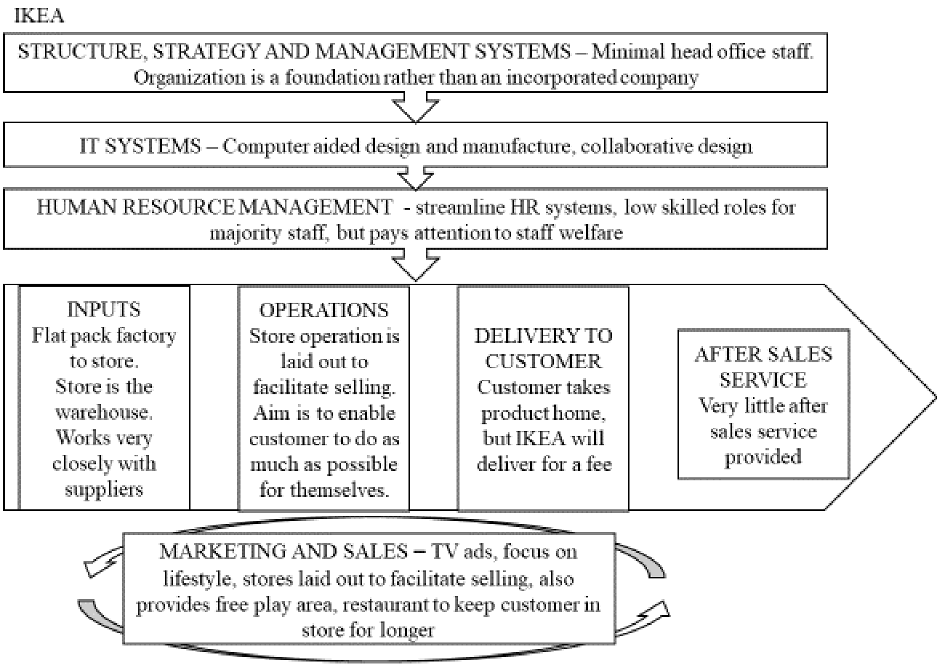

Figure 4.18 IKEA value system

As the value creation system is concerned with activities, ABC can be used as part of the analysis. The activities become the cost drivers and are the result of strategic choices made by the management of an organization, which determines its underlying cost base. It can, therefore, be used to support the development and maintenance of the competitive strategy of cost leadership or differentiation; that is, all activities undertaken should support, and be consistent with, the overall competitive strategy of the organization.

As every organization has a value system of its own, managing the supply chain involves managing an extended value system in that each organization is adding value to the customer. The way an organization adds value through the extended value system is an essential aspect of creating a competitive advantage, so supply chain management and customer relationship management become more critical to today's organization.

Learning activity. Think of an organization with which you are familiar, either as a customer or employee. What sort of activities do you envisage would be undertaken within each element of the value system? Think about how it might add value to the product or service.

[Note: this objective of this activity is not to create an accurate analysis of the value system of an organization but to think about how value can be added to benefit the customer. The choice of organization is to give a focus to your thought process.]

4.10 Supplier Analysis

Active reading. Note that it is the whole supply chain that needs managing, which makes suppliers just as significant as customers.

The benefit of using the concept of a value creation system is that it is customer-focused; that is, it focuses on adding value to the customer. However, as discussed in section 4.9, the value creation system embraces the supply chain, and therefore it is worth taking a few moments to understand the significance of suppliers. Ensuring certainty of supply can be a key factor in satisfying customer demand. One way to provide some assurance is to dual-source. However, Wu et al. (2010) found that unless this is done with the knowledge of all parties, it can put pressure on the customer-supplier relationships and affect the behavior of both buyers and suppliers. They found this is particularly so if there is a focal dyadic relationship (interaction between a pair of individuals) with one preferred supplier, and negotiations are held with alternative suppliers. It is more beneficial for suppliers to know that they are part of a supplier network that satisfies the demand of the buyer.

Choi and Kim (2008) identified that in situations where there is a recognized network of suppliers, they are more likely to cooperate and work together to find solutions to supply chain problems. Kraatz (1998) noted that in strong inter-organizational networks of suppliers and buyers' local norms develop that govern the interactions and methods of operation. Customer and supplier relationships are built on trust, and Carey et al. (2011) found that when a strong relationship exists between the suppliers and customers, they are more likely to share complex information to help the relationship work.

The sharing of information through the supply chain aspect can benefit suppliers as well as buyers. Krolikowski and Yuan (2017) found that when suppliers were working with a concentrated customer base, which reflected strong customer-supplier relationships, as well as high switching costs, suppliers were more willing to invest in research and development and innovation to improve the products and inter-organizational operations. However, they did note that where strong customer buyer power existed, suppliers were less willing to invest as there was less certainty of a return on the investment.

Shi and Yu (2013) found that a range of studies showed that there is a positive relationship between good supply chain management and financial performance. The concept of the business ecosystem supports the idea that close cooperation between its members benefits all parties. It is incumbent on the members to work together for the mutual benefit of the members in adding value to the end customer and consumer. There does, however, need to be some regulation and control of the system for it to work effectively.

A typical three-stage process for supplier selection and monitoring includes supplier appraisal, approval, and monitoring.

4.10.1 The Three Elements Related to Supplier Analysis

Active reading. Note the contribution that the management accountant can make to the activity of supplier analysis.

Supplier Appraisal

Supplier appraisal is an assessment of a potential supplier's capability of meeting and maintaining the key elements contained within the contract, such as quality standards, delivery commitments, quantity, and price. It would usually be carried out by those in the organization concerned with purchasing the products or services to be provided. Bhutta and Huq (2002) note that selecting suppliers often involves considering multiple aspects of the supplier's capabilities, and hence they tend to be multi-criteria decision-making problems. It is usually not just the price and quality, but a range of other factors that are taken into the account when making the decision, which can include qualitative aspects such as a supplier's commitment to ethical and sustainability practices, or proven ability to adapt to environmental change.

There is a role for the accountant in that a financial assessment of the supplier is undertaken to ensure that it is financially sound and capable of delivering the goods or services. The reciprocal is also true in that suppliers will often conduct a credit check of the customers to make sure that they can pay for the goods and services supplied. It is common practice in business-to-business relationships and consumer markets for purchases made on credit. There is, therefore, an opportunity for the exchange of information between parties early in the relationship.

Supplier Approval

Once the supplier has been assessed and found to be capable of meeting the contract requirements, the supplier is placed on an approved supplier list. If they are a preferred supplier, this can enhance the relationship. Still, as noted by Wu et al. (2010), if they are part of a dual sourcing or an alternate supplier network, this should be stressed at the outset of the relationship.

Supplier Rating

The performance of the supplier is monitored against the terms of the contract. An index can be created that ranks suppliers in terms of performance to determine the preferred supplier list. Large organizations often maintain an approved supplier list to which suppliers may be seeking access. In terms of supplier/buyer power relationships, it is worth remembering that an organization is a supplier's customer, and they may well have undertaken customer profitability analysis to determine the status of the organization as a customer. Therefore, there is a concept of making an organization attractive to suppliers to obtain a good working relationship (La Rocca et al., 2012). The mutual benefit can be a determining factor in the success of a profitable long-term relationship for both parties (Gronroos, 1990; Andon et al., 2001; Malthouse and Blattberg, 2005)

As with customers, it is possible to rate the supplier performance and ascertain the strategic importance of the relationship. Typical factors of performance that can be monitored include aspects such as delivery performance and price, but also the ability of the supplier to respond to changes in demand. Referring to the value creation system, if an organization's competitive advantage is based on its ability to respond to customer demand, the same degree of responsiveness and flexibility needs to be present in the supply chain. One way to deal with this might be to dual-source with the suppliers' full knowledge of why the organization chooses to do so. It can be the basis of deciding the strategic importance of various suppliers and the development of supplier relationships conducive to both parties. The balance of negotiating power becomes relevant in the discussion about price and contract terms. Developing strong supplier relationships can mitigate against supplier power, as discussed under industry analysis in Chapter 2 of this learning resource.

Other aspects of supplier analysis can include an estimate of the likely costs of a breakdown in the supply chain. World events such as natural disasters, or the pandemic of the covid-19 virus in 2020, can affect an organization that relies on global supplies by disrupting the supply chain. The number of suppliers that can provide a product or service, the degree of competition in the demand and supply market, for example, for scarce resources, and substitution possibilities all impact on the supplier relationship and accountants can aid the evaluation of the strategic and financial risk these factors pose. More obvious aspects such as make or buy decisions, which could be the basis of competitive advantage, provide opportunities for accountants to contribute.

Supplier evaluation is situational, and there may be instances where it is imperative, such as in the negotiation of a service level agreement for an outsourcing contract. The service level agreement should include performance evaluation criteria as well as the terms of supply. Gulati and Singh (1998) suggest that hierarchical control mechanisms work effectively in interfirm relationships. These would include clear command structures, and authority systems, incentive schemes, standard operating procedures, dispute resolution procedures, and non-market pricing systems. The control systems employed, however, need to be consistent with the culture of the organization, and equally, a system of mutual benefit and cooperation can be appropriate.

The aspects that the evaluation focuses on will relate to the requirements of the relationship. Still, all appraisals will probably include issues such as finance, production capacity and facilities, information technology, human resources, quality, performance, and environmental and ethical considerations. Whatever the style of control that is adopted, the relationships do need some form of control, or the value system could breakdown and damage the end demand for the whole value system.

4.11 Financial Analysis

Active reading. Note the significance of financial performance in undertaking an internal analysis and resource capability audit. Financial performance can be the source of strengths and weaknesses in developing strategy, and access to finance can often be a restraining factor that limits the extent of strategy development.

One of the key areas in which the accountant can provide a substantial contribution to the internal analysis is in the assessment of the current and projected financial position and performance. It can be a source of both a strength and weakness and can have a significant influence on what strategies are adopted in the future and on the organization's ability to deliver or undertake the strategy in terms of financing the strategic initiatives. It is important to conduct a full analysis of the performance of the organization as a whole and of any business units that exist within the organization. This analysis can also be done on the major competitors as part of competitor analysis, where financial information is available to identify their financial strengths and weaknesses.

The basis of this analysis can be accomplished via financial ratio analysis. However, a more detailed analysis of product costs, product contribution, and customer profitability analysis should also be undertaken. The more detailed analysis is difficult for competitor analysis. Still, financial ratio analysis of competitors from the annual report and accounts is nearly always possible, certainly for competitors that are registered corporate entities. The analysis is not just a static analysis, that is, a review of one year, but an analysis over time to identify trends in performance and projections into the future. An organization's strategic plan will inevitably be expressed in financial terms and therefore establishing the likelihood of achieving the financial objectives, given the current strategy, and evaluating the impact of changes to strategy, is key to the strategic management process.

More information is provided on financial ratio analysis in Appendix B, Management accounting fundamentals. The ratios that are discussed, however, do not represent the totality of ratios that can be calculated but indicate typical high-level ratios that can be used to assess the financial performance of an organization or strategic business unit.

4.12 Summary

Management accounting can contribute to the internal analysis and resource capability aspect of the strategic management process in the following ways.

9Ms

Assisting in the evaluation of the 9Ms elements and the financial impact of addressing any shortfalls (for example, replacing plant and machinery, costs of recruitment and training of employees, arranging suitable finance, and evaluating the profitability of new products and markets).

Product life cycle

Ensuring that appropriate accounting techniques are used at each stage of the product life cycle and portfolio classification of products. Assisting in the development of new products via target costing and life cycle costing techniques and pricing (discussed in Chapter 7 of this learning resource).

Portfolio analysis

Evaluating strategies emanating from the portfolio analysis such as financing investment requirements, monitoring the profitability and cash generation properties of product combinations, and changes in the balance of the product portfolio.

Customer profitability analysis

Undertaking customer profitability analysis and working closely with marketing personnel to develop strategies to promote the acquisition and retention of profitable customers. Ascertaining and monitoring the costs and assisting in the development of strategies to enhance customer profitability across the whole portfolio of customers.

ABC and value creation system

Using ABC techniques to aid the analysis of the value system to ascertain where value can be enhanced and support strategies of cost leadership and differentiation (discussed in Chapter 6 of this learning resource) throughout the value system.

Supplier analysis

Assisting in the evaluation and monitoring of suppliers to ensure consistency with the overall competitive strategy of cost leadership or differentiation and working, where necessary, to reduce the incidence of supplier power (for example, assisting in negotiations with suppliers).

Financial evaluation

Evaluating the financial strengths and weaknesses of the organization and developing a financial strategy to ensure that the right amount of finance is available, at the right time and for the right cost.

4.13 Review questions

(1) Briefly discuss the purpose of conducting an internal analysis or resource audit as part of the strategic planning process.
(2) Outline and discuss typical areas of an organization that could be considered when conducting an internal analysis. You could use the 9Ms framework as a basis for the discussion.
(3) Discuss the stages of the product life cycle and the potential strategies that could be adopted at each stage.
(4) Discuss the management accounting techniques that could be used to aid the management of products during their life cycle.
(5) Critically evaluate the use of portfolio analysis as a strategic planning tool. You should explain the Boston Consulting Group matrix, the categories of the product, the uses, and the difficulties of the model.
(6) Discuss why it is important for an organization to understand its customers.
(7) Critically evaluate the usefulness of customer profitability analysis in maximizing the profitability of the organization. You should explain the process of customer profitability, analysis, and the benefits and drawbacks of using the technique.
(8) Discuss why is it useful to consider managing a portfolio of customers?

(9) Discuss the value creation system and why organizations need to consider the concept of added value through the supply chain.
(10) Why is it essential to consider supplier evaluation as part of an internal analysis?
(11) Discuss the contribution that management accounting can make to the internal analysis and resource capability audit of an organization.

4.14 Case study activities 4 – 7 - HW Inc.

The following activities relate to the case study in Appendix A of this learning resource. You may need to refer to the information contained in the Appendix to refresh your knowledge of HW Inc. Activities 6 and 7 require reference to information contained in Appendix A.

Case study activity 4 - HW Inc. Portfolio analysis

Boston Consulting Group portfolio analysis

Reece Jones, one of the independent members of the senior management team, has suggested that HW Inc. could use the Boston Consulting Group matrix to help assess its strategy at both company and store level. You have been asked to illustrate how the analysis could aid decision making about products and product groups within the company.

You have done a quick analysis and accessed the following information with which you could illustrate the principle behind the BCG portfolio analysis and how it might be used to aid decision making.

HW Inc. sells goods and services that can be categorized as: Home and Garden, Clothing, Electricals, Interior Design, and Financial Services.

You have worked closely with the marketing team at head office and ascertained that the sales of HW U.S., in relation to the total market, for the various categories in the U.S., is as shown in Table 4.4.

Table 4.4 Market share and market growth information

Category of goods and services	HW market share %	Market share of nearest competitor %	Market growth rate %
Home and Garden	15%	10%	12% - beginning to slow
Clothing	7.5%	10%	5% - and continuing at similar levels
Electricals	5%	4%	7% - but becoming highly competitive
Interior Design	2%	8%	30% - growth is linked to a trend among middle-aged couples
Financial Services	1%	5%	20% - looks as if this will continue, but the sector could become subject to increased government regulations

Other information provided on business units is as follows.

HW Inc. retail stores

The retail stores have not been as profitable in recent years as the market has become extremely competitive, and customers are becoming more sophisticated and demanding in their expectations. One way in which HW Inc. has attempted to compete is always to offer the latest products. This makes inventory obsolescence an issue. Judging the amount of inventory to hold to satisfy customer demand, without having massive inventory write-offs, can be difficult. Inventory management is a problem in the clothing market where products are seasonal, for example, summer range, winter range, and so on. This sector is also heavily influenced by the latest fashions. However, a new inventory management system is helping with the problem. The growth of the ‘click and collect’ service is working well and, along with online sales, is set to grow in the future in all product groups.

The use of concessions (companies that effectively rent space in the HW Inc. stores) also enables HW Inc. to provide a wide range of products to its customers. HW Inc. plans to try and increase the number of concessions in the next few years as it shares some of the risks between the partner companies. However, HW Inc. does not want to diminish the HW brand as they also plan to continue to develop and sell their “own brand” products. They also wish to retain their manufacturing capability as this provides a useful diversification from retailing and enables more control over the quality of certain product lines in which they have a manufacturing capability.

Clothing sales have been slowing in recent years, but the furniture sales are strong. The electrical goods market is competitive, particularly the audio-visual and kitchen aids ranges. The increased competition in the specialist electrical goods retailers has also hit the departmental stores such as HW Inc., along with the need always to offer the latest products highlighting the need for proper inventory management.

HW Inc. Interior Design

HW Inc. Interior Design has a range of corporate clients as well as retail customers. The design team copes with a variety of projects from single room design such as kitchen design for residential customers, to working with property developers and architects on both commercial and residential large-scale projects. They source products used in their designs from HW Inc. and a large number of other companies. They have a significant degree of autonomy over which products to recommend and are not necessarily tied to HW Inc. However, they always consider HW Inc. products and recommend them where they are suitable.

Dealing with several other companies helps the HW Inc. research and development team, who look after the HW Inc. product range, as the Interior Design division can gather and feedback information about the products of other manufacturers, and also customer trends. The Interior Design team are keen to expand their business and are looking to increase the number of corporate clients. In particular, they plan to target the state-owned and education sectors over the next few years. To do this, they will need to expand their design team and recruit additional staff with appropriate experience in those sectors.

HW Inc. Financial Services

The Financial Services division is seeking to increase the number of credit card customers over the next few years and is also planning to diversify into insurance products. The division already offers extended guarantees and insurance on products sold in the HW Inc. stores, particularly on electrical goods, such as fridges, washing machines, TVs, and computers. The management team is thinking of expanding into life insurance, travel insurance, car insurance, and home and contents insurance. It is a competitive market, but they believe that the volume necessary to breakeven on these products could be achieved if they can attract existing HW Inc. customers and build on the reputation of the HW brand. This will then provide a stable platform on which to expand the business in the future.

More recently, they have seen the administration costs increase, and the management team have highlighted this as an area where improvements could be made, perhaps via a benchmarking exercise. They also recognize that an increase in business will require an increase in qualified staff, and by adding a range of new products, it will create the need for additional training of the existing team.

HW Inc. product development and manufacturing

This division has seen material costs increase in recent years, and they are looking at the supplier relations to see if any savings can be made on the cost of materials. The division does not see a significant increase in business over the next few years but is seeking to maintain volumes at existing levels to retain the manufacturing capability, and within this to keep the product range up to date. This means replacing existing product designs with more up to date designs rather than developing entirely new product ranges. They see the next few years as being a consolidation of the division. Control of costs will be essential, and reviewing manufacturing methods is seen as part of that process, but they do not intend to spend a lot of new capital investment in plant and equipment. They feel that there is scope to improve in areas such as waste management, energy costs, productivity, and inventory management.

Activity requirements:

(a) Critically evaluate the usefulness of using portfolio analysis, such as the Boston Consulting Group (BCG) matrix, in developing strategies to manage diverse organizations such as HW Inc.

(b) Using the BCG matrix, analyze and comment on the portfolio of products and markets in which HW Inc. operates.

(c) Briefly outline the financial controls that could be used to monitor and assess products in each category of the BCG.

Case study activity 5 – HW Inc. Customer Profitability Analysis

HW Inc. has found that a successful strategy of entering new markets and establishing the brand name is via mail-order or online catalog shopping. This keeps overheads low while building the brand and testing the market before opening high street stores. HW Inc. adopted this strategy in some areas of Africa by marketing clothing and accessories via a catalog and flyers. This worked reasonably well, and several stores have since been opened, but the mail-order side of the business is still quite strong. However, the operations director has become concerned about the growing marketing, distribution, selling, and administration costs of this activity.

The management team of HW Africa examined its customer ordering patterns for the past year and identified four different types of customers, as illustrated in Table 4.5. Much of the marketing is based around sending catalogs and flyers to all its customers several times a year. Orders are taken by mail, over the telephone, and more recently online. However, because of poor internet services in some areas, phone and mail orders are still used by a large number of customers. HW Africa maintains a Freephone number for customers to use when placing orders over the telephone, and, in keeping with its customer service promise, HW Africa prides itself on the personal attention it provides shoppers who order over the phone. All purchases are paid for by cheque or credit card. HW Africa has a very generous return policy if customers are not satisfied with the merchandise received. Customers use a pre-paid delivery service to return their unwanted items, which is paid for by HW Africa.

For ease of calculation, costs shown in Table 4.5 are provided in $ amounts, but the local currency applicable to the specific country is quoted on the local websites.

Table 4.5 Sales and costs to serve for different types of customer

	Customer type 1	Customer type 2	Customer type 3	Customer type 4	Customer type 5
Initial sales	$1,000	$1,000	$2,500	$3,000	$1,500
Number of items returned	0	4	2	14	2
Dollar value of items returned	0	$200	$500	$1,500	$250
Total number of orders per year – note each order is delivered separately	1	6	4	12	2

Table 4.5 continued

Analysis of the total number of orders by type					
	Customer type 1	Customer type 2	Customer type 3	Customer type 4	Customer type 5
Number of telephone orders per year included in total	1	0	0	12	0
Number of mail orders per year included in total	0	6	4	0	0
Number of online orders per year included in total	0	0	0	0	2
Average time spent on dealing with each phone order from customers; that is, time per order	15 mins	0	0	5 mins	0
Number of special deliveries	1	0	0	12	0
Number of regular deliveries	0	6	4	0	2

Prices are set so that the cost of goods sold is, on average, about 75% of the sales price. Note that returns are made at full sales value, so the cost of goods applicable is based on net sales, that is, initial sales less returns. HW Africa pays for the delivery costs of items (a small amount is built into the price of the product to cover the cost of deliveries), so delivery is free to the customer. Standard delivery is within 3 or 4 working days. However, if customers request a next day delivery or a weekend delivery, HW Africa makes a charge to the customer equivalent to the additional cost incurred. That is, HW still pays the standard delivery cost, but in these cases, any extra cost charged by the courier is passed on the customer. However, HW Africa does still incur an additional processing charge for arranging the special delivery.

HW Africa has developed the activity cost driver rates, shown in Table 4.6, for its support costs:

Table 4.6 Cost driver rates for costs to serve

Activity	**Activity cost driver rate**
Process mail orders	$5 per order
Process phone orders	$80 per hour
Process online orders	$0.5 per order
Process returns (includes the cost of pre-paid postage)	$15 per item returned
Standard delivery costs (incurred by HW Africa *on all deliveries*)	$10 per delivery
Additional administration cost to arrange *special delivery*, that is, costs on top of standard delivery costs	$4 per request
Maintain customer relations (send catalog and respond to customer comments and complaints)	Best estimate of $50 per customer per year

Activity requirements:

(a) Using activity-based costing, determine the yearly profit associated with each of the five customers described.
(b) Comment on which customers are most profitable and why.
(c) What advice do you have for HW Africa regarding managing customer relationships with the different types of customers represented?

Case study activity 6 – HW Inc. Value creation system

Using the information in the case study related to the operations and the factory unit (section A.6 and A.7), undertake a value creation system analysis for HW Inc. It may be helpful to consider the retail outlets and the factory separately, that is, illustrate using separate value creation system diagrams, as shown in section 4.9.

Case study activity 7 – HW Inc. Financial analysis

HW Inc. is undertaking a review of its future strategy and has obtained figures relating to the industry average in terms of the financial ratios, shown in Table 4.7.

Analyze the financial performance of HW Inc. based on the figures provided in Appendix A (section A.8 and Exhibit A) of the case study – the income statement (profit and loss account) and balance sheet for HW Inc. and compare your analysis with the industry average provided.

What are the trends arising from the analysis of HW Inc.? What messages does this provide for HW Inc.'s management?

Is there anything in Exhibit B of the case study that the management of HW Inc. should consider?

What other aspects of performance would you investigate?

Table 4.7 Financial ratios for the industry average

Financial ratio	Industry average
Gross profit percentage of revenue	30.5%
Operating profit percentage of revenue	2.5%
Return on net assets (profit for year/net assets)	3.5%
ROCE - operating profit as percentage of capital employed (operating profit/long term borrowings plus equity)	6.2%
Asset turnover (sales revenue/long term borrowings plus equity)	2.5
Non-current asset turnover (sales revenue/non-current assets)	3.0
Gearing percentage (long term borrowings/equity)	40%
Current ratio (current assets/current liabilities)	2.0
Stock turnover (inventory/cost of sales) *365 = number of days stock held	100 days
Receivable days (trade receivables/revenue) *365 = average days to collect	75 days
Payable days (trade payables/cost of sales) *365 = average days to pay suppliers	90 days

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CHAPTER 5 - Strategic position

5.1 Introduction

The strategic position, often stated in terms of the strengths, weaknesses, opportunities, and threats (SWOT) analysis, brings the internal and external review together (Mintzberg, 1987; Marshall and Johnston, 2010). Strategies could be developed based on the environmental analysis, for example, noting a trend or gap in the market, or exploiting new technologies — what might be described as taking an outside-in approach to strategy (Day and Moorman, 2010). They could also be developed based on a key strength or competence of an organization, which could be described as the resource-based view (Barney, 1991).

SWOT is a widely used strategic tool (Fehringer et al., 2006; Gunn and Williams, 2007; Du Toit, 2016) but can often result in the extremes of either a very long wide-ranging list, or a very brief list of issues in general terms, neither of which is very useful for strategy development (Hill and Westbrook, 1997). Ideally, the SWOT should consist of a prioritized list of key strengths, weaknesses, opportunities, and threats arrived at by the process of consensus. It should not be a series of checklists (Valentin, 2001). It is also worth consulting external experts to assist in identifying the key trends in the environment.

This chapter reviews the process and use of SWOT analysis in developing strategies that help to close the gap between what the organization wants to achieve and the likely outcome if it continues with the existing strategy.

5.2 Learning outcomes

After studying this chapter, you will be able to:

- Evaluate the use of a SWOT analysis in the strategic management process
- Undertake a SWOT analysis for a given organization based on information provided
- Understand and discuss the concept of GAP analysis
- Discuss the contribution that management accounting can make to the analysis of an organization’s strategic position

5.3 The strategic position and SWOT analysis

Active reading. Note the process of developing the SWOT and how it can be used in practice, but also note the subjective nature of deciding what factors to include and where on the cruciform chart they are placed. Also note the potential sources of the strengths, weaknesses, opportunities, and threats and how other models and frameworks can be used to aid their identification.

Video link SWOT and GAP analysis

[https://www.youtube.com/watch?v=t9L6IBW16z0]

The strategic position is also known as the SWOT analysis—strengths, weaknesses, opportunities, and threats. Primarily strengths and weaknesses come from the internal appraisal, and opportunities and threats come from the environmental analysis.

Changes in the business environment are identified during the environmental analysis phase. Still, it is only when these are matched against the organization's ability to deal with the change that it becomes evident whether the change represents an opportunity or a threat (Hofer and Schendel, 1978).

For example, proposed changes to the regulatory environment could present opportunities for expansion and product or market development if the organization has the resources to take advantage of the opportunity. However, if the organization has few resources, such that dealing with the changes will be problematic, it could pose a threat to its ability to meet the strategic objectives. It is significant for competitor analysis as understanding the potential impact of changes in the environment on competitors compared to the organization is a key part of developing a sustainable competitive strategy. The deregulation of financial services that occurred in many world financial markets during the 1980s illustrates the importance of understanding the consequences of an environmental development opening up the potential for new competitors to enter the market. This deregulation led to organizations other than financial institutions, such as supermarket chains, being able to diversify into offering banking facilities. In contrast, existing small financial organizations with fewer resources at their disposal began to find it difficult to compete, often leading to their acquisition by larger institutions.

The cruciform diagram shown in Figure 5.1 is often used to construct a SWOT. The cruciform chart ideally limits the number of elements that are eventually included. In practice, there will be many elements that could be included, some of which are subjective (Mintzberg, 1987). The key is that the SWOT elements are prioritized and reduced to a manageable number.

Figure 5.1 Typical cruciform chart layout for SWOT

The axes denote that strengths and weaknesses are relative to the competition. This relativity is significant in determining what the actual strength or weakness might be. For example, if an organization considers that it has a very experienced and highly skilled workforce, it may classify this as a strength. But if the competitor organizations in the industry also have a very experienced and highly skilled workforce, then this may not be the real source of strength and hence a competitive advantage. The organization that manages its workforce more effectively may be able to achieve a competitive advantage indicating that its real strength is the ability to manage the workforce more effectively than the competition, not the highly skilled workforce itself. This example illustrates that SWOT can be entirely subjective; however, where possible, it is best to base the analysis on evidence gathered from factual sources. That said, SWOT elements are often a mix of both factually supported ideas and subjective judgment.

Strengths can be ascertained by conducting a brainstorming session with functional managers. This brainstorming can, however, produce a long list, but it provides a comprehensive view of the organization's capabilities from those that know the functions well. Indeed, strengths and weaknesses can sometimes come from surprising sources. The use of technology within the provision and dissemination of management information, even management accounting information, could mean that managers are better informed than some of their competitors. Speedy provision of information means they can act promptly to changes in the local environment and customer demands, or keep costs under control more effectively due to prompt information supporting a cost led strategy. Sadly, this could also be the source of a weakness in that the provision of management accounting information is such that managers have no clue as to which are the profitable products or profitable customers. Or, the time lag between incurring the cost, reporting it, and their ability to take action, means that costs are not always under control.

The initial list can then be reduced by the process of discussion based around asking what the organization does well or any unique resources it possesses. It is sometimes difficult to assess the aspect of “relative to the competition” as it is difficult to gain enough accurate information about the inside workings and competencies of competitors to be able to make an objective judgment. Therefore, in practice, the strengths and weaknesses are not always assessed against the competition.

It is useful to think in terms of core competencies and distinctive competencies. Core competencies are those competencies that are essential to overall performance and success in the industry sector. A distinctive competence is any competence that distinguishes an organization from its competitors and hence is a source of competitive advantage (Mooney, 2007). A strength might emanate from a strong presence of a core competence but would undoubtedly arise from the presence of a distinctive competence. In contrast, any areas where these can be improved upon might signify a weakness.

Competitor analysis can aid the strengths and weaknesses aspects of SWOT. For example, attempting to identify the portfolio analysis of the competitors or the efficiency of its value creation system and comparing it to the analysis of the organization’s portfolio and value system can help to identify areas where it has the potential for competitive advantage. Where a competitive advantage existed, it is always worth reviewing whether the organization has retained its competitive advantage as competitors will respond. There is no guarantee that where a competitive advantage used to exist, it remains forever. Techniques such as competitor benchmarking (see section 10.9), which compare aspects of an organization’s performance to that of its competitors, can also help assess the relative strengths or weaknesses.

The opportunities and threats originate in the environment and thus are available to all industry members. The analysis conducted from the PESTEL or Porter’s five forces can provide the basis for identifying the opportunities or threats. As with the strengths and weaknesses, there is a degree of subjectivity and discretion in the practical determination of opportunities and threats. There is a subtle difference between what might be described as a strategic option available to one organization and an opportunity that is present for all industry members. For practical purposes, an opportunity is something that presents itself from the environmental analysis as being a possible strategic option that the organization can pursue.

Another area of subjectivity that arises is deciding whether issues identified present a threat or represent a weakness. The best way to decide between the two is to determine whether the organization has direct control over the outcome. If it does, then it is probably internal and represents a weakness as the organization can address the issue directly. If, however, the source is external, the organization may be able to influence, but not directly control the event. In this case, it is best viewed as a threat for which there is still some uncertainty about the outcome. Hence the organization needs to formulate, and be prepared to implement, an appropriate response.

Phadermrod et al. (2019) suggest linking the SWOT with an Importance-Performance Analysis (IPA). An IPA measures the satisfaction from customer satisfaction surveys based on two components of a product’s or service’s attributes, that is, the importance of a product or service to a customer and the performance of the organization in providing the product or service (Martilla and James, 1977). The technique suggested by Phadermrod et al. is that the strengths and weaknesses can be identified from the IPA matrix of the organization. This has the advantage of making it very customer focused.

The IPA analysis entails undertaking a customer survey in which questions can be asked about the competitors' products or services, and this provides the basis for comparing the organization with competitors. This comparison will also provide input to the strengths and weaknesses relative to the competitors but also helps to identify opportunities to gain a competitive advantage or forewarning of a potential threat from competition. Strategies can then be developed to take advantage of opportunities and minimize potential threats. Focusing on customers and competitors has the potential to miss opportunities and threats from sources other than competitors but has a benefit of focusing (for part of the analysis) on the competitive advantage aspect of strategy development.

An example of a SWOT containing some elements that relate to finance and accounting, illustrating that these can be viewed as strengths or weaknesses, is shown in Table 5.1. The opposite situation to the example given would turn a strength into a weakness.

Table 5.1 Example of SWOT elements

Strengths	Weaknesses
• Strong brand image rated as 2nd highest valued brand in the sector by recently published consumer survey • Established business for over 150 years • Strong product portfolio in global markets – contains recently acquired brands recognized for sustainability • Successful track record of growth via acquisition and merger. • Strong balance sheet and ability to secure future finance. • Maintained or increased dividend levels for the last 20 years – seen as 'invest and hold' by city analysts. • Ranked 2nd in the Times, 'Good Employer' survey of 2020.	• High cost structure • Declining profitability of significant brands over the past 2 years. • Poor integration of management information and accounting systems from recent acquisitions. • Lack of internal innovation and R & D capability • The senior management team has been in place for many years – no succession plan in place.
Opportunities	**Threats**
• Deregulation of some markets where governments are seeking to offset a recession by attracting foreign direct investment. • The growing affluence of emerging economies increasing the potential demand for products. • Changing customers' habits towards sustainable products.	• Strong and growing competition from global companies. • Rising raw material prices for some leading brands in markets where competition is strong. • Overseas economies are beginning to experience recession and declining living standards. • New technologies could reduce the need for some key products currently sold in developing countries.

5.3.1 Developing strategies from SWOT

Active reading. Note how the elements of SWOT can be combined to develop strategic options, and the use of factor analysis to aid the prioritization process.

The reason why the cruciform chart presentation is adopted is to aid the process of developing potential strategies. For example, ideally, the intension would be to match the strengths with the opportunities as the resource capability enables the organization to take advantage of the opportunity. It would also be desirable to address the weaknesses. One of the reasons why a change in the environment might pose a threat is because the organization does not have the resources capability to deal with it due to a weakness; therefore, the environmental change poses a threat. If the weakness is addressed, it may be that the environmental change no longer presents a threat as it can now be dealt with successfully. It may even turn the threat into an opportunity. Based on the SWOT analysis, a good strategy will build on the strengths, address the weaknesses, grasp the opportunities, and avoid or minimize the threats.

Weihrich (1982) suggested a TOWS matrix that could be used to develop strategic options from the SWOT. This analysis creates potential options shown in Figure 5.2.

SO Use strength to take advantage of an opportunity	WO Minimize or remedy a weakness to take advantage of an opportunity
ST Use strength to deal with a threat	WT Minimize weakness and avoid or minimize threat

Figure 5.2 Potential options from a SWOT analysis

The SO represents a maxi maxi situation, in which the strength can be used to take advantage of the opportunity. For example, a retail organization with a large customer base taking advantage of the deregulation of financial services to launch their branded credit cards.

The WO is a mini maxi situation where the weakness is minimized, which may present opportunities. For example, the use of outsourcing may enable an organization to take advantage of an opportunity by accessing an external resources capability that it does not possess itself.

The ST is a maxi mini situation where a strength is used to deal with a potential threat. For example, a pharmaceutical company applying its financial muscle to acquire one of the leading U.S. Health Maintenance Organizations (a medical insurance organization that provides health services) to counter increasing buyer power.

The WT represents a mini mini situation where the intension is to minimize both the weakness and the threat. For example, withdrawing from an overseas market in the face of intense competition from more established local players due to an economic recession in that country, and thus focusing attention on the organization's domestic market where it occupies a strong market position.

The use of the cruciform chart helps in the prioritization of the strengths, weaknesses, and so on so that it provides a focus for competitive advantage and management attention. The technique of strategic factor analysis can be used to aid the development and evaluation of strategic options. In this technique, the elements of the SWOT are prioritized, ranked, and given a weighting. The importance of the strengths and weaknesses is assessed and given a number anywhere from 0.01 (not very important) to 1 (very important). These can be converted to percentages or left as decimal numbers. In any event, the total of the values assigned to the strengths should equal 1 or 100%, as should the values that have been assigned to the weaknesses. The strengths and weaknesses are then prioritized and ranked. Some forms of this analysis suggest rating them with a value 1 – 3 with 1 being a minor strength or weakness and 3 being a significant strength or weakness. Whichever method is used, it allows for a prioritization of the strengths and weaknesses, as shown in Table 5.2 for the strengths. Note the ranking is between 1, being the least significant to 4 the most significant.

Table 5.2 Factor analysis and weighting of strengths

Factor—Strengths (examples)	**Importance Weighting**	**Priority Ranking**	**Weighted ranking score**
Strong brand identity	20%	3	0.6
Strategic locations	10%	4	0.4
Innovative product range	30%	1	0.3
Highly skilled workforce	40%	2	0.8
Total			2.1

The same process would be done for weaknesses.

For the opportunities and threats, the importance becomes the potential impact on the business ranging from 0.01 low impact to 1 being a high impact on the organization. The ranking becomes the probability of the opportunity or threat occurring. For example, 1 equals low probability, to 3 (or 4) equals high probability. As with the strengths and weaknesses, a rating is calculated for each opportunity and threat to arrive at a prioritization.

This analysis can then be developed further to help evaluate various strategies from the combinations of SWOT. For example, the overall assessment of the strategic option A may be represented in Table 5.3. Here we could imagine that two key strengths come into play to take advantage of an opportunity, while a weakness is addressed to avoid a threat. The weighting and ranking are taken from the tables constructed for each SWOT element.

Table 5.3 Factor analysis score for strategy A

Factor	**Weighting**	**Ranking**	**Weighted ranking score**
Key strength 1	30%	1	0.3
Key strength 2	40%	2	0.8
Key weakness 1	40%	1	0.4
Key opportunity 2	30%	2	0.6
Key threat 1	50%	1	0.5
Total strategy A			2.6

The various strategies developed from the analysis could be compared and used as part of the decision-making process. However, a problem with this approach is that strategy cannot be reduced to a set of numbers. Therefore, although providing some information on likely outcomes, it should never be the sole basis for deciding the future strategy. It also carries with it a high degree of subjective judgment despite being represented by a numerical analysis.

Weihrich (1982) also makes the point in the discussion of the TOWS analysis that the timing of strategies needs to be considered as the environment, and resource capabilities can be dynamic.

Learning activity. Pick an organization with which you are familiar and construct a SWOT. You could consider undertaking an environmental analysis of the industry first to help identify any opportunities or threats. You may be able to think of potential strengths and weaknesses from your knowledge of the organization, but try reviewing news articles about the organization and its webpages, as this will help you think of what it is good at and areas where it needs to improve. Remember, this is a subjective exercise.

You could also access the latest set of financial accounts from its webpages and conduct a financial analysis to see if there are any potential strengths and weaknesses that arise, for example, high levels of gearing, poor financial performance, or other areas of good or poor financial management.

Do not worry about trying to balance the elements so that you have the same number of ideas under each of the SWOT headings. In practice, there may be more Ss and Ws than Os and Ts.

5.4 GAP Analysis

Active reading. Note what the gap represents and the role of the accountant in the gap analysis.

GAP analysis is concerned with identifying whether there is a gap between what the organization wants to achieve and the likely outcome if it continues with the existing strategy. It can be illustrated, as shown in Figure 5.3.

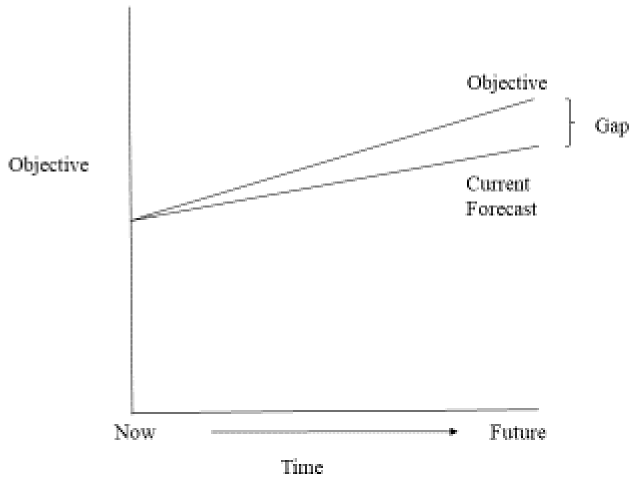

Figure 5.3 GAP analysis

The starting point is the current situation, that is, now. The objective is plotted over time, which is usually expressed in years with a time frame of three to five years or possibly longer. Obviously, the level of accuracy reduces the further ahead the forecast extends into the future. The objective can be anything that can be quantified. It is often a profit objective, or sales growth, but could equally be that the organization needs to increase the number of skilled employees over five years. For example, in the health care industry or hospitals, there may be targets to recruit and train a specific number of new nurses and health professionals over the next five years. The objective is, therefore, the number of new health care professionals to be recruited. The strategy is the recruitment and retention strategy and concerned with the pay and benefits package.

The next step is to look at the current strategy and to forecast or extrapolate what will happen if the organization continues down that path. In the instance of a profit objective, this would be the estimated profit. For the recruitment of nurses, however, the forecast would relate to how many additional nurses would be recruited if the organization follows the existing recruitment strategy with the same pay and benefits package. Invariably the result is that there is a gap between the objective and projected outcome. The accountant can provide valuable advice in determining how big the gap is, particularly when assessed as a profit gap, and the potential impact if the gap is not addressed.

The next phase is to evaluate the various strategic options to see how far they go to closing the gap. Gaps can arise due to internal or external factors, which is why the strategic management process is iterative and a continuous or periodic process, not a one-off exercise. For example, suppose that the strategic option chosen to close the gap is to launch a new product or enter a new market. Competitors will respond, and therefore, although there is a short-term closing of the gap, it begins to open again due to competitor response. It is therefore advisable to undertake continuous gap analysis, whereby the review is being conducted frequently, such as once every quarter or six months.

Another possibility is to take a realistic view and reassess the objectives. It is not cheating or moving the goalposts, but realistically assessing the objectives given the changes in the business environment. For example, when the financial crisis occurred in 2008, many organizations were suddenly in survival mode rather than moving forward on a growth trajectory, as may have been planned initially. The same is undoubtedly true for organizations after the covid-19 pandemic in 2020. Often political changes in many countries impact an organization's ability to achieve current objectives and change their view of the future, perhaps putting growth plans and investment decisions on hold until the outcome becomes more evident. Thus, organizations may be reassessing the strategic objectives for the next few years and setting more realistic or amended targets.

Following the implementation of a strategy to close the initial gap, the analysis can be completed again, at a quarterly or six-monthly review, depending on how fast the environment changes. This evaluation of the success of the strategy is often built into the latest estimated forecast or trend forecast as part of the management information provided to managers (see sections 9.3 and 9.4 of this learning resource for a discussion of updating forecasts). If the gap is closing, then managers gain confidence that the strategy is working, however, as competitors will respond and changes to the environment may have occurred, a gap of some sort may still be registered. This illustrates the need for organizations to innovate continually and find ways of retaining a competitive advantage. The speed at which this needs to occur will vary between industry sectors. Still, many organizations now see the need to exhibit a degree of agility to be able to respond appropriately to changes.

5.5 Summary

Management accounting can contribute to assessing the strategic position in the following ways.

Strengths and weaknesses

The accountant can assist in the evaluation of strengths and weaknesses, particularly in terms of financial strengths and weaknesses. It could be via the financial analysis undertaken as part of the internal review.

Financial impact

Identifying the potential financial impact of environmental changes helps to determine whether changes represent an opportunity or a threat.

Size of gap

Accountants are good at identifying the size of any gap that exists between the objectives and forecast outturn in financial terms, given the current strategy.

Evaluation of options

Evaluating the potential options based on combinations of strengths and weaknesses can help determine the most successful options to close the gap. This can include strategies such as implementing a cost reduction exercise.

5.6 Review questions

(1) Discuss why it is important for organizations to undertake a SWOT analysis.
(2) Discuss the process of undertaking a SWOT analysis and illustrate how strengths, weaknesses, opportunities, and threats can be determined.
(3) What is the significance of identifying a GAP between original objectives and the forecast outturn?
(4) Discuss the contribution that management accounting can make to the analysis of the strategic position.

5.7 Case study activity 8 – HW Inc. SWOT analysis

The following activities relate to the case study in Appendix A of this learning resource.

(a) Undertake a SWOT analysis for HW Inc. (Hint: Use the environmental analysis undertaken from the activity in Chapter 3 and the portfolio analysis, value creation system, and financial analysis activities in Chapter 4 of this learning resources to help you).
(b) Identify what you consider to be the main elements within each heading; that is, the key strengths, weaknesses, opportunities, and threats.

5.8 References

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CHAPTER 6 - Competitive strategies

6.1 Introduction

There are essentially three elements for a successful competitive strategy: unique, sustainable, and relevant. Unique means that nobody else was doing it and, coupled with sustainability, means that it is not easily replicated. Sustainability is a challenging element in a competitive market. Relevant means that it is relevant to the customer, which maintains the customer focus required for success in today's business environment.

This chapter reviews the generic strategies identified by Porter (1985) of cost leadership and differentiation, although it should be noted that variations or combinations of the basic strategies are possible. Two accounting techniques are discussed that can aid the sustainability of the strategy — the techniques of activity-based costing, including time-driven activity-based costing, and the costs of quality. A brief discussion of lean accounting is included, which differs from traditional accounting systems in that it supports the analysis of value streams applicable in lean manufacturing systems. These techniques can be used to support the strategies based on either cost leadership or differentiation. They should not be viewed in isolation as other techniques discussed in this learning resource aid the sustaining of a competitive strategy. Still, the focus on cost and quality provides the opportunity to discuss them in conjunction with the generic strategies.

6.2 Learning outcomes

After studying this chapter, you will be able to:

- Discuss the merits and demerits of a competitive strategy based on cost leadership or differentiation and to identify techniques for achieving them
- Critically evaluate activity-based costing as a technique for ascertaining and controlling costs and undertake an activity-based costing exercise based on information provided
- Discuss the concept and use of lean accounting for lean manufacturing organizations
- Discuss, and illustrate with examples, the typical classifications associated with the cost of quality
- Critically evaluate the contribution that management accounting can make to the choice and sustainability of the competitive strategy

6.3 The generic competitive strategies

Active reading. Note the basic definitions of the main strategies and the techniques to achieve them. If you have studied Chapter 2 of this learning resource think about the discussion of how the provision of management accounting information can assist in sustaining the competitive strategy and whether the use of certain accounting techniques supports cost leadership rather than differentiation, or vice versa, or if indeed the techniques are useful for both.

Video link [Competitive strategies](https://www.youtube.com/watch?v=GUXmne7WUP8)

[https://www.youtube.com/watch?v=GUXmne7WUP8]

Porter (1985) identified the generic strategies for competitive advantage. These strategies help to determine the basis of competition, whether cost-driven or value-driven (differentiation), and the competitive scope, that is whether to target a broad market industry-wide, or whether to focus on a definable segment. It is about positioning the organization in the market; that is, it is a conscious choice.

6.3.1 Cost leadership

A cost leadership strategy seeks to achieve the position of the lowest-cost producer in the industry. By achieving the lowest production cost, a manufacturer can compete on price with every other producer in the market and earn the higher unit profits. Several strategies aid cost leadership which include:

Economies of scale

Economies of scale require high volumes of production and possibly a limited variation in the product offering, that is, standardization of products. Mature markets may become fragmented, as the focus moves toward products targeted at specific segments of the market, which can undermine the cost advantage as the cost base rises. Some of the economies of scale can be lost.

Technological advantage

The use of technology can help reduce costs and enhance productivity. Techniques include computer-aided design, computer-aided manufacturing, just-in-time purchasing, inventory management systems, and flexible manufacturing systems.

Exploiting the effects of the learning curve

Organizations become more efficient over time and, as the expertise increases, this can result in lower average unit costs. This wealth of experience makes it more difficult for new entrants who have less expertise in the production process to obtain the same degree of efficiency. It can create a barrier to entry and reduce the threat of new entrants to the industry. New technologies, however, can undermine this advantage, increasing the threat of new entrants, illustrating the need to monitor the environment continually.

Lean thinking

Adopting the principles of lean thinking can also help to support a strategy of cost leadership. Lean thinking involves always looking to eliminate inefficiencies in the systems and minimizing overheads wherever possible. Techniques such as total quality management can aid this process.

Low-cost suppliers

Using low-cost suppliers, perhaps from overseas suppliers where labor costs may be lower, can also not only keep costs low but provide a competitive advantage. It is, however, only an advantage to the extent that competitor organizations do not adopt the same policy. Movements in the exchange rates can undermine this advantage if it is not possible to pass on cost increases to customers.

Location

The choice of location can also be a source of a cost advantage. For example, locating the operations in a less expensive area such as an out-of-town site, or where government grants are available. If, however, the production is undertaken at a distance from the market, there could be a trade-off between the cost of production versus the cost of transportation. The most advantageous scenario is where low-cost production can be undertaken close to the markets served.

6.3.2 Differentiation

Differentiation is providing a product or service that is significantly different from the competitor offers, and the difference is valued by and effectively communicated to the customer.

Mintzberg (1988) suggested that there are several forms of differentiation. Image differentiation, in which the marketing strategy is used to create a distinct image or brand. Support differentiation that provides a distinctive service element during and after the sale. Quality differentiation, where high levels of reliability, durability, and performance are associated with the product. Design differentiation in which the product design includes unique features. Price differentiation in which a low-cost base enables the organization to compete on price. This last variation is the same as Porter's cost leadership strategy, suggesting that an organization can differentiation its market offering by price. Finally, Mintzberg includes a category of undifferentiation in which none of the previous elements are emphasized.

There are other ways of differentiating the market offering that has been identified by researchers, for example, by location, positioning, technology, and innovation. The key, however, to any competitive advantage is gained through the characteristics of an organization's products or services that satisfy customer needs more directly or better than the competitors. As with cost leadership, several techniques can be used to aid a strategy of differentiation.

Strong brand image

The development of a strong brand image can help to create a barrier to entry as it takes time and money to develop the brand. New products and product variations can be generated from a strong corporate or product brand. In today's environment, taking care not to damage the corporate brand is a significant factor in maintaining the corporate image, especially in the context of corporate scandals or celebrity endorsements. Indeed, accounting scandals of late, such as accounting fraud or tax avoidance, can impact on an organization's brand. Thus, the accountant has a role to play in maintaining the corporate image.

Features and functionality

Developing features and functionality that provide the differentiating factor can provide a competitive advantage. A key element here is that the differentiating factor must be valued by the customer to support a higher price. Techniques such as value engineering and target costing (see section 7.8) can be used to help develop viable products that have distinctive features to the competition. There is a danger that in weak economic conditions, such as a recession, demand for differentiated products may reduce as consumers switch to low-cost products.

Product augmentation

A strategy that is followed by many organizations in today's customer service-led economy is to augment the product offering to provide additional elements such as after-sales support. Techniques such as the analysis of the value creation system (see section 4.9) can be used to help determine where value can be added to the customer.

Value system

Elements of the value system such as information technology development or human resource management can be used to create new products or service elements, for example, enhanced customer service, flexibility to customer demand to create the ability to customize products. As with cost leadership, new technologies available can provide competitors with the ability to erode this advantage.

Effective marketing campaigns

The consumer markets are becoming more sophisticated, and the differentiating features of a product need to be communicated to consumers. Hence, the product needs to be backed up by effective marketing, but equally, the product must back up the marketing. Consumers are quick to spot that the product does not live up to the marketing claims with a resultant reduction in the credibility of the brand.

6.3.3 Focus (or niche) strategy

In a focus strategy, an organization concentrates its attention on one or more segments or niche markets and does not try to serve the entire market with a single product. Information technology can be useful in establishing the exact determining characteristics of the chosen niche, using existing customer records. For example, an analysis of the customer base using customer profitability analysis (see section 4.7) may indicate a highly profitable segment in which the organization has a competitive advantage. Therefore, the adoption of a focus strategy may be beneficial.

A focus strategy is often said to be adopted by organizations that lack the resources to service the total market. It can, however, be a conscious decision to focus on a segment, or segments, of the market regardless of resources available, if this is a more profitable strategy. The focus of the strategy can be on cost or differentiation.

(a) A cost-focus strategy aims to be a cost leader for a segment(s) of the chosen market
(b) A differentiation-focus strategy pursues differentiation for a chosen segment(s).

There are several advantages to adopting a focus strategy.

Focus on customer type

The organization can focus its resources on satisfying the needs of a specific customer type and thus does not necessarily spread itself too thinly by trying to fulfill a range of customer needs. A difficulty here is that the organization is limited somewhat by the growth in the market segment. It emphasizes the need to monitor changes in the environment.

The following example illustrates how a change in the business environment can affect a focus strategy. An accountancy trainer in the U.K. decided to focus its business on providing training to large accountancy firms and only provided training towards the Institute of Chartered Accountants in England and Wales (ICAEW) professional body's qualifications. It did not offer, as did its competitors, training for other more globally oriented professional organizations such as the Association of Chartered Certified Accountants (ACCA) and Chartered Institute of Management Accountants (CIMA) qualifications. Shortly after the decision had been taken and implemented, the U.K. went into recession, and the large accountancy firms, who typically put their trainee accountants through the ICAEW professional qualification route, began to reduce their graduate intake, reducing the number of trainees that required training. The training organization got into trouble and was eventually taken over by a competitor organization offering training for the full range of professional qualifications.

Niche market operation

An organization that dominates a niche market can reduce the amount of competition to which it is exposed. Technology changes can undermine this advantage by enabling the production of small volumes at a lower cost or providing the service more speedily. For example, on-demand printing made low-volume and specialist books a viable option for both large and small organizations.

6.3.4 Example of competitive strategies

Table 6.1 provides examples of competitive strategies and the techniques employed to support them.

Table 6.1 Examples of competitive strategies

Cost leadership	
Walmart	Everyday low prices to attract customers Large-scale and efficient supply chains High volumes and economies of scale
McDonald's	Standard processes Division of labor Centralized purchasing
IKEA	Sourcing of products in low-wage countries Basic level of service, little after-sales service provision
Low-cost airlines such as TWA, Jetstar	No-frills travel Quick turnaround
Differentiation	
Apple	Technology advantage User interface
Mercedes-Benz	Prestige vehicle Quality image Precision engineering
Nike	Association with successful sports personalities Range of specialist shoes and clothing High-profile brand
Focus	
Oscar Health Insurance	Focuses on the New York market only Uses a slogan of "No more referrals." Allows customers to talk to a doctor to tailor the quote
Whole Foods	Focuses on local stores taking away the feeling of big store image Promotes a "greener" lifestyle

Learning activity. Think of other examples relevant to your home country where you could classify the strategy being adopted by the organization as cost-led or differentiated. What, if any, is the basis of differentiation?

6.3.5 The danger of being stuck in the middle

Active reading. Think about the organizations that you identified in the learning activity. How easy was it to determine their strategy? It is becoming more difficult in some markets to identify the specific strategy being followed with any degree of precision. Note the danger where managers are not clear about following the strategy they are adopting or paying due attention to the nature of the competitive market. Also, note the use of marketing by organizations to differentiate their offering from competitors.

During the 1980s, when Porter developed his model of generic competitive strategies, it could be said that there were organizations that were definite cost leaders and those that were differentiators. Porter argued that it is dangerous to be "stuck in the middle." Figure 6.1 illustrates an organization that is attempting to occupy the middle ground.

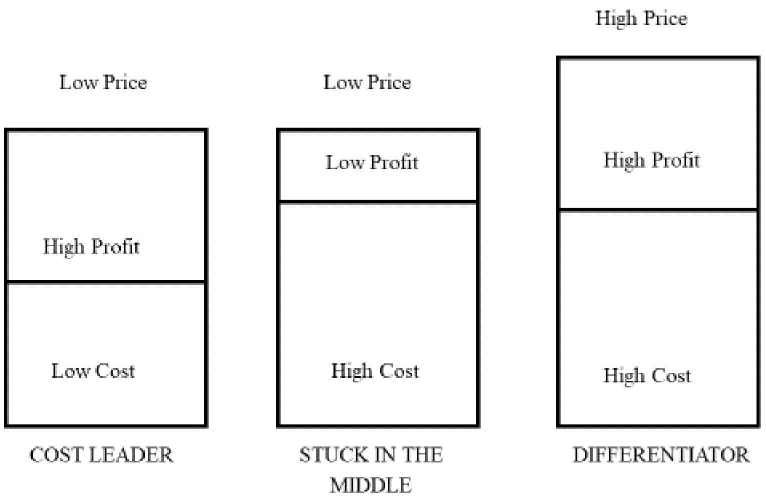

Figure 6.1 The danger of being stuck in the middle

The cost leader offers a basic product at a low cost and charges a price that provides a reasonable and sustainable profit. The differentiator has a higher cost base due to providing additional features or service elements but, as the customer values these, the differentiator can charge a higher price to produce a sustainable profit level. Now, suppose a competitor enters the market offering the same product or service as the differentiator, and therefore has the same cost base. The strategy of the new entrant is to match the price of the low-cost provider, thus providing a lower profit. This strategy could be successful in the short term as the competitor in the middle will attract customers from both the cost leader and the differentiator. In the long run, however, both the cost leader and the differentiator will react and reduce prices, as shown in Figure 6.2.

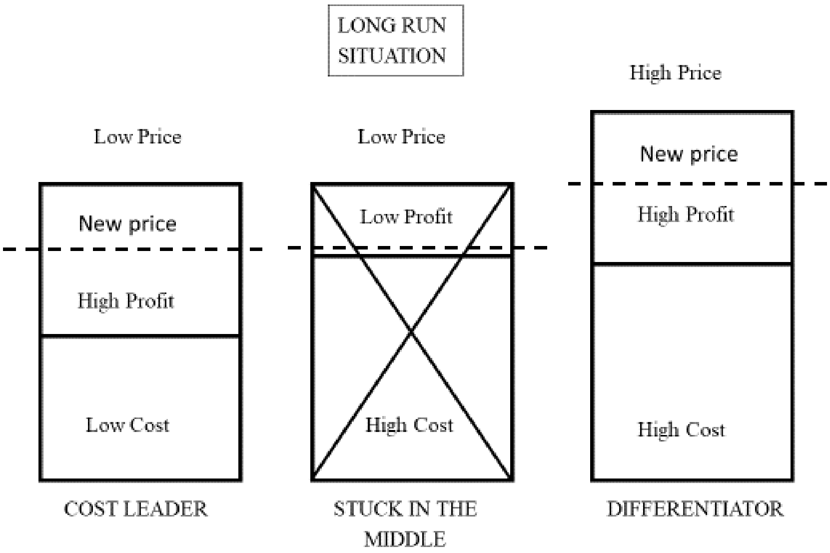

Figure 6.2 Long-run situation with price reduction

The horizontal dotted lines represent the new price due to increased competition. The customers of the differentiator will revert to the original, probably due to the established nature of the brand name. The stuck in the middle competitor will need to respond by reducing its price to the cost leader to which it had aligned its pricing strategy on entry to the market. The profitability of the stuck in the middle is now not sustainable, and the organization will likely fail. Therefore, in a competitive market, being stuck in the middle is not a sustainable strategy in the long term.

This explanation works for the markets in the 1980s when it was clear that there were cost-led and quality-led producers. However, it could be argued that today's consumer is more sophisticated and expects even the value for money products to be of good quality, which makes it more challenging to differentiate purely on the grounds of quality. The differentiating factor needs to add value to the customer. Most organizations today use marketing techniques to try and convince the consumer that their product or service is better or different than the competition, and it is probably true that all organizations are trying to keep costs to a minimum. Therefore, to the casual observer, it often becomes blurred as to whether the company is competing based on cost or differentiation.

A former CEO of the Heinz company is reported to have said that the strategy of Heinz is to put products in cans for as little money as possible, but they use marketing to convince the consumer that "Beans means Heinz." Porter's message in the 1980s was that organizations need to be clear about what their strategy is, and not to become side-tracked to find themselves stuck in the middle with no clear strategy. It could be said that organizations that provide good quality products at low cost are stuck in the middle but, if this is the conscious decision and management are clear about the strategy, then, in essence, there is nothing wrong with this approach. Organizations in this situation may be, as some well-known supermarkets profess, striving to be a cost leader in a quality, value-added market. These markets, such as food retailing, are characterized as being highly competitive with a range of organizations that span low-cost budget providers at one end of the market to organizations that are targeting a more discerning customer prepared to pay a high price for high quality, and those in the middle. These markets can support a range of competitor organizations but are often low-margin businesses reliant on market share for their profitability.

Consumers today have high expectations when buying products or services (Ireland et al., 2011), and there is an expectation of a certain degree of quality, although it may still be true that you get what you pay for. There is, however, a growing trend for companies to adopt what might be called a hybrid strategy, that is, keeping costs low, enabling the price to be highly competitive, while offering an element of differentiation either to the product or service elements.

6.3.6 The strategy continuum

Active reading. There is a saying that the best strategy is to offer a quality product at a reasonable price. Is this stuck in the middle or taking advantage of the best of both worlds?

It could be argued that there is, in fact, a continuum between cost-leadership and differentiation, and it is finding a combination that works in the chosen markets. It is about positing the company within the market. In Chapter 3 of this learning resource, a positioning grid was introduced to undertake a cluster analysis of competitors mapped against different criteria (section 3.11). The grid for price versus quality is shown in Figure 6.3.

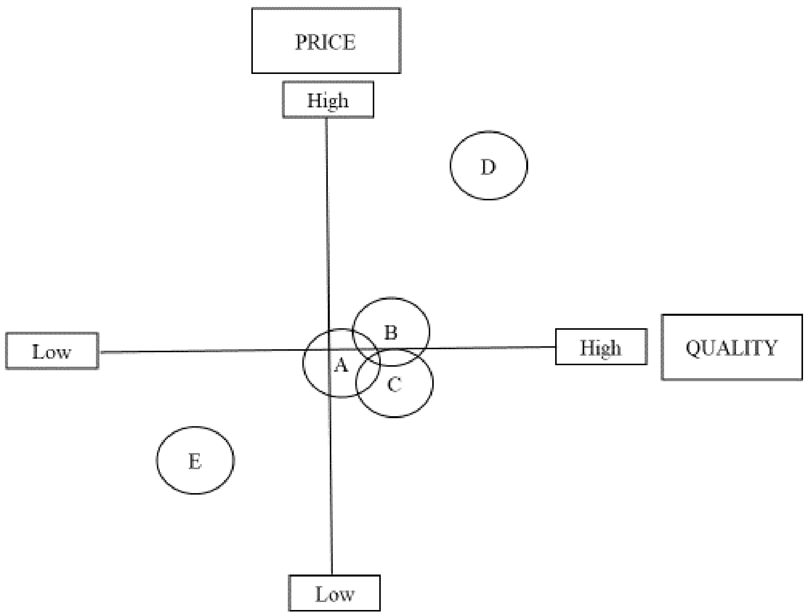

Figure 6.3 Competitor position grid.

A similar idea could be employed for cost leadership and differentiation. Figure 6.4 illustrates a slightly different representation of the choices available.

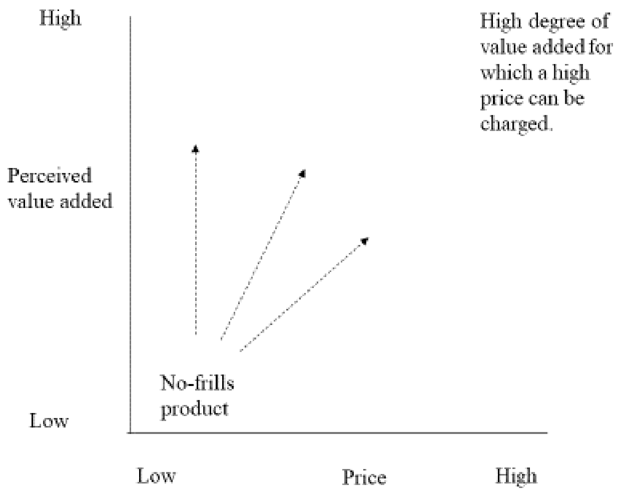

Figure 6.4 Strategic choice between the degree to which competition is based on a low-cost base or degree of added value.

The idea behind figure 6.4 is that if, for example, enough volume could be attained to keep the cost base low, it might be possible to add a high degree of added value. It is not, therefore, just a case of being a stark choice between one or the other but finding a balance between the two that provides a market offering that is sustainable in the long term. It can be used as a form of cluster analysis by mapping the competitors on the grid and identifying potential gaps in the market. Possible strategies can then be evaluated to determine if the position is sustainable in the long term. It may be evident that some strategies are not sustainable in the long run, such as providing a low degree of added value and charging a high price. Still, the process of mapping competitors can provide some useful insight into where a potential competitive advantage could be developed.

Learning activity. Think of some products and services that you enjoy. Who are the competitors in the marketplace? Where in the market is your preferred brand positioned? Do they have an element of differentiation?

6.4 Pricing strategy

Active reading. Note the strong link between accounting and marketing in developing the pricing strategy. Also, take note of the other accounting techniques where the price is a significant factor in the analysis.

Pricing strategy is an integral part of the organization's competitive strategy and can be used to support the position of the product or service in the marketplace. Price can be defined as a measure of the value exchanged by the buyer for the value offered by the seller. The primary business model is to sell something for more than it cost to produce or provide. The price should, therefore, reflect the value-added.

Price is part of the basic marketing mix of price, product, place, and promotion (McCarthy, 1964) and the extended mix said to be applicable to service sector organizations, which adds participants, physical evidence, and processes (Booms and Bitner, 1981). The price directly impacts on the income of any organization and ultimately on the profits of a commercial organization. Although there has been criticism of the 4 and 7 P's framework (see, for example, Rafiq and Ahmed, 1995), it is still widely taught. Some of the criticisms focus on the issue that although organizations attempt to integrate their marketing strategy fully, the various components of the 4 or 7 P's are developed or delivered by different departments within the organization. Customers also experience the effect of the various P's at different times, occasions, and places. Accountants are more likely to have direct input to the price component than other elements of the mix. Although techniques such as target costing (section 7.8) and life cycle costing (section 7.9) mean that input into the product or service design is possible, and some would say desirable.

When thinking about pricing, it is essential to understand the pricing objective. For example, is the objective to achieve volume sales, for example, market penetration, or to maximize profits? These indicate a low price or high price, respectively. Pricing could also be determined by reference to the three Cs: cost, which is the lowest price an organization would ideally wish to set unless adopting a loss leader approach; customer-perceived price, which is the price that customers would be prepared to pay determined by marketing research; or competitor pricing in which the price is set at the level of a competitor where competition is focused on product rather than price.

There is also a link between pricing and the marketing communications strategy used on the initial product launch, which is illustrated in Table 6.2.

Table 6.2 Pricing strategy

	Low level of marketing relying on word of mouth	**High level of marketing spend using a full range of communication techniques, especially advertising**
Low price	Slow penetration	Rapid penetration
High price	Slow skimming	Rapid skimming

The choice can be to penetrate the market or skim profit off the market before competitors follow. The pricing objective is particularly relevant to new product development. There are also implications for manufacturing, as discussed in Chapter 4 under the product life cycle (section 4.4.), where a decision must be made concerning the level of production and initial inventory levels. Also, pricing becomes a weapon under intense competition in the mature stage of the life cycle, or a means of survival when following a harvest strategy. This decision provides another example of where the techniques discussed are not used in isolation but are relevant to many different stages of strategy development and implementation, hence supporting the strategic management process.

Some markets, such as business to business markets, may operate a market pricing approach, in which the market determines the price. Where market pricing is the norm understanding the cost base, or being able to estimate costs quickly via standard costing methods, become significant as pricing without this understanding can create problems later. For example, a CEO of a consulting engineering firm is reputed to have said that cost-plus pricing no longer works as they bid for the contracts under a competitive tendering scheme. Hence, they put in a bid at a price they think will win the contract. Then once the contract is acquired, they figure out how to do it for that price. This approach to pricing can be dangerous as too many jobs obtained like this on a potentially low margin in an increasingly competitive market may not be sustainable in the long run. It may also mean that the quality of the work is substandard, which will impact on the organization's reputation and ability to win contracts in the future. In cases such as this, it would be safer to use the concept of target costing (section 7.8) to ensure that a viable product can be produced at a cost that allows a profit to be made before the bid price being submitted.

Other considerations include price sensitivity, which can vary among the purchasers. Price sensitivity differs depending on the market. In consumer markets, it is the end consumer that reacts to price changes. However, in business-to-business markets, an intermediary who can pass on any price increases to their customer will not be as price sensitive as one that is unable to pass on increases in their costs. This emphasizes the need for organizations to work together through the supply chain.

The price elasticity of demand (Figure 6.5) is also a factor in matching production capacity with customer demand. The price elasticity of demand is calculated as:

$$\frac{\%\ change\ in\ quantity\ demanded}{\%\ change\ in\ sale\ price}$$

When the demand is elastic (that is greater than 1), a reduction in price will have a more significant impact on the quantity demanded. If inelastic, there is less of an effect. Apart from the impact on demand, the total revenue is also affected. When demand is elastic, if the price is lowered, it creates a more significant increase in demand, and total revenue would increase, but when the price is increased, there is a substantial reduction in demand, and total revenue will fall. When inelastic, a fall in price might reduce total revenue as the rise in demand may not be enough to compensate for the reduction in price. When the price is raised under inelastic conditions, the total revenue may increase as the impact of the small decrease in demand may not have that great an effect. Understanding the elasticity of demand and price sensitivity is crucial as it will affect the overall profitability of the product or service. It has implications for promotional pricing and discounts to encourage sales.

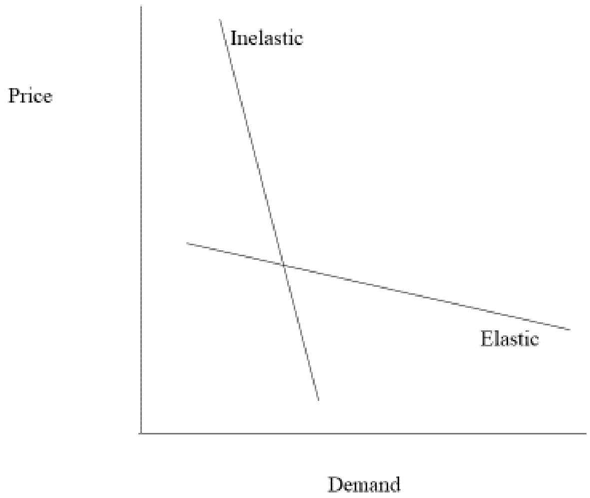

Figure 6.5 Elastic and inelastic demand curve

There are also phycological pricing points to consider, such as the $99 or $5.95. The perception of price and quality can also be factors. For example, consumers have been known to make quality judgments based on price. Charging too little could make the product appear cheap, or developing an exclusive brand could support a much higher price as consumers purchase it for its prestige value.

Price can be a competitive weapon and is often used in this way in the growth stage of the product life cycle. The first mover, having already established a market share, can afford to cut margins to deter competitors. However, price decreases to deter competitors can result in a price war with the resultant impact of reducing the margins for all players in the market. It is often difficult to raise the price again, especially if there are low switching costs for consumers. Accountants can aid the decision-making process of the initial pricing decision and on the impact of adjusting prices through the life cycle. Techniques such as activity-based costing (section 6.6), customer profitability analysis (section 4.7), target costing (section 7.8), life cycle costing (section 7.9), and simple techniques such as cost volume profit analysis (Appendix B.3) all have something to offer.

Learning activity. Think about the different categories of products that you purchase or would like to purchase. Categories include convenience/essentials (toothpaste, food), shopping goods (TVs, mobile phones, sound systems), and specialist goods (expensive cars, Rolex watches).

How much emphasis do you put on price in your purchasing decision in each category?

If you place a high emphasis on price in certain categories, would an appropriate strategy be based on striving to be the cost leader? In categories, if any, where you do not emphasize price, would differentiation be more appropriate?

Do you think that understanding customer buying behavior would help in developing a competitive strategy?

6.5 The value creation system revisited

Active reading. Note the need to ensure consistency of competitive strategy throughout the whole of the value system. Also, the importance of information flows through the value system.

One of the critical elements for the success of an organization today is the development of a sustainable competitive advantage. Ideally, that advantage needs to be unique, sustainable, and valued by and relevant to the customer. The problematic element today is the sustainability of a competitive edge. The internal analysis can aid the development of the competitive advantage, as a detailed analysis of the strengths and weaknesses relative to the competition can help to establish not only a core competence but also a distinctive competence that the competitive advantage can be built around. A core competence can be described as an activity that the organization needs to be good at to survive in the industry, whereas a distinctive competence is an activity at which the organization excels to a higher degree than its competitor organizations (Mooney, 2007). In Chapter 4, section 4.9, the analysis of the value creation system was put forward as a useful tool to aid the development of competitive advantage. The wider value creation system can also be used to support the strategies of cost leadership and differentiation.

Configuring the value creation system to support the strategy is a critical part of sustaining a competitive advantage. It is vital to ensure that the competitive strategy is consistent throughout the entirety of the supply chain. It is, therefore, significant in supplier evaluation (section 4.10) and customer profitability analysis (section 4.7). It is not confined to business-to-business markets, but also in consumer markets where the customer adds value, such as the do-it-yourself (DIY) market or flat-pack furniture. In consumer markets, the strategy is targeted at customers who purchase based on low price, or who are looking for the features of a differentiated product.

The importance of information flows within the value system should also not be understated as these can be as crucial as physical flows of products, for example, flows of data from the customer to the suppliers or partner organizations. Retailers who sell a washing machine and arrange for a local plumber to install it at the customer's convenience need to make sure that it is a profitable enterprise for all parties. Therefore, the availability of cost information through the supply chain can be significant. The provision of complementary services is becoming more common in the complex supply chains developing in today's business environment.

It was noted in Chapter 4 during the discussion of the internal analysis that activity-based costing (ABC) can be used within the value creation system to identify the costs of activities and support the competitive strategy. ABC can aid the support of a cost leadership strategy by assisting in the management of costs that are critical in the provision of the product or service. Similarly, as a differentiation strategy might be concerned with providing a higher quality or increased value-added, enabling a higher price to be charged, ABC can again assist in the management of the activities.

6.6 Activity-based costing (ABC)

Active reading. Note how a total absorption costing method can distort product costs and lead to incorrect decisions.

Video link ABC - A basic introduction

[https://www.youtube.com/watch?v=6ykFkK0AGCs&t=11s]

Video link ABC - An example using more than one product

[https://www.youtube.com/watch?v=CofJQy3j51I&t=1s]

The total cost of a product will include the direct costs of production plus an element of fixed costs. Therefore, the fixed (overhead) costs need to be allocated across the various products in some meaningful way. The full absorption product cost is required for inclusion in the financial accounts prepared under the U.S. GAAP (Generally Accepted Accounting Principles), and U.K. GAAP. Unfortunately, these are not useful for decision-making (Datar and Gupta, 1994). To arrive at the full absorption product cost, traditionally, manufacturing overheads might have been allocated to products on a single company-wide basis, such as labor hours, machine hours, material kilograms used, or simply based on the number of units produced.

An overhead absorption rate based on labor hours would be calculated as follows:

$$\frac{\text{Total overhead costs}}{\text{Total labor hours}} = \text{overhead rate per labor hour}$$

$$\frac{\$400{,}000}{200{,}000\ hrs} = \$2\ per\ labor\ hour$$

The cost of a product would then be calculated, as shown in Table 6.3.

Table 6.3 Calculation of product cost

		$
Materials	2 kg @ $2 per kg	4
Labor	1 hour @ $12 per hour	12
Total direct costs		**16**
Overhead costs	1 labor hour @ $2	2
Total cost		**18**

When overheads are allocated using a single absorption rate, for example, direct labor hours, the effect could be to penalize those products that are labor-intensive; or if allocated on a machine hour basis, it penalizes products that are machine-intensive. The danger is that, depending on the basis used, different cost allocations could arise and encourage an incorrect decision.

For example, suppose XYZ Company manufactures three products.

The following basic information is provided about the price, material and labor usage and costs, and volumes, associated with the three products, shown in Table 6.4. The fixed costs, or overheads, are given as $12,000.

Table 6.4 Basic information for products A, B, and C

	A	B	C	
Selling price	$20	$20	$20	
Materials $2 per kg	1 kg	2 kg	3 kg	
Labor $5 per hour	3 hrs	2 hrs	1 hr	
Volumes	1,000	1,000	1,000	
Total materials	1,000 kg	2,000kg	3,000kg	6,000kg
Total fixed costs				$12,000

If we use the materials usage as a basis for allocating the fixed costs to the products, we calculate a rate of $2 kg would be appropriate. The total number of materials kgs has been derived in Table 6.4.

Overhead absorption rate per kg:

$$\frac{\$12{,}000}{6{,}000kg} = \$2\ per\ kg$$

To calculate the fixed costs allocated to each product, the number of kgs used for each product is multiplied by the $2 per kg for fixed costs. The product costs and profits are shown in Table 6.5.

Table 6.5 Costs and profit for products A, B, and C using materials as the basis for allocating fixed costs.

	A	B	C	Total profit
	$	$	$	
Selling price	20	20	20	
Less materials	2	4	6	
Less labor	15	10	5	
Contribution	**3**	**6**	**9**	
Less fixed costs per kg of materials	2	4	6	
Net profit	**1**	**2**	**3**	
Volumes	1,000	1,000	1,000	
Profit	**$1,000**	**$2,000**	**$3,000**	**$6,000**

Now suppose we were to use the labor hours to allocate fixed costs instead of material usage. The rate is still $2 per hour, but the cost of each product changes once the fixed costs are allocated based on labor hours used. As a first step, we need to calculate the total number of labor hours required, as shown in Table 6.6.

Table 6.6 Total labor hours required to produce products A, B, and C.

	A	B	C	
Selling price	$20	$20	$20	
Materials $2 per kg	1 kg	2 kg	3 kg	
Labor $5 per hour	3 hrs	2 hrs	1 hr	
Volumes	1,000	1,000	1,000	
Total labor hours	3,000 hrs	2,000 hrs	1,000 hrs	6,000 hrs

Overhead absorption rate per labor hour would be:

$$\frac{\$12,000}{6,000 hrs} = \$2 \; per \; hour$$

The direct costs are unchanged so that the contribution per product is the same, but table 6.7 shows the new profits/(losses) calculated using the labor hours as the basis for fixed costs.

Table 6.7 – Profits calculated using labor hours as the basis for allocating fixed costs.

	A	B	C	Total profit
	$	$	$	
Contribution – as before	**3**	**6**	**9**	
Fixed costs labor hours	6	4	2	
Net profit/(loss)	**(3)**	**2**	**7**	
Total profit/(loss)	**($3,000)**	**$2,000**	**$7,000**	**$6,000**

If we compare the profits per product from the material overhead absorption rate per kg and the labor hours overhead absorption rate per hour in Table 6.8, we can see that the total is the same, but the allocation between products is entirely different.

Table 6.8 Comparison of profits calculated using materials and labor to allocate fixed costs.

	A	B	C	**Total profit**
Profit – from material kg basis	$1,000	$2,000	$3,000	**$6,000**
Profit (loss) – from labor hour basis	($3,000)	$2,000	$7,000	**$6,000**

The only difference between the two calculations is the basis we have used to allocate the fixed costs. It is, therefore, dangerous to make decisions on full product costing using a single overhead absorption rate. The analysis in Table 6.7 might indicate that XYZ Company should cease production of product A, as a loss is made after allocating fixed costs. However, the product still contributes towards fixed costs and profit, and the fixed costs will remain the same whether product A is produced or not. If product A is not produced, the fixed costs will be reallocated across products B and C only, reducing the profit from each. This example illustrates further that product mix decisions are best made using the contribution as the financial input to the marketing and operations dimensions of the decision. Remember that decisions should not be made solely based on the numbers.

6.6.1 Why use ABC?

Active reading. Note the rationale behind the development of activity-based costing. Think about how it aids decision-making and provides additional information for cost management.

ABC is a method of allocating overheads to products using multiple bases on which to allocate the costs to products. The technique was proposed by Cooper and Kaplan (1988) but has met with limited take up in some areas. It is said that activities create costs and, therefore, the logical way to allocate costs to products is via the activities that are undertaken to create and provide the products or services. ABC looks at costs from the micro-level where the activities cause the costs and therefore help managers to understand how the activities are linked to generate revenue and consume resources (Cooper and Kaplan, 1991). It is one reason why ABC fits well with the analysis of the value creation system in determining and sustaining competitive advantage as both are concerned with identifying activities that add value. ABC helps managers focus on improving activities that have the most significant impact on the bottom line (Cooper and Kaplan, 1991).

Several studies demonstrate that ABC has a positive effect on performance, by allowing managers to improve efficiencies of activities and reduce costs (see, for example, Jelsy and Vetrivel, 2012; Hardan et al., 2013). Rezaie et al. (2008) found that ABC was particularly useful in estimating costs and negotiation specifications of products with customers to improve performance for both parties, particularly in flexible manufacturing environments. For example, working with customers in the design of components and products, designing parts for ease of handling, or selecting materials and processes can help to reduce the cost of manufactured products (Ong et al., 1993). Complex manufacturing processes have an impact on the labor required, inventory management, and capital investment, which in turn can impact the number of orders placed, the purchasing activity, production control, and so forth (Gunasekaran and Sarhadi, 1998). ABC enables managers to understand the impact of the product design on these activities and the ultimate cost/price in negotiations. Discussing operational changes with customers, such as shipping and order processing, can help to reduce the costs of both parties.

Wegmann (2009) notes two broad types of analysis. Firstly, a customer-driven ABC system which is aimed at helping managers to make better decisions regarding customer relationships. It is achieved primarily via a review of the activities within the internal value creation system. Secondly, an inter-organizational cost management system that recognizes the use of ABC throughout the whole value system. For example, working backward from a market selling price at which customers are willing to buy, and deducting the desired profit of the selling organization, arrives at a target cost (section 7.8). This cost includes the costs (and profit margins) of members of the supply chain or the whole value creation system. Using ABC, organizations can work together to ensure that the end price can be achieved for the customer and all members of the supply chain receive an adequate reward for their input. This sharing of profits does require cooperation between parties and the exchange of information but can benefit all parties concerned (Carey et al., 2011). It can also work towards reducing the incidence of buyer/supplier power within the supply chain as it encourages cooperation and collaborative working.

As ABC uses a range of different bases, more appropriate and directly aligned to the activity that creates the cost, it is said to produce a fairer allocation of overhead costs. It has the added benefit of highlighting the cost of activities that could stimulate management action. The banking industry was allegedly shocked to realize how much it cost to process a cheque when ABC was applied. Hence a push towards encouraging customers to adopt online banking.

The technique is also beneficial for industries that have high fixed overhead costs, but that undertake a range of activities, such as banking, universities, and hospitals. It is worth noting that when implementing ABC, the volume of information and data required about activities, as well as costs, increases. Modern information systems, however, ease the burden of collecting information about activities as they can collect nonfinancial and financial data in a shared database that can then be analyzed across products.

Ideally, costs and activities should be based on forecast/estimated (budgeted) levels of activity as there is no guarantee using historical data will be an accurate representation of the costs and activities of the next year. Therefore, as with all cost systems based on forecast data, the accuracy will depend on the degree of certainty that can be applied to the forecasts. It can be used as part of the target-setting process, that is, setting targets for costs, and then monitoring against these so that experience is built up over time, which results in more accurate forecasts, as with most aspects of planning the better the understanding, the better the plan.

6.6.2 Error! Bookmark not defined.**The method of calculating ABC—an Example**

Active reading. Note that there is a logical series of steps involved in calculating the product costs under ABC. Create a list of the data required and the sequence of steps involved as you follow the process through the example provided.

Basic data

ABC Inc. is considering producing a range of picnic tables. The accountant has been asked for input on the pricing decision. The following information shown in Table 6.9 has been collected.

Table 6.9 Overhead costs analyzed by cost pool

Activity	Cost driver (basis of allocation)	Cost pool ($)
Assembly	Number of labor hours	55,998
Purchasing department	Number of purchase orders	1,989
Delivery costs	Number of deliveries	30,000
Machine maintenance	Number of machine hours	46,500
Inspection and quality and control	Number of inspections	25,000
Total overhead costs		159,487

There are three styles of table proposed: round, square, and octagon. Information relating to the production process is provided in Table 6.10 as follows:

Table 6.10 Product information for ABC

	Round	Square	Octagon
Direct material costs per unit	$120	$105	$115
Number of machine hours required per individual product	0.75 hour	0.5 hour	1.0 hour
Number of labor hours required per individual product	2 hours	2 hours	2.1 hours
Number of purchase orders received from central purchasing	3	4	6
Number of deliveries made to the central warehouse	10	30	40
Number of inspections	150	150	200
Production (number of units)	1,500	1,500	2,000
Mark-up on cost to be applied	30%	30%	40%
Labor is paid at $10 per hour including social charges			

The ABC calculation

The total activity level is calculated for each activity using the information in Table 6.10. For example, multiplying the labor hours for each product by the production volumes provides the total number of labor hours required. Adding the number of purchase orders raised concerning each product gives the total number of purchase orders raised, and so on, as shown in Table 6.11

Table 6.11 Calculation of total activity

Activity	Round	Square	Octagon	Total
Number of machine hours	1,125	750	2,000	3,875
Number of labour hours	3,000	3,000	4,200	10,200
Number of purchase orders	3	4	6	13
Number of deliveries	10	30	40	80
Number of inspections	150	150	200	500
Production units	1,500	1,500	2,000	5,000

The result is shown in the column header “Total activity” in Table 6.12. By dividing the total cost of each activity (shown in Table 6.9) by the total activity (Table 6.11) provides a rate per activity, as shown in the column headed “Activity rate” in Table 6.12.

Table 6.12 Cost driver rate per activity

Rate per cost driver	From Table 6.9	From Table 6.11	
	$	Total activity	Activity rate ($)
Assembly—activity of labor hours	55,998	10,200	5.49
Purchasing—activity of purchases	1,989	13	153.00
Delivery—activity of deliveries	30,000	80	375.00
Machine maintenance—activity of machine hours	46,500	3,875	12.00
Inspection—activity of inspections	25,000	500	50.00
Total	159,487		

The next step is to calculate the overheads assigned to each product by multiplying the activity per product (shown in Table 6.10) by the cost driver rates (shown in Table 6.12) and ascertain the overhead cost per product. The result of this step is shown in Table 6.13.

Table 6.13 Overhead rate per product

	Round	Square	Octagon	Total
	$	$	$	$
Assembly	16,470	16,470	23,058	55,998
Purchasing	459	612	918	1,989
Delivery	3,750	11,250	15,000	30,000
Machine maintenance	13,500	9,000	24,000	46,500
Inspection	7,500	7,500	10,000	25,000
Total overheads per product	41,679	44,832	72,976	159,487
Production units	1,500	1,500	2,000	
Overhead rate per product ($)	27.79	29.89	36.49	

Finally, the total cost can be calculated by adding the materials, labor, and overheads together, as shown in Table 6.14. The mark-up can then be calculated to arrive at the selling price.

Table 6.14 Calculation of selling price per product

Product cost and selling price using ABC			
	Round	Square	Octagon
	$	$	$
Materials	120.00	105.00	115.00
Labor	20.00	20.00	21.00
Overheads	27.79	29.89	36.49
Total cost	**167.79**	**154.89**	**172.49**
Mark-up	50.34	46.47	69.00
Selling price	**218.13**	**201.36**	**241.49**

Learning activity. Using the data provided below, follow the same steps as in Tables 6.11 – 6.14 to calculate the ABC for the three types of the picnic table. The solution is provided at the end of section 6.6.5.

Overhead costs

	$
Assembly	93,000
Purchasing	1,400
Delivery	15,075
Machine maintenance	23,500
Inspection	16,250
Total	149,225

Data on picnic tables

	Round	Square	Octagon
Direct material costs per unit	$100	$80	$120
Number of machine hours required per individual product	0.8 hour	0.5 hour	1.0 hour
Number of labor hours required per individual product	1 hour	1 hour	1.5 hours
Number of purchase orders received from central purchasing	4	4	6
Number of deliveries made to the central warehouse	12	25	30
Number of inspections	200	200	250
Production (number of units)	2,000	2,000	2,500
Mark-up on cost to be applied	30%	30%	40%

Labor is paid at $12 per hour including social charges			

6.6.3 Benefits and drawbacks of ABC

Active reading. Think about how ABC is used strategically. Note any difficulties associated with the practical application of ABC.

The use of multiple rates based on the actual activities provides a fairer allocation of overheads associated with each product, as it takes account of the use made of various activities. For example, Octagon uses more inspection resources and, therefore, is charged more of the cost incurred for inspection. The ABC method also highlights the costs of handling orders and delivery as well as inspection, and these areas could be targeted for further investigation. For example, there may be more efficient ways of operation or allocation of resources that could potentially reduce the costs of these activities, improving the profitability of all products. In this way, ABC supports the maintenance of a cost leadership strategy.

It is also worth noting that with ABC, if the level of activity changes on the delivery, order handling, and inspections, then the allocation of costs would also change. It can be dangerous to put too much emphasis on the accuracy of ABC costs, as if they are based on previous years, then these are only valid if the activity in the next year is similar. Also, if based on estimates of next year's activity, they rely on the degree of accuracy in the forecast. It should also be noted that ABC is still a form of full absorption costing and can still lead to incorrect decisions (Geiszler et al., 2017). ABC does, however, provide more detailed information on which to make an informed pricing decision, but consideration should also be given to other factors such as market price, complementary products, degree of marketing support, production capacity, and the overall pricing objective. It is important to discuss the figures with the marketing department, as well as production managers, and undertake some sensitivity analysis around the volumes, as pricing decisions can change the mix of products sold, which in turn will influence the level of activity, such as order handling and delivery, thus affecting the ABC costs.

ABC can also aid the maintenance of a differentiation strategy by providing a more informed cost associated with the functionality or service elements provided as part of the product or service offering. This information can be invaluable not only in determining the pricing strategy but also in evaluating the value added to the product in real terms. Differentiators invariably have a higher cost base, and therefore understanding the costs of the differentiation factors is significant for the sustainability of the strategy in a competitive market.

Despite the benefits of ABC, the adoption rates have been relatively low (Chenhall and Langfield-Smith, 1998; Innes et al., 2000; Kiani and Sangeladji, 2003; Al-Omiri and Drury, 2007; Askarany and Yazdifar, 2007; Byrne et al., 2009). The chief reasons appear to be the degree of complexity, compatibility, and observability of results (Askarany and Yazdifar, 2007), the vast amounts of time and resource commitments required (Kaplan and Anderson, 2004), the lack of integration with other systems in the organization (Sharman, 2003) and a lack of top management support (Kiani and Sangeladji, 2003; Cohen et al., 2005). Baird et al.

(2004) noted that ABC is sometimes used to make improvements to an existing system but was not adopted as a long-term solution, that is, not updated regularly.

6.6.4 Time-driven activity-based costing (TDABC)

Active reading. Note the reason why TDABC was introduced, and the benefits claimed over ABC.

Video link [Time driven activity-based costing](https://www.youtube.com/watch?v=o2TQyrmGsd4&t=1s)

[https://www.youtube.com/watch?v=o2TQyrmGsd4&t=1s]

Kaplan and Anderson (2004) promoted the use of time-driven activity-based costing as a way of reducing the burden of implementing ABC. The ABC process can be reduced to just two parameters, the cost per time taken for each unit of resource consumption of the activity, and the length of time each activity takes.

The best way to illustrate this is to use an example of a customer service department that undertakes three basic activities — handling customer orders, conducting customer credit checks, and dealing with customer complaints. The first parameter that needs to be estimated is how long each activity takes. This data can be collected via a detailed time and motion study or determined based on the experience of the members of the department. Table 6.15 shows the length of time taken by each activity.

Table 6.15 – Time taken by each activity

Activity	Time taken
Order handling	1.5
Credit checks	5
Dealing with customer complaints	8

The total capacity of the department needs to be ascertained to calculate the cost per hour.

To keep the numbers simple, assume that there are 10 workers, who each work a 40-hour week for 50 weeks of the year. This gives a capacity of 20,000 hours. Managers have the option to use the number of hours based on the practical capacity, as the estimate used here does not allow for breaks and so forth. What we are really looking for is the available hours for performing the activities.

Based on management accounting costing records, the costs associated with the department amount to $800,000 per annum. The rate per hour can be calculated at:

$$\frac{\$800{,}000}{20{,}000\ hours} = \$40\ per\ hour$$

Suppose the volumes of activities performed within the department during the year are shown in table 6.16.

Table 6.16 Number of activities undertaken by the department in the year.

Activity	Number performed
Order handling	6,000
Credit checks	600
Customer complaints	500

We can now calculate the costs associated with the activities, as shown in table 6.17.

Table 6.17 – Costs associated with each activity and cost of unused capacity

	Time taken in hours	Cost per activity at $40 per hour $	Activity volumes performance	Cost allocated to the activity $
Order handling	1.5	60	6,000	360,000
Credit checks	5	200	600	120,000
Customer complaints	8	320	500	160,000
The total cost of activities performed				640,000
The total cost of the department				800,000
Cost of unused capacity				160,000
Hours unused				4,000 hours

The benefit of this approach is that it highlights the unused capacity within the department (Anderson and Kaplan, 2004; Kaplan and Anderson, 2007). This knowledge aids resourcing decisions as it might mean that the department is overstaffed, with the possibility of redeploying staff to other value-adding tasks. As with the original ABC, it highlights the costs of activities and prompts inquiry, for example, should it really take so long to deal with customer complaints or credit checks. The processes involved can be reviewed to see if improvements in the systems, training, or other factors could be changed. The added benefit of the approach is that when changes are made to the operation, there are limited changes to be made to revise the ABC process. The two factors to change are either the rate per hour or the time taken per activity. As experience is gained, it provides for better budgeting of the resources required to undertaken activities.

The time-driven approach can also deal with complex operations in that processes can be broken down into their constituent activities. For example, dealing with a customer complaint could involve several processes within the investigation and resolution process. The time taken for each element can be determined, and the total time, which may be an average time for the procedure, can be calculated. The TDABC system could also be made more complicated if an organization found it beneficial to track constituent parts of a process as individual elements, rather than aggregate them into a single operation. For example, customer complaints could be analyzed as to the type of complaint as depending on the nature of the complaint, certain elements, such as return an item to stock, may not be required. Many Enterprise Resource Planning (ERP) systems used by organizations are capable of tracking detailed nonfinancial data and amalgamating this with cost data. The system then provides the information to understand the activities and the associated costs, which makes for more informed decision making.

Linking the ERP data with financial data is the basis of "resource consumption accounting," which is a system that combines the advantages of ABC with the German managerial accounting's emphasis on resources. The system uses detailed data from the ERP systems to track, maintain, and group, accurate information to integrate the operational data with the financial information. Like TDABC, it highlights the use of ideal or underutilized capacity and does not allocate these to products but treats them as a variance. The idea is to make the unused capacity visible to promote accountability for capacity utilization and to facilitate resource acquisition decisions (Van der Merwe and Keys, 2002).

6.6.5 Activity-based management (ABM)

Active reading. Note that activities do not manage themselves but require management to act. Would ABC work without ABM?

When considering ABC, it is worth noting that undertaking an ABC exercise achieves nothing if it is not followed up by management action. It is, therefore, necessary to implement activity-based management systems at the same time. ABM and ABC go together as ABM is concerned with the management of activities to improve the performance of the organization. ABC effectively puts a cost on these activities.

ABM is also useful if used in conjunction with the analysis of the value creation system in that the organization can actively manage the activities. It is a requirement of sustaining a competitive advantage. The value system facilitates the identification of competitive advantage, while ABM can facilitate the management of the activities to maintain the position. ABC provides information that can aid the identification of areas where costs need further investigation as well as valuable information that can feed into pricing strategies, make or buy, and outsourcing decisions.

6.6.6 A solution to ABC learning activity

Step 1 – Calculate the total activity

Activity	Round	Square	Octagon	Total
Number of machine hours	1,600	1,000	2,500	5,100
Number of labour hours	2,000	2,000	3,750	7,750
Number of purchase orders	4	4	6	14
Number of deliveries	12	25	30	67
Number of inspections	200	200	250	650
Production units	2,000	2,000	2,500	6,500

Step 2 – Calculate cost driver rates

Rate per cost driver			
	$	Activity	Activity rate
Assembly	93,000	7,750	12.00
Purchasing	1,400	14	100.00
Delivery	15,075	67	225.00
Machine maintenance	23,500	5,100	4.61
Inspection	16,250	650	25.00
Total	149,225		

Step 3 – Calculate the overheads allocation to products

	Round	Square	Octagon	Total
	$	$	$	$
Assembly	24,000	24,000	45,000	93,000
Purchasing	400	400	600	1,400
Delivery	2,700	5,625	6,750	15,075
Machine maintenance	7,376	4,610	11,525	23,511
Inspection	5,000	5,000	6,250	16,250
Total overheads per product	39,476	39,635	70,125	149,236
				Rounding*
Production units	2,000	2,000	2,500	
Overhead rate per product $	19.74	19.82	28.05	

* Note – the rounding is due to the use of 2 decimal places on the machine maintenance rate

Step 4 – Calculate the product cost and selling price

Product cost and selling price using ABC			
	Round	Square	Octagon
	$	$	$
Materials	100.00	80.00	120.00
Labour	12.00	12.00	18.00
Overheads	19.74	19.82	28.05
Total cost	**131.74**	**111.82**	**166.05**
Mark-up	39.52	33.55	66.42
Selling price	**171.26**	**145.37**	**232.47**

6.7 Lean accounting

Active reading. Think about the practical implications of lean accounting. It is a system that accompanies lean manufacturing. Note the focus on capacity usage and the potential link to the value creation system. Also, note the requirement for the collection and reporting of nonfinancial information.

Lean accounting is proposed as the accounting system of organizations that adopt a lean manufacturing approach. Although the principles of lean can be applied to any function, production process, or service delivery, it tends to be thought of as mostly associated with manufacturing. A fundamental principle of lean is that it helps employees to learn how to use an organization's times and resources better to deliver value to the customer. It is a long-term strategy of continuous improvement.

In lean manufacturing, the process is set out in sequence and groups of activities so that employees perform operations in work cells or groups. Employees are encouraged to cross-train so that they undertake a series of tasks to complete a process in situ rather than undertaking a small element of a process where, under the old systems, a product passes through a series of departments, each undertaking a small task. Inventory of raw materials and components is reduced to a minimum, and just-in-time delivery is demanded of the suppliers, requiring close cooperation within the supply chain.

A primary objective is to eliminate wastage in the process as this wastes time and money. For example, reworking a product takes time, and if this is reduced, it not only saves time, it frees the capacity to produce good products. It is a customer-focused demand-pull system so that instead of manufacturing for stock, manufacturing occurs in response to customer orders. If flows through the process can be improved, inventory reduced, and on-time delivery met, revenue growth should follow. It is argued that improved productivity means improved cost control and improved capacity (Maskell and Baggaley, 2006).

Lean manufacturing embraces similar principles to those put forward in the ISO 9001:2000 quality standard. The international quality standard incorporates the principles of customer focus, leadership, involvement of people, process approach (managing related activities and resources as integrated systems), systems approach to management (managing groups of related processes as integrated systems), continual improvement, factual approach to decisions, and mutually beneficial supplier relations. All of these can be seen to be embedded within lean.

A problem with traditional accounting systems is that it can encourage production to keep average costs low. If there are high fixed costs, one way to reduce the average cost or overhead recovery is to produce more products. This action can encourage high inventory levels, which ties up space and capital.

Organizations using lean manufacturing also found that using a standard costing system did not work so well as a tool for the management of costs. Standard costing systems establish a standard cost for each product and use this to calculate a range of variances from actual costs that allows managers to see where and why deviations from standard occur and thus to take corrective action. Traditional costing systems are based around allocating costs to departments and allocating costs to products. Lean focuses on creating value streams that do not necessarily fall neatly within departments but follow a process of creating value through the system. Therefore, many of the variances calculated from standard costing do not mean anything.

A value stream is the sequence of activities from order receipt to shipment that is necessary to create the product to ship to the customer. Proponents of lean accounting (for example, Cunningham and Fiume, 2003; Kennedy and Brewer, 2005; Maskell and Baggaley, 2006; Searcy, 2009) argue that the accounting system should be based on the value streams as these are the profit centers. Profit is generated by improving flows, reducing inventory, and overheads through value streams. The costs recorded against the value streams are the direct costs that relate to each value stream. Corporate overheads are reported below the line, which can make it difficult to price products and identify product profitability due to the full product cost not being calculated (Kroll, 2004). However, market pricing can be used as a guide to pricing, and target costing (section 7.8) used to assist in the design of the product.

Reporting of the revenues and costs is done via an income statement for each value stream. The principle of simplifying the reporting of performance tries to make it more understandable for managers. Often, under systems of standard costing, some of the overhead variances were difficult for managers to understand and, more importantly, to know what to do in response to variances. Under lean accounting, a box score is created for each value stream, which can be produced weekly, monthly, quarterly, or at whatever frequency is desirable. The box score focuses on three elements — operating performance measures, capacity usage, and the income statement. It is designed to be a single page report. Table 6.18 shows an example based on versions suggested by Searcy (2009), Cunningham and Fiume (2003), and Maskell and Baggaley (2006).

The example incorporates several ideas but in practice would be drawn up with the aid of the managers that would use the report. Columns could simply show period comparisons; however, the example shows how it can be used as a motivational tool to encourage continuous improvement. The actual change column included would show the improvement since the last reporting period. Managers could use this information to identify the reasons for the change and strive to make continuous improvements in all areas. The financial measures do not include a budget column for comparison as the principle is to improve continually on past performance. The revenue and costs directly reflect the activity of fulfilling customer orders. The capacity measure helps to manage the level of resources required to meet orders.

The capacity represents the total time available in the period. Non-productive time represents activities that do not add value such as changeovers, scrap or rework, downtime, maintenance, inspections, administration time, and so on. These could be reported in more detail as part of a "cost of quality report" discussed in section 6.8. The available capacity is 100% minus the productive and the non-productive time. It is considered normal to operate with available capacity at around 15-20%. This provides some flexibility to cope with sudden increases in demand, but the non-productive time should be kept to a minimum.

Table 6.18 – Box score for lean manufacturing

Box score for value stream A			
	Target improvement	**Current state**	**Actual change**
Operational measures			
Units (or Sales) per person			
Number of stock outs			
First time through (i.e., no rework required) %			
On-time shipments %			
Dock to dock days (order to shipment)			
Average cost per unit (or sale)			
Capacity measure			
Productivity %			
Non-productive time %			
Availability %			
Financial measures	**Last period**	**This period**	**Change**
Net revenue			
Material costs			
Employee costs			
Machine costs			
Utilities			
Facility – occupancy costs			
Shipment costs			
Total costs			
Value stream gross profit			
Gross profit %			
Inventory value			

Note that the income statement stops at a bottom line of gross profit as other corporate overheads are not part of the value stream but facilitate the operation of the whole organization. The objective is to charge only those costs that are causally related to the value stream, that is, those costs that are controllable by the managers concerned with the value stream. This format aids the ownership of the statement by the managers.

Supporters of lean accounting argue that a benefit of this style of accounting is that it encourages continuous improvement and better management of resources. Changes in the operations and reduction in inventory levels can be directly reflected in reporting statements and hence lead to better-informed decisions by managers who receive reports in a format that they can understand.

It does, however, require some changes to the accounting system. During the process of changing to lean accounting, reports can show some adverse positions, notably as inventory levels are reduced due to sales being satisfied from existing stock rather than being produced in real-time. This reporting can cause concern among managers but, if persevered with, the benefits can be seen to filter through as the manufacturing process becomes genuinely lean. Much of the information required for lean accounting is now collected via enterprise resource planning (ERP) systems used by many manufacturing companies.

Learning activity. Think about techniques such as customer profitability, activity-based costing, and lean accounting. Do you think there would be similar challenges involved in implementing these techniques? Are there any common factors between the techniques with which a traditional accounting system might find it difficult to cope?

6.8 Cost of quality

Active reading. Note the classifications of the costs of quality and think about the tangibility and intangibility of some of the elements. Also, think about the requirements for data collection of financial and nonfinancial data. Note the need for accountants to work with other professionals and the use of other related techniques, illustrating that accountants do not work in isolation, nor are the techniques used in isolation.

Video link Costs of quality

[https://www.youtube.com/watch?v=Ss9mlvIQbLo]

Control of quality is often a key element in a differentiation strategy, even though consumers expect a degree of quality in their low price purchases. Therefore, understanding the costs associated with quality is an essential aspect of the sustainability of the strategy. Quality has many different definitions, but perhaps the one best suited to the purpose of this learning resource is that quality means "fitness for purpose," that is, does the product or service do what it is supposed to do? It then means that even low-cost items are subject to the costs of quality.

In general terms, the costs of quality can be defined as all resources employed by an organization to assure quality standards (Bohan and Homey, 1991). Managing the costs of quality, however, is as much about improving customer satisfaction (Kiani et al., 2009) as it is about keeping costs low and improving the quality of products (Srivastava, 2008). It should embrace the whole organization and the value creation system, including business partners.

The costs of quality can be analyzed into four main categories (Feigenbaum, 1956).

- Prevention—expenditures incurred to keep quality defects from occurring. These are typically costs associated with activities such as training, supplier evaluation, and quality planning.
- Appraisal—costs incurred to identify and control if the products or services conform to the required specification. These are typically costs associated with the activities of inspection, quality control, supplier monitoring, and customer surveys.
- Internal failure—any costs incurred because of failures identified via the appraisal system before the delivery to the customer. These are typically costs associated with the activities of reworking, downtime, equipment failure, re-inspection, and testing.
- External failure—costs incurred to rectify quality defects after the product or service has been delivered or provided to the customer. These are typically warranty costs, product liability insurance schemes, and contribution lost from customers who do not return, or who do not consider the offering due to loss of corporate reputation.

These can be separated into conformity and nonconformity (Crosby, 1979), as shown in Table 6.19.

Table 6.19 Costs of conformity and costs of non-conformity

Cost of conformity	Cost of nonconformity
• Prevention costs • Appraisal costs	• Internal failure costs • External failure costs

Most organizations will have some form of cost of conformity for which a budget, or target limit, can be prepared. Objectives can be set to reduce or keep the cost of conformity to a minimum. Ideally, if nothing ever went wrong, the cost of nonconformity should be zero. However, if things do go wrong, then there is a cost associated with the failure. Costs of rectification either before or after the customer receives the product or service will be incurred, and, in the case of external failure, it could result in loss of reputation and potential future sales. The cost, in this case, is the lost contribution on those sales. A key aspect of dealing with quality failures is to investigate the reason for the failure and to instigate changes so that it does not happen again.

Juran et al. (1975) highlight the intangible nature of some of the costs of quality, such as loss of goodwill and potential loss of future customers. Poor quality can also have an impact on employee morale, which can have a perpetuating effect on poor performance. As with motivation, it is not just a case of motivating employees to achieve excellent performance but also of ensuring that they have the skills, resources, and equipment needed to perform their job to high standards.

Tracking the costs of quality may not be easy in the first instance. As with ABC, there may be a need to develop the accounting systems to collect data in a form that is easily translated into meaningful reports for management. ABC can be a useful technique to employ in identifying and tracking the actual costs of activities associated with quality (Carolfu, 1996; Tsai, 1998; Maiga and Jacobs, 2008). The accountants and quality professionals in the organization need to work together (Mandal and Shah, 2002) to gain maximum benefit from tracking and reporting the cost of quality.

It is, however, not just a case of monitoring the costs but of understanding the costs of quality and making decisions about the potential trade-off between costs. This can impact on the market offering and benefits emphasized in the marketing strategy. For example, an organization may decide to reduce the number of inspections based on statistical analysis that historically, very few products are manufactured that are of poor quality. However, this increases the potential risk that a defective product could get through the process and into the hands of the customer. The policy could then be to replace the product immediately, free of charge, and without question. The customer focuses on the excellent customer service received rather than the fact that there was a problem. The organization can also make trade-offs in terms of training and inspection. If the investment in training is increased, in theory, the number of failures should be reduced, and the cost of failure should also be reduced or eliminated. In this way, accounting for the costs of quality is not just a monitoring activity but can form the basis of policy decisions and support the competitive strategy.

6.8.1 Cost of quality report

Active reading. Note the range of items included under each heading. Think about how each element could be controlled, the accuracy with which a target can be set, and the actual cost can be recorded.

A typical example of the costs of quality report is shown in Table 6.20

Notice that quality planning and supplier evaluation are part of prevention, and customer surveys are part of the appraisal costs. The cost here is the administration cost associated with undertaking the activity. Also, note that the contribution lost from sales will be an estimated value as this is difficult to calculate with a high degree of accuracy. It is often associated with publicity around an event, such as product failure. In instances such as this, it may be possible to calculate the volume of sales lost, based on previous experience of sales growth, the difference between expected sales levels, and those achieved. Any shortfall may be due to adverse publicity around product failure. Reporting such figures helps to highlight the significance of quality failures and can be used to galvanize the organization into improving the processes.

Table 6.20 A typical costs of quality report

	2020	2019	Change
	$	$	%
Prevention costs			
Training	16,000	15,000	7
Quality planning	5,000	5,200	−4
Supplier evaluation	2,000	3,000	−33
Other quality improvements	4,500	6,000	−25
Total prevention costs	27,500	29,200	−6
Appraisal costs			
Testing	50,000	51,500	−3
Inspection	40,000	42,000	−5
Supplier monitoring	10,000	11,000	−9
Customer surveys	12,000	10,000	20
Total appraisal costs	112,000	114,500	−2
Internal failure costs			
Rework and rejects	7,500	8,000	−6
Reinspection and testing	3,000	2,500	20
Equipment failure cost of repairs	1,500	1,500	0
Downtime	1,000	1,200	−17
Total internal failure costs	13,000	13,200	−2
External failure costs			
Product liability costs	75,000	75,000	0
Repairs under warranty	120,000	125,000	−4
Contribution foregone from lost sales	15,000	13,000	15
Total external failure costs	210,000	213,000	−1
Total cost of quality	362,500	369,900	−2

Learning activity: Think about a time when you were disappointed with a product you purchased or a service you experienced. How did it make you feel? How important do you think it is for an organization to have a strategy for dealing with customer complaints? How would this help reduce the potential intangible elements of external failures?

Concerning internal failures, there can be a detrimental effect on employee morale in cases where there are high failure rates and a high incidence of reworking involved. Poor employee morale has been shown to cause quality failures. What could the organization do to prevent the demotivation of employees and the lowering of employee morale? How would this be recorded within the costs of quality?

6.9 Summary

Management accounting can support the development and sustainability of competitive strategies in the following ways:

Appropriate accounting techniques

Ensuring that the appropriate accounting techniques and reporting enable management to control costs in support of the strategy adopted, whether it is based on one of cost leadership or differentiation.

Revisit Chapter 2 and the discussion of whether organizations that follow a strategy of differentiation are more likely to adopt strategic management accounting techniques than an organization that follows a strategy of cost leadership.

ABC

The adoption of ABC and TDABC to highlight activities where business processes could be improved to reduce costs or resources used to more significant effect.

Monitoring and reporting

Monitoring and reporting on the costs of quality to support the strategy adopted, particularly if the differentiation factor is based on high-quality products.

Sustainability of competitive strategy

Coupled with the environmental analysis evaluating whether the competitive strategy is viable in the long run. For example, if the market is becoming highly competitive and margins are being reduced due to downward pressure on prices, a cost-led strategy may not be viable in the long run if economies of scale cannot be maintained.

Evaluation of options

Assisting in the decision to pursue a strategic option by assessing the likely outcomes in financial terms based on the use of strategic tools. For example, evaluating competitive strategies to attract profitable customers (CPA), by developing new products for growing markets (portfolio analysis), given the changes in the environment and the current position relative to the key competitors. The accountant can use the analysis of several models and tools by converting them to the common language of financial numbers.

6.10 Review questions

(1) Briefly outline the definition of the competitive strategies of cost leadership, differentiation, and focus.
(2) Critically evaluate whether an organization following a strategy of differentiation is more likely to adopt the strategic management accounting techniques discussed in Chapter 4 and Chapter 6 than an organization following a strategy of cost leadership. (You could revise the discussion in section 2.5 to refresh your memory of the arguments from the research literature).
(3) Critically evaluate activity-based costing as a method of calculating and controlling product costs.
(4) In what circumstances would adopting TDABC be appropriate and discuss the key benefit claimed for its use.
(5) Discuss the categories of the costs of quality, giving examples of each.
(6) Discuss how management accounting can contribute to the selection and sustainability of the competitive strategy.

6.11 Case study activities 9 – 12 – HW Inc.

The following activities relate to the case study in Appendix A of this learning resource. You may need to refer to the information contained in the appendix to refresh your knowledge of HW Inc.

Case study activity 9 – HW Inc. Competitive strategies

The senior management team (C-suite) at HW Inc. is becoming concerned about the decline in profits of its business unit in Italy. They have asked the Managing Director of the Italian business to provide a full report outlining the reasons for the decline and a suggested strategy to improve HW's performance in the country for the next year.

While they were waiting for the formal report, the Finance Director at HW Head Office had reasons to contact the Managing Director of HW Italy about another matter but raised the issue of the declining profits. He made some notes during the conversation. One aspect that interesting him is that the problem appeared to be focused on the Furniture and Interior Design section of the business.

The Managing Director was adamant that the electrical, clothing, and financial services parts of the business were all very profitable but that the furniture section has been hit hard by a new entrant to the market who was undercutting prices. An existing major competitor had responded by matching prices and increasing its marketing expenditure on furniture promotions. The furniture market in Italy had become intensely competitive in recent years as independent manufacturers and retailers had fought against the large chain stores gaining market share. The focus of competition in recent years has been on price. Italian consumers, although they were quite sophisticated in their tastes, were also prepared to shop around for the best deal.

There appeared to be different opinions within the local management team at HW Italy. The Marketing Director was suggesting that HW Italy should match the new entrant and the competitor move and promote furniture sales and reduce their prices to match. This proposal was based on the idea that the increased volume sales would generate the increased margin to pay for the advertising and increased overall profits and that the new entrant would be forced out of business, restoring the market to the usual competitor companies again. The new competitor was selling a basic design of furniture marketed under the slogan, “Quality at low prices.” HW Italy was offering a wide range of furniture units of good quality with some leading brands, as well as the HW's own brand. Although HW offered a wide choice of product range, the difference was in style rather than the price, that is, units were of a similar price bracket and sales each year were reasonably consistent in terms of the mix of units sold.

The Operations Director felt that the production cost of the furniture was too high for them to compete and that they should reduce the inventory items of furniture and move the focus more towards clothing and electricals. The cost of the HW branded furniture that was manufactured in the HW U.K. factory and shipped to Italy had increased due to the fluctuating exchange rate against the Euro in recent months, and this would only reduce margins even more. Also, the cost of other branded furniture that was sold in the retail stores had increased from their suppliers.

The Interior Design services business, however, was good as they consistently made a net profit of 15% of sales revenue. The suggestion from the Operations Director was to reduce the number of furniture ranges offered for sale, perhaps limiting it to a small range of quality styles sold under the HW brand, and promote the Interior Design services. He illustrated his point by commenting that the manager of the Interior Design team had noticed a marked shift in kitchen design that customers were not only looking for a good deal but also looking for functionality with style.

He criticized the Marketing Director’s suggestion on the basis that it would reduce HW to a strategy of cost leadership, which would be bad for the image of the company, whereas differentiating on quality and service would enhance this part of the business, and give it an edge in the market. The manager of the Interior Design team is confident that they could increase their sales of design services if they were able to offer a product range that fitted more neatly into the functionality with style category.

The Managing Director said the management team was preparing a detailed report and that they would forward this as soon as they were able.

During the conversation, the Managing Director had read out some figures relating to the kitchen units sold and the Interior Design business generated from kitchens, which the Finance Director of HW head office had jotted down. He has provided the information above, and the figures are shown in Table 6.21. He has asked you for an initial opinion on the implications of the two suggestions.

Table 6.21 Indicative figures from the kitchen section

Year	Total number of Kitchen Units sold	Sales Value of Kitchen Units	Interior Design Sales revenue generated from Kitchen design	Operating profit generated from Kitchen Units and Design together
		€m	€m	€m
2018	2,050	922,500	650,000	162,000
2019	2,700	1,080,000	600,000	144,000
2020	3,600	1,260,000	550,000	107,500

Note: Profit from Interior Design services usually is 15% of the sales value generated from Design. The Interior Design services part of the business is not restricted to selling HW branded goods but can select any kitchenware products from the range of manufacturers that HW stocks.

All the kitchen units are of a similar size – the design aspect comes from selecting appropriate units that are joined to create the desired kitchen, for example, base units, corner units, wall units.

Activity requirement:

(a) Using the numerical information provided in Table 6.20, investigate whether a strategy of cost leadership is a viable option for HW Italy.

(b) Based on what you know about HW Inc. and the information provided by the Finance Director recommend, with justification, a suitable competitive strategy that HW Italy could adopt. Also, highlight any additional information or analysis that you think should be undertaken before a final decision is made.

Case study activity 10 - ABC factory-made picnic tables

The furniture factory based in the U.K. has traditionally used a single rate of overhead recovery based on the number of units it has produced. The head office finance department has requested that they review whether they should adopt activity-based costing. They have ascertained the following information about two of their most popular ranges of a picnic table. They are planning to use this as an illustration of the benefits of ABC. The factory 'sells' the products it manufactures to the retail store division and usually adds a mark-up of 25% to the furniture products it makes. The accounting team has provided the information shown in Table 6.22.

Table 6.22 Basic data on picnic tables (figures provided in $)

Product	**Alpha range**	**Beta range**
Output in units	12,000	14,000
Costs/cost drivers		
Direct materials in total	$240,000	$350,000
Direct labor in total	$168,000	$147,000
Total machine hours	2,100	2,400
Orders executed	150	110
Number of production runs	90	40
Number of shipments	50	15
Number of product returns from retail stores or regional depots	90	40

The production overhead is currently absorbed by using units, and the total of the production overhead for the period has been analyzed as shown in Table 6.23

Table 6.23 Analysis of production overhead related to picnic tables product

Activity pools	**Annual costs $**	**Cost driver**
Production overheads	180,000	Machine hours
Material handling	78,000	Orders executed
Quality enhancing and inspection	130,000	Number of production runs
Delivery	26,000	Number of shipments
Production return management	15,000	Number of returns
Total	429,000	

Activity requirement:

(a) Calculate the selling price based on the current traditional method and using the ABC approach.

(b) How does this aid the decision making of HW's management team?

Case study activity 11 - TDABC and call centers

HW Inc. sells many product lines within its stores and prides itself on customer service. Product lines are looked after by product line managers. Typically, a product manager will take responsibility for liaison with everything about that product line or product group within the stores. They operate on a national basis, that is, a manager is responsible for a product group within all stores in the U.K. A product group could be health and fitness products, audio-visual products, kitchen products, lighting products, and so on. For small product groups, a manager might look after more than one group.

HW Inc. currently operates a central service call center that deals with customer calls for information and complaints. The costs of the call center are presently allocated based on 10% of the sales value of the product groups.

The manager of product Y is upset because he has just received a report, Table 6.24, showing the following information relating to the year 2020.

Table 6.24 Information for product group X and Y

	Product group X	Product group Y
Number of calls for information	5,000	2,000
Average length of call for information	10 minutes	6 minutes
Number of calls registering complaints	1,500	300
Average length of complaint calls	12 minutes	6 minutes
Sales volume	\$200,000	\$800,000

Product group Y contains products that are simple to use, and consumers have little concern about adverse health effects. Product group X includes products that are more complex to use and have quite a few health hazard warnings on their labels and in their instructions for use. The manager of product group Y argues that the current system is unfair as it does not trace call center usage direct to products. For example, product group Y bears four times the cost of group X, although group Y has far fewer calls associated with it and consumes less time.

(a) What activity cost driver would you recommend to improve the current system of assigning call center costs to product groups? Why is your method an improvement?

(b) Suppose that HW Inc. decides to allocate costs using an activity-based method and chooses the basis of minutes of calls as the activity cost driver. Suppose the average cost of handling a call is \$1 per minute. Compare the costs incurred by product group X and Y under the new system and the old.

(c) What actions can the product managers take to reduce the number of calls received by the call center? What might other functional areas of the business do to help reduce the number of calls per product?

(d) Who might resist the implementation of the new activity-based cost system?

(e) From HW Inc.'s point of view, how might the ABC system and the value creation system help in the assessment of whether to outsource the call center activities?

Case study activity 12 – HW Inc. Cost of quality

Furniture from HW Inc. Guildford store

The following letter was red-flagged and created a major alert at the HW local retail store and the management team of HW UK, who is demanding an immediate investigation into what went wrong and what was going to be done to stop it happening again.

Dear Sirs,

In December, I purchased a new house ready to begin working at my new job in Nottingham in January.

On the last Saturday in December, I decided to go shopping at one of your stores in the town where I currently live in Guildford, Surrey. I decided I would need a new dining table and chairs, sofa and armchair, as my current furniture had seen better days.

I arrived in the furnishings department in your Guildford store at 9:10 a.m. to beat the rush. I wondered around the department sitting on chairs, sitting on chairs at various dining room tables, sitting on sofas and armchairs, and looking through material sample books for 20 minutes before deciding to go off in search of an assistant. At the 'Pay Here' desk, I found someone and asked if anyone was available to help in the furnishings department.

'I could find someone for you,' the assistant replied with a degree of reluctance.

Someone was found – a person I had previously seen walking through the department several times. They very kindly offered to help and began to take my order. It took about 15 minutes to place the order on the computer system, which included several aborted attempts to find the order code for the items I required. I was left feeling not hugely confident that the goods I was purchasing had been processed correctly. I was informed that all the furniture had to be made to order and would take about six weeks to arrive.

When it came to paying, I had to go to the pay desk. A different assistant asked if I had an HW Inc. credit card, as this would allow me a 10% discount. I replied No, so I was persuaded to apply for an HW Inc. credit card to benefit from the discount. The application was processed at the till, credit check performed, and card granted. It took about 10 minutes as a manager had to be found to authorize the application. As the order for the sofa and armchair, and dining table and chairs came to more than $1,000 – the limit allowed on a new card application, I was told I could put $1,000 on the new card, which I duly did, and used my HSBC card to pay the balance – they very kindly allowed the 10% discount on the entire purchase. I was also persuaded to take out insurance offered with HW Inc.'s credit card costing $3 to protect the purchase. It was then automatically added to the HW Inc. credit card bill.

Two weeks later I received a telephone call saying that the supplier of the sofa had a problem with their supplier of cloth, and it would take another three weeks for the furniture to be made. I would be contacted when it was ready.

One week later, I received a letter from the legal department of Visa Card Services. They apparently manage the credit card for HW Inc., telling me that the card was overextended by $3 and unless this was cleared immediately, it would be stopped and legal action taken to recover the debt. The letter also informed me that the account would be charged with $15 for the administration costs. As the insurance had been charged to the credit card automatically, the total charged to the card was $1,003. It seems to me to be unreasonable as it was an error on the part of the store employee. I have written to Visa Card Services explaining the situation and have paid the $1,000 and suggested any additional charges be reclaimed from HW Inc. I have also asked Visa Card Services to cancel the card with immediate effect.

I also received a letter saying that my dining room table and chairs would be delivered on 21st January. There was a contact phone number to use if the date were inconvenient; if however, no communication was received, it would be assumed that the date was acceptable. I telephoned to arrange a more convenient date.

When the dining room table and chairs were delivered, the chairs were of a slatted back version, and not leather-backed, as had been ordered. The delivery staff were unhelpful, commenting that they had never delivered any leather-backed chairs with that style of table before and did not think that the company sold them. They did, however, leave the incorrect chairs so that I could sit down and suggested that I contact their administration office.

I contacted HW Inc., who said that the supplier was at fault and gave me a number to contact the supplier. I contacted the supplier and was told that the wrong chairs had been loaded on the van - I would be contacted with another delivery date. After two days, I contacted them again and spoke to a different person, and this time I was told the chairs were being made for me.

Four weeks later I received a letter saying that the chairs would be delivered on 3rd March. I telephoned again to say that the date was inconvenient – 'Thank you – I will cancel the delivery,' the girl answered and put the phone down. I wrote to you to lodge a complaint stating that if they were not delivered before the end of March, I would cancel the order, demand the return of the money, and purchase chairs from another source. No response was received. But I did receive another letter with another delivery date for 24th March – I rearranged work to enable me to be at home when they arrived. The chairs were delivered on that date, and the delivery staff kindly took away the incorrect chairs and left the new ones in their place.

On 16th March, I was contacted by HW Inc. to say that the sofa and the armchair were ready and that a delivery date could be arranged. You were unable to deliver them on 24th March, when I had arranged to take a day off work to take delivery of the dining chairs, but a date was arranged for April.

When the sofa and chairs were delivered in April (I had taken another day off work so that I was at home when they were delivered), the chairs were fine, but there was a snag on the sofa, which was very visible as it was on top of the backrest. The delivery driver noted this and advised that they would leave the sofa but that I should contact the administration office to see what they could do about replacing the sofa.

As the delivery van was driving away, and I was picking up the phone to contact the administration office, I noticed that there was also a mark on one of the seat covers that looked like oil. I pointed this out when I was in contact with the office. The lady from the office was very apologetic, and I was told that the sofa would be replaced. However, the next day I was told that the headrest element could be replaced but that I would have to pay for the seat cover, as this was not recorded on the delivery document as being at fault.

I would now like my money back for the sofa and matching chair, and you can collect the sofa and chair at your earliest convenience.

I look forward to hearing from you and thank you in advance for your kind assistance in this matter.
Yours faithfully

V. Annoyed Esq.

Required

(a) What are the problems or failures in the above scenario, and how could they be overcome?
(b) What are the costs for the company associated with the scenario outlined above?

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CHAPTER 7 - Strategic options generation

7.1 Introduction

The strategic options generation phase logically follows the strategic position analysis. If a gap is identified between where the organization wants to get to and where it will get to, if it continues with the current strategy, the strategic options phase is where the various options to close the gap can be considered. It is perhaps worth pausing to note that although this learning resource adopts a linear and rational approach to strategy development, elements of this phase will be thought of in the very first instance of starting a business. The basis of the competitive strategy is a decision that has almost certainly been made in the early life of an organization. It is, however, still important at various times to check that the strategy is always appropriate, given the environmental changes that have occurred since embarking on the original strategy.

Changing strategy is not something that can be done overnight and is often a marketing-led strategy. Customers will have positioned the organization's products and services in their minds against the competitor offerings, and it will take time for them to adjust. For example, at one time, Skoda Auto, a Czech based company, had a poor image in some parts of the world and was often the butt of jokes about being low in price and poor on quality. After a period of state ownership, it was purchased by Volkswagen in the year 2000 and became a wholly-owned subsidiary. Volkswagen ran a marketing campaign based on the slogan, "We've changed the car, can you change your mind?" It took a few years, but the Skoda Octavia and other cars in the portfolio have won the best car awards since then. Whether this is cost led or differentiation is difficult to tell from the outside. Still, the role of marketing to back up changes to the strategy is highlighted in that the differences must be communicated effectively to the customer.

Competitive strategies were covered in Chapter 6, and in this chapter, we cover options based on the strategic direction of growth put forward by Ansoff (1965), which are still valid today and the method of adoption. The competitive strategies in Chapter 6 and options in Chapter 7 follow a three-step approach illustrated in Figure 7. 1.

The accounting techniques of target costing (section 7.8) and life cycle costing (section 7.9) are discussed in detail due to their relevance to the new product development strategy. These are becoming more popular, particularly life cycle costing, as the awareness of the need to develop sustainable products that take account of the cost of recycling and the use of sustainable materials.

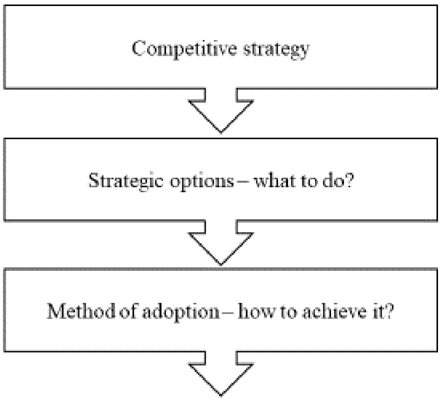

Figure 7.1 Three-step approach to strategic options

7.2 Learning outcomes

After studying this chapter, you will be able to:

- Identify and suggest a range of strategic options for an organization
- Critically evaluate the techniques of target costing and life cycle costing
- Discuss the different methods of achieving growth in an organization's activities
- Critically evaluate the contribution that management accounting can make to the generation of strategic options

7.3 Ansoff's growth vector matrix

Active reading. Note that the focus is on strategies for growth. The matrix is based on the two key aspects of strategy that an organization decides - products and markets.

Video link Growth strategies adapted from Ansoff's matrix

[https://www.youtube.com/watch?v=mXi9Ctzf6p4]

Ansoff (1965) identified four key strategies for growing an organization: market penetration, product development, market development, and diversification. These can be represented in a matrix, as shown in Figure 7.2. The matrix provides a useful framework for thinking about potential strategic options available to an organization. Figure 7.2 also includes two other options in the existing products and existing market quadrant of consolidation and withdrawal. These were not part of the original Ansoff matrix, but they do provide strategic options to the current strategy of the organization and can aid growth. Strategies can also consist of more than one element; for example, an organization may pursue a dual strategy of product development and market development. It is also possible to launch a new product or enter a new market using a strategy of market penetration; therefore, the strategies can be used in conjunction with one another.

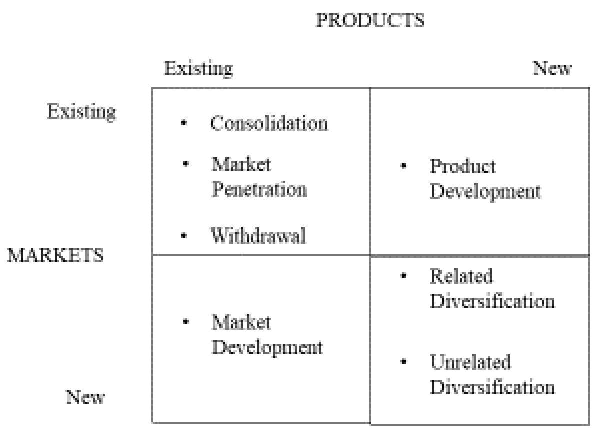

Figure 7.2 Growth strategies to fill the profits gap

7.4 Strategies for growth

Active reading. Note how the strategies described in this section build on knowledge gained from existing strategies.

7.4.1 Withdrawal

Portfolio analysis was discussed in section 4.5, in which the possibility of withdrawing an existing product from the market was highlighted as an option. Withdrawing a product can be a way of releasing resources that can be diverted to more profitable products and therefore present itself as an option to support growth. Similarly, withdrawing from unprofitable markets can achieve the same objective of releasing valuable resources.

There are, however, considerations to withdrawing as the organization will have invested time and resources in developing products and markets, and the decision will not be taken lightly. There may be costs of withdrawing; for example, an automotive vehicle organization deciding to withdraw from the 4 x 4 market may involve closing a factory making the staff redundant. In some cases, there has been political pressure on the organization not to withdraw, or there could be adverse publicity that impacts the public perception of the brand. It may even be prudent to keep the product line in the market as its presence may encourage sales of other products in the portfolio. For example, an organization selling air conditioning units found that by selling basic units on which it made very small margins enabled the sales of other energy-saving heat exchange and ventilation systems on which it made a much better margin. The basic units became a loss leader product.

7.4.2 Market penetration

Market penetration refers to the situation where an organization seeks to increase its market share in existing markets with the existing products, for example, through competitive pricing, advertising, sales promotion, and so on. The strategy seeks to secure dominance in growth markets. Models such as portfolio analysis (section 4.5) could be used to identify potential markets where this strategy might be appropriate to develop a question mark product into a star product. Market penetration strategies can also be used to force out competition from the market, leaving the organization with a dominant market share.

Typical strategies employ price and product awareness where a discounted price is offered coupled with aggressive marketing campaigns. The impact on margins needs to be considered here as there is a danger that if an aggressive pricing strategy is employed to achieve market dominance, it could reduce the overall profitability of the market as consumers become used to the lower price. Marketing devices employed to encourage brand loyalty, such as the introduction of loyalty cards and promotional activity, is also relevant, but again the cost of providing these needs to be understood.

7.4.3 Consolidation

Consolidation refers to the situation where a company seeks to consolidate its position within a market by maintaining its market share. Customer loyalty programs are common techniques. Focusing more effort on the profitable market segments determined via customer profitability analysis or on markets where a market-leading position can be maintained are common strategies that can be employed to consolidate the organization’s position in the market.

7.4.4 Product development

Product development refers to developing new products for existing customers. It is slightly riskier than concentrating on existing products and existing markets, as not all new products will be successful. The argument is that the organization should understand its customers and therefore be able to launch products that are attractive to existing markets. Ideally, they should be new products to profitable customers. It is also relatively important to keep a product base up to date via the development of the new product offerings, particularly if cash cows are reaching the end of their life. If this is maintained as a long-term strategy, it requires constant investment. The technology industries such as mobile phones are one in which new products are launched at regular intervals, with marketing campaigns to persuade customers to upgrade.

7.4.5 Market development

Market development refers to the strategy of entering new markets with existing products and is also riskier than market penetration and consolidation as the products may not sell well in new markets. It can include new geographical areas and new channels to market, such as selling via the Internet or TV shopping channels. The classic example is expanding sales into overseas markets, which raises cultural issues and may require some adjustment to the product offering with an associated impact on costs, pricing, and profitability.

7.5 Evaluating viable international markets

Active reading. Note the use of a strategic framework to provide the basis of considering suitable targets for overseas expansion. Note the elements that need to be considered under each heading of the framework discussed in section 7.5.2.

Video link [Porter's competitive advantage of nations (Porter's diamond)](https://www.youtube.com/watch?v=4LxwaBikP6o&t=26s)

https://www.youtube.com/watch?v=4LxwaBikP6o&t=26s

There are three critical decisions to make when considering expanding into international markets.
Firstly, whether to market aboard at all? Secondly, which markets to enter? And finally, which mode of entry is the most appropriate at the time?

7.5.1 Whether to market abroad.

Opportunities to expand into international markets may be identified from the environmental analysis. The advantages include expanding sales and potential profits, lengthening the life cycle by selling into new markets, and spread the risk, both geographically and economically. There may be seasonal aspects that can be exploited, for example, products that are enjoyed in summer months can be sold in different countries depending on when their seasons occur. Operating in different countries can reduce the risk of economic cycles, for example, economies may do well at different times, and the risk exposure to political influences could be mitigated by operating in several markets.

There are, however, drawbacks in that the further away from the domestic market, the more difficult it is to control. The issue of control can be addressed via the market entry mode. There is a cost associated with the expansion, and considerable investment may be required, again depending on the entry mode adopted. There may be elements of the product or service that need adapting to make it acceptable in overseas markets, for example, cultural or legal reasons. The legal aspects need careful research as regulations will differ between markets.

In some cases, there may be cost advantages, for example, the safety requirements of an automotive vehicle sold into India are less stringent, and hence less costly, than the one sold into European markets. This sets up an ethical issue as to whether local standards are adopted, or a higher organization-wide standard is applied based on the most stringent standards to which the product must be made in the markets it serves. Using a higher standard could put the organization at a cost disadvantage to competitors that adopt the local standard in each location.

7.5.2 Which markets to enter?

It would be advisable to undertake an environmental analysis concerning the potential overseas markets. One aspect would be the attractiveness of the overseas market and whether the organization would have any possible competitive advantage over the existing competition.

Porter (1990) proposed a framework for analyzing the competitive advantage of nations to explain why some nations have a global competitive advantage in certain industries. The elements of the model that Porter identified can be used to aid the evaluation of a potential country for expansion.

Factor conditions

When expanding overseas, the degree to which the basic factors (land, labor, and capital) and advanced factors (technology, education, and infrastructure) are required need to be assessed. The basic idea behind Porter's theory is that a nation that has an abundance of basic and advanced factors will be more competitive than a nation that has not. It has echoes of comparative advantage in that a country that has access to cheap labor will potentially have a comparative advantage in labor-intensive goods. In contrast, a country that has access to capital and technology will likely have an advantage in capital intensive goods.

The mode of entry and degree to which operations are established, for example, export or local manufacture, will again influence the local need for these basic and advanced factors. Still, an assessment must be made as to the extent to which the factors need to be present. For example, is a skilled workforce required? It may be that labor does not need to be highly skilled and is plentiful and inexpensive, and establishing manufacturing facilities in a certain country to access the less expensive labor is advantageous. It is, however, important to note that a presence of factors does not guarantee success; it is how they are deployed that matters.

Demand conditions

The demand conditions in the overseas market need to be reviewed. For example, how sophisticated and demanding are consumers? What are the demographics? An educated workforce from the factor conditions analysis also implies an educated consumer. Ideally, if there are segments of the market that have the same characteristics of the domestic or home market, it means that the organization may understand how the market will respond to its products. Is the market growing or mature? Cultural issues need to be considered, and any adaptations to the product or service ascertained and costed. The degree to which alternative products exist within the market and the price ranges of competitor products needs to be researched.

Firm structure, strategy, and rivalry

The structure of the industry, degree of competition, and capital markets all need to be considered. How competitive is the industry? Are there influential domestic organizations? Are other international organizations already operating in the market? What is the political climate like for foreign investors? Is foreign direct investment encouraged or restricted? Are there any legal barriers?

Related and supporting industries

To what extent are supporting industries, for example, distribution, raw material/component suppliers, maintenance, and complementary products and services required and available?

Although it was not the original rationale for Porter's analysis, the framework can be used to assess the desirability of expanding into overseas markets and comparing the suitability of different countries.

7.5.3 Mode of entry

Active reading. Think of how the accountant can contribute to an evaluation of each mode of entry.

The mode of entry is significant as the degree of investment required increases as the mode of entry becomes more embedded within the oversea location. Ohmae (1990) suggested that a move towards globalization can be achieved by stages, and this framework provides options for market entry. The first step in overseas expansion is usually exporting. This can be achieved by the organization selling directly to customers, or via an overseas agent. Understanding demand conditions is a critical factor in deciding whether exporting is a potential opportunity. The next step might be to open a sales office in the country. If the market proves to be extremely promising, production often follows the sales. In cases where establishing a production capability in the country is being considered, the availability of basic and advanced factors needs to be evaluated.

The costs of progression and the viability of the options are an area where the accountant is well placed to support the strategic decision. Following overseas production Ohmae suggests that a fully functional organization can be established in a foreign country. He terms this insiderization, and the company is, in effect, a multinational company, in that it operates in more than one country. The difference between a multinational and global company is that a multinational company would still recognize a domestic market; for example, it is a U.S. company that also has operations in several overseas markets. A truly global company, however, does not recognize a domestic market as it takes a world view. The maxim "think global, act local" still holds true as the global company tries to integrate learning, skills, and competencies to achieve global efficiency while retaining responsiveness to local markets.

The method of entry can also include acquisition and merger as well as the organic growth option. These are discussed in section 7.10.

Learning activity. Think of other frameworks discussed in Chapter 3 that could be used to understand the business environment and market forces operating in the industry. Apply these and elements of Porter's theory of competitive nations to create a list of criteria that would be considered by an automotive manufacturer thinking of expanding into a new international market.

7.6 Diversification

Active reading. Note the benefits and drawbacks of diversification and why diversification might be reducing in popularity as a strategy.

Diversification is essentially selling new products into new markets and represents the option with the highest risk to the company. Diversification may be a suitable strategy if existing markets are becoming extremely competitive or are changing rapidly; thus, it may help to spread the risk for the organization. Diversification can be subdivided into related and unrelated. Related diversification has some relationship to existing activities, whereas unrelated diversification is something completely new, and can represent a higher risk.

Related diversification involves either vertical or horizontal diversification as illustrated in Figure 7.3.

Diversifying backward or forwards through the supply chain can have strategic advantages in that it guarantees surety of quality suppliers or closer links with customers. It can reduce the incidence of buyer or supplier power, release the margin within the supply chain to the organization, and can lead to higher profits. It could also raise barriers to entry, making it more difficult for competitors to compete. However, it can lock in more fixed costs, thus increasing the operating gearing (the proportion of total costs that are fixed) of the organization, making it more vulnerable to fluctuations in end demand. The strategy is also reliant on economies of scale being realized, and it takes the organization away from its core competencies and into areas where senior managers may not have the knowledge or expertise to manage two or more diverse businesses effectively.

Horizontal integration seeks to take advantage of economies of scale, or technical and technological competencies. Both forms of related diversification would involve exploiting synergies, the 2 + 2 = 5 effects of working together. These synergies could take the form of marketing synergies, such as making use of common distribution channels, sales staff, and warehousing. Operating synergies such as central purchasing, administration, technical support, or shared facilities. Investment synergies such as the ability to raise finance from an increased asset base, or the transfer of research and development between product ranges. Management synergies, mostly relevant to horizontal diversification, where skills and expertise can be transferred and rationalized.

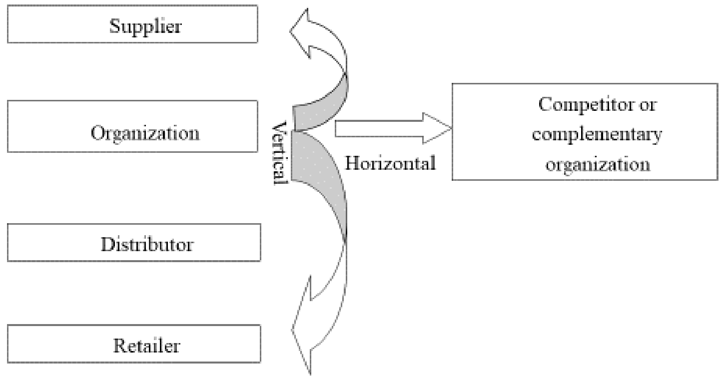

Figure 7.3 Vertical and horizontal diversification

Unrelated diversification, often by merger and acquisition, has been a popular strategy in the past but has fallen out of favor more recently, where the trend is to stick to the core competencies. There are advantages of unrelated diversification, such as spreading the risk, increasing profitability, gaining access to capital and resources, and enhancing the image of the organization and reputation of the senior managers (although this is a not good reason on its own to diversify). There have been examples of senior managers pursuing diversification strategies for the wrong reasons, and it comes with a high degree of risk as there is often a lack of shared identity and purpose between the organizations as the term “unrelated” implies. There is also an argument that investors could diversify their investment portfolio, and managers should not try and do this for them.

The emergence of the concept of the business ecosystem, lean manufacturing, value creation through the supply chain, collaborative working, and other strategic mechanisms for working closely with other organizations has led to the suggestion that there is often no additional benefit to be gained by trying to undertake all activities in the supply chain, that is being entirely vertically integrated, or by diversifying into other areas and away from the core competencies of the organization.

7.7 A mix of strategic options for growth

Active reading. Note how BT adopted a mix of growth strategies to its overall strategy. The options are not mutually exclusive.

In the mid-1980s, British Telecom (BT) enjoyed a near-monopoly position in the infrastructure telecoms market in the U.K. The industry regulator decided to change this situation as it was deemed to be anticompetitive. However, BT found that the domestic market was mature and growing very slowly, if at all. However, at the same time, there was increasing deregulation in other areas of the world, and markets such as Africa and Asia were showing signs of steady growth.

The senior management of BT was looking to diversify its interests into media and develop new products that could be offered via the provision of superfast broadband. As a strategy, they sought to consolidate their position in their domestic market for telecoms provision while using an approach of market penetration to target expansion in the growing overseas markets. A BT Sports TV channel was launched with the acquisition of rights to broadcast premier sporting events. The management adopted several of the strategies outlined in this section to develop an overall strategy enough to close the profits gap.

The role of management accounting in evaluating strategic options is discussed in Chapter 8. It focuses on the financial evaluation of the options as investment opportunities and the forecasting of likely outcomes. There are, however, two techniques that are particularly useful in the development of new products. These are target costing and life cycle costing, which are discussed in detail in the next two sections.

7.8 Target costing

Active reading. As you read through this section on target costing, note how the target cost is arrived at and note the customer focus. Note also how it is an inclusive process of everyone in the organization, it is not just the design, but all functions that can contribute to achieving the target cost. You will notice the mention of other accounting techniques that supplement the target cost analysis, and when reading the benefits and drawbacks, think of the practical implications of adopting target costing as a regular practice within the organization.

Video link Target costing

[https://www.youtube.com/watch?v=HStm4f0sqpc]

Target costing is said to have been developed by Toyota in the 1960s. The practice soon spread to the whole of the Japanese automotive industry (Tanaka, 1993), and by the 1990s had been adopted by 80% of Japanese manufacturing organizations (Karoli, 1997). The adoption rate in other countries was much slower. There is evidence that Ford was using the principles of target costing in the early 1990s (Shank and Fisher, 1999) and it has since become more widespread in other organizations and countries (see, for example, Dekker and Smidt, 2003; Helms et al., 2005; Yazdifar and Askarany, 2012).

Target costing is often viewed as a technique for use in manufacturing, rather than service organizations; however, Yazdifar and Askarany (2012) note that service organizations are also finding the technique useful. Target costing uses a market-based approach to pricing to derive an allowable cost for new products, as opposed to calculating the selling price by adding a mark-up on cost. This makes cost an input to the product development process, rather than an output (Cooper and Slagmulder, 1999a).

Hiromoto (1991) suggests that the market-based approach to pricing is highly relevant in a competitive market, and that management accountants can help to motivate a market-driven behavior by working as part of the team to derive an allowable market cost, and to ensure the continued profitability of the organization. Due to its market-based approach, recognition of the customer perspective, and forward-looking orientation, it is often included among the techniques described as strategic management accounting.

7.8.1 What is target costing?

The target cost is derived by deducting the profit margin from the market selling price, that is, target cost = selling price minus expected profit margin. Kato (1993: 33) states that "target costing is not a costing system as such; rather it is an activity which is aimed at reducing the life cycle costs of new products while ensuring quality, reliability, and other customer requirements, by examining all ideas for cost reduction at the product planning, research, and development process."

As the definition suggests, it is the early stages of the new product development process where the technique is said to be the most useful. It should not, however, preclude the principal elements of the technique from being used to reduce costs of existing products, or of the downstream activities of delivery and customer service. Ansari and Bell (1997) place the focus of target costing as being a means of managing the organization's future profits. It provides a system for integrating strategic variables to plan how to satisfy customers, capture market share, plan, and control costs, and hence, generate future profits.

The main reason why the technique is focused on the early stages of the new product development process is that, in most cases, 80% of the costs are determined at the design stage. It is easier, and cheaper, to manage the costs during the early stages of product development (Ulrich and Eppinger, 2000) than to make changes after the product is introduced, which can often be quite costly (Cokins, 2002).

7.8.2 Where is target costing appropriate?

Target costing is becoming more relevant today due to the shorter product life cycles and increasing product diversity required to satisfy increasingly sophisticated consumer markets (Gagne and Discenza, 1995). Dekker and Smidt (2003) identified in their study of Dutch firms that it was used more by assembling firms, and those organizations that operated within a competitive and unpredictable environment. Hibbets et al. (2003) suggested that it is more likely to be used by firms following a differentiation strategy, where functionality may be more significant, and there is intense rivalry among organizations. The argument here is that an organization following a cost leadership strategy would be trying to reduce costs continuously. Therefore, as the product is only designed to fulfill its primary purpose, rather than being loaded with functionality, the organization is targeting those customers that just require the basic product. It could equally be argued, however, that even the cost leader would find techniques such as value engineering and functional cost analysis useful in helping to reduce costs, making the principles of target costing appropriate for all organizations.

Davila and Wouters (2004) suggested that target costing is less useful where technology, time-to-market, or very demanding customers are important to a product's success. However, there is evidence that suggests that using target costing can reduce time-to-market (Afonso et al., 2008) if the concept becomes part of the culture of the organization, and customer demands can be met more profitably via target costing methods, no matter how demanding the customer.

The principles of target costing should be applied to all product developments and increases in functionality as it moves through the product life cycle. Adding new features should be subject to the same process as the initial product. For example, the mobile phone was initially developed to make phone calls, and later to send text messages. As the technology developed and the Smartphone (a new product development) became the norm, additional features were added, such that Smartphones are now marketed and purchased because of the quality of the camera and ease of use, and the functionality of the phone call is now incidental to the product. The look, feel, and ease of use have become key value drivers for the customer. The mobile phone also serves to illustrate the complexity of the markets and interlinkages between product and service elements, as digital coverage, and signal strength provided by competing networks also impacts on the mobile phone market. At each stage of the product development, there is potentially a ceiling where customers view the products as too expensive; therefore, the market price sets the ceiling and, by deducting an expected margin, sets the target cost for the enhancement.

The example in Figure 7.4 illustrates how a target cost involves all functions and not just the manufacturing element.

Table 7.4 Analysis of cost before and after applying target costing

Projected lifetime sales volume	500,000 units
Target selling price	$750
Target profit margin of 30%	$225
Target cost	$525
Current project cost	$650
Saving required	$125

Table 7.4 continued

Cost breakdown	Current estimate	After review	Action to reduce cost
	$	$	
Manufacturing cost			
Direct materials (components)	350	330	Negotiation with suppliers
Direct labor	100	60	Use of workstation assembly in place of sequential line assembly
Direct machining costs	25	20	Redesign of functionality reduced requirement for machine tool work
Ordering and goods handling costs	15	10	Review of inventory and supply chain management
Quality control	30	15	Improved assembly means can move to statistical sampling
Rework costs	50	10	Assembly process and additional training
Pre-production costs - design and development	15	10	Use of computer-aided design speeded up re-design of product features
	585	455	
Marketing and sales costs	30	25	Review of marketing campaign and marketing communications strategy
Distribution costs	10	8	Review of distribution channels
After-sales service and warranty costs	10	5	Improved quality process should reduce warranty costs
Recycling costs	15	12	Redesigned functionality makes recycling easier to achieve
Total cost	650	505	

7.8.3 The process of target costing

There is no one definitive series of steps to undertake the activity of target costing. There are elements where an iterative approach is appropriate, and aspects can be conducted simultaneously, rather than sequentially. The following steps are indicative of the process.

(1) Re-orient culture and attitudes towards a market-based approach
(2) Establish a market-driven target price
(3) Determine the required profit
(4) Determine the target cost
(5) Establish a multidisciplinary team to undertake the exercise
(6) Establish an initial cost estimate via a product cost model
(7) First look at ideas to reduce cost – generate ideas and evaluate alternatives
(8) Use tools to reduce costs such as value engineering and functional cost analysis
(9) Reduce indirect costs

(10) Undertake overall net present value analysis over the estimated life of the product or reasonable period
(11) Ensure a cost management system in place to monitor ongoing costs and take corrective action where necessary.
(12) Feedback for organizational learning.

1. Re-orient culture and attitudes towards a market-based approach

Target costing requires a market orientation, and this may need a change in the organizational mindset to enable the customer focus to take precedence. Implementing target costing may well entail a shift in culture (Crow, 1999) as employees need to be empowered and motivated to find innovative solutions to reduce costs without losing the required functionality of the product or compromising on quality. Monden (1995) suggests that an objective is not just to reduce costs of a new product, but to motivate all employees to seek ways of managing costs continually, or, as Ansari and Bell (1997) noted, a way of managing future profits. Kato (1993: 43) notes that a characteristic of Japanese management processes is that it "combines a human intelligence for effective thinking and technological innovation to make daily operations efficient."

2. Establish a market-driven target price

Ascertaining the market price of the product is the responsibility of the marketing department. Target costing is about maximizing profit over the product life cycle (Cokins, 2002). Therefore, factors that need to be considered include the impact on the price of the product concept itself; the characteristics of the target market; the anticipated product life cycle; expected sales volumes, as this will impact on production costs; sales price adjustments as the life cycle progresses; competitor pricing, if similar products already exist; and any dealer incentives. Pricing strategy and objectives also need to be considered throughout the product life cycle, such as, whether an initial profit-maximizing objective is to be employed to skim profit off the market before competitor offerings appear, or a volume maximizing objective, which will lead to a lower price being employed.

If the product is at the forefront of technological design, other theories, such as the diffusion of innovation, may come into play. For example, the electric vehicle, which is in the early stages of the product life cycle, is probably being purchased by the innovators and moving towards early adopters. The theory of diffusion of innovation suggests that the population adopts new technology in a specified pattern – innovators are the first to purchase the product (who represent 2.5% of the market), early adopters (13.5%), next, the early majority purchase (34%), followed by the late majority (34%), and finally laggards (16%).

The volume aspect of the life cycle is significant for manufacturing costs, as these may become lower as the product progresses through the life cycle, due to learning curve effects, or economies of scale, as the volume increases. This may mean that the target cost is only achieved at a given volume, and early sales incur losses, requiring continued additional investments before the product eventually breaks even and begins to enter the profitable stage of the life cycle. There is an obvious risk involved here in that it may take longer than anticipated to reach the required volumes, or that they may never be reached. Plus, if the product grows successfully, competitors will undoubtedly enter the market. Therefore, if the whole of the life cycle is to be considered, it requires a forecast to be made of the pattern of future demand, and the likely response of competitors. Data from existing products and past market information can be used to help forecast the likely pattern of future demand for new products, and building up competitor response profiles will help to anticipate the potential response of competitors.

The marketing department also needs to consider the use of *pricing by function* (Kato, 1993) or *customer value-oriented product pricing* (Bock and Pütz, 2017). It feeds into the functional cost analysis used later in the process to identify where cost reductions can be made without destroying the value to the customer. Data on customer needs can be gathered from a range of sources, such as market research, reviewing competitors' products, specific requests from customers, using a form of idea generation, such as brainstorming sessions, the formation of creative teams, and employee suggestion schemes.

It is essential to realize that establishing demand is more than just identifying what the customer wants, as there is a difference between the customer need (a basic need for social interaction), and the want (such as a mobile phone with a specific functionality). Demand is the want, coupled with the ability to pay. Many people may want, or desire, the prestige of an expensive car, but not everyone can afford to buy one. The skill, therefore, is estimating how many people are likely to buy a product and the pattern of demand over the life of the product – this is where experience counts.

In practice due to the potential complexity of the sales price variations that may occur over a products life, some of which may not be anticipated at the outset but made as a competitive response in the growth or mature stage of the life cycle, a price is established that represents a competitive price that the product will be sold at during the mature stage of the products life. It is the price that the product will settle at in a competitive market. It may be that the early price at which the product is introduced may be slightly higher.

The performance of existing and past products can be an important factor in determining a pricing strategy. Hence, organizations need to ensure that they employ data collection systems that are capable of collecting data on sales volumes, pricing and costs over some time, and the ability to integrate the system to determine trends, and what works, and what did not. Target costing is most effective when the organization has access to good data.

3. Determine the required profit

Each product or service that an organization sells contributes to the overall profit achieved. Therefore, it is not just a case of taking a broad approach to setting a profit target of 10% for all products. Not all products necessarily make the same contribution to overall profit. The profit associated with a product must be determined in relation to the overall strategy of the firm. Existing products can provide a reference point for assessing the profit potential of new products. Still, senior managers need to be aware of managing a portfolio of products and a portfolio of customers, so profit targets need to be set by the people in the organization who are aware of the overall strategy.

Information systems play a key role in setting profit targets, as profits are affected by indirect manufacturing and general overhead costs, as well as direct product costs. Therefore, costing systems that are capable of allocating costs to products on a reasonable and fair basis, such as activity-based costing, can significantly assist the process of target costing. Tani et al. (1994) found that over 80% of firms in their survey indicated that overheads and depreciation on new investments were included within the target costs. Cooper and Slagmulder (1997) also suggest that final target costs should include indirect manufacturing costs.

A few authors have suggested that it should also take account of financing costs. Indeed Kee (2010) provides a numerical example where target costing that ignores the finance cost can lead an organization into making an incorrect decision about the long-term viability of a new product. Kee demonstrates that undertaking a net present value calculation can indicate that the product is not viable, even if the target cost is achieved. The examples, however, do depend on the level of investment required to produce new products. It is, therefore, important that the level at which profit targets are set is fully understood as this will impact on the costs that are included in the analysis. For example, is it a target profit expressed as a contribution, or a target return on investment? In practice, the profit expected is after deducting all costs incurred up to the point when the product is ready for sale.

4. Determine the target cost

The target cost equals the selling price, minus the required profit margin. This calculation provides the allowable, or target cost. Cooper and Slagmulder (1999) determined a cardinal rule that the target cost should never be exceeded. In theory, if the target cost cannot be achieved, then the product should not be approved. However, the target cost can be broken down into setting allowable cost targets at the component level. Therefore, if this rule is applied throughout the process, it ensures that making changes to smaller component elements of the overall design does not create a situation where the total target cost is exceeded.

The marketing research conducted around the product concept, functionality, and price acceptable to the consumer indicates the market cost drivers. This provides information about the importance of various functionality and hence identifies sensitive areas where the balance between functionality and cost needs to be carefully managed. They are referred to as market cost drivers as it defines the functionality required by the market.

The use of functional cost analysis can then be used to identify the target or allowable costs for functions, and the components required to provide that function. Where bought-in components are used, it is essential to involve suppliers as early as possible (Ellram, 2000), and to develop a close working relationship, as achieving cost savings in this area requires their cooperation. A challenge of working with suppliers and outsourcing elements of the production process is determining the exact specification and expectations of performance from the suppliers. This has links to the concept of total quality management and ensuring that there are systems in place to monitor suppliers, not just in terms of cost, but also in terms of performance (Natovich, 2003; Quélin and Duhamel, 2003).

5. Establish a multidisciplinary team to undertake the exercise

Target costing, and particularly functional cost analysis, which is part of the process of achieving the target cost, should ideally involve a group of employees drawn from different departments such as marketing, design, production engineering, purchasing, and accounting (Gagne and Discenza, 1995). The members of the team should work together to understand the interplay and trade-offs between costs and functionality, and consequently, while a broad background of experience is desirable, there may be some training involved to make the team operate effectively. In large organizations, this is often a permanent team within the organization; indeed, there could be several teams working on different product developments at the same time. In smaller organizations, it may be a team pulled together for specific projects, but the critical factor is having the right mix of skills, and their ability to make decisions. This team approach needs to feed into a process of organizational learning so that future projects benefit from the experience gained and lessons learned from previous successes and failures.

6. Establish an initial cost estimate via a product cost model

The initial product cost is established by creating a detailed breakdown of the manufacturing cost, including materials, labor, and manufacturing overheads. It is useful to include within the model the anticipated volumes and demand forecast profile over the life cycle of the product, or at least over an extended period. This forecast enables the analysis to account for factors such as a reduction in manufacturing cost due to learning curve effects, economies of scale, and any anticipated changes in costs.

The model should include all costs that can be managed in respect of the product. Techniques such as activity-based costing can be used to help ascertain the indirect costs. Inventory related costs and distribution costs should be included as these costs can be managed to reach the desired profit level. If new investment is required, and a time profile is prepared, the cost of financing can be included by developing the model into a net present value calculation. A proper costing system is required so that the cost estimates can be made as accurately as possible, bearing in mind that the accounting policies, such as the method of calculating depreciation rates, and the availability of information, can impact on the costs when assigned to products.

7. First look at ideas to reduce cost – generate ideas and evaluate alternatives

If the initial cost exceeds the allowable cost, then ideas are generated to reduce the cost. The cost should include all costs associated with the product. In attempting to reduce costs, the basic concept of target costing should not be forgotten, that is, the customer view of functionality and quality of the product is paramount, so any reduction in costs should not impact on the customer perception of the product. The objective is to make reductions in cost without changing the value of the product in the eyes of the customer.

8. Use tools to reduce costs such as value engineering and functional cost analysis

Value engineering

The basic concept of value engineering (VE) involves designing a product at a lower cost by reviewing the functions needed by customers. Park (1999) suggests that VE includes the following main tasks:

1) Identifying the relevant function of the product or service
2) Establishing a monetary value for identified functions
3) Providing the required functions at the lowest cost

There are several aspects to value. For example, *cost value* is, as the name suggests, the cost of the function or product. *Exchange value* is how much the customer is prepared to pay for the product. *Use value* is the purpose the product fulfills, that is, when the product can be, and is, used for the purpose for which it was intended, for example, a chair has use value in that you can sit on it. A customer that merely wants something to sit on may not be looking for high quality, handmade leather chair. *Esteem value* is related to the prestige that the customer places on the ownership of the product. For example, a customer may be looking for high-quality furniture, not just because it serves a use, but also because it has a prestige value of owning high quality, luxury, and, therefore, possibly expensive furniture. These different aspects of value highlight the significance of determining the target market before undertaking value analysis, as different consumers will place a different value on elements of a product depending on how they view it.

Value engineering can be broken into stages. Ibusuki and Kaminski (2007) highlight three levels that focus on the product concept, the design phase, and the production phase. The product concept phase involves a *zero look*. A zero look considers new concepts and new functionalities that do not currently exist. *First look* is concerned with the product design stages and primarily seeks to develop new products from existing concepts. The first look identifies the main areas to target for a reduction of costs. It can include using existing products as a reference point to look for improvements. *Second look* picks up at the later design stages, detailed component design, and moves into the production stage. Teardown analysis can also be used to facilitate the understanding of functionality and costs if competitor products exit. The teardown is a process of taking a competitor's product to pieces to understand how it is designed and manufactured and is part of competitor analysis.

Value engineering techniques often include the use of checklists of functionalities along with their associated costs. It is not, however, a process of merely choosing functions from a list and deleting those that save money. The functionality required by the customer needs to be considered, as well as the knock-on effects of one function on another within the overall design, and the potential impact on quality.

Functional cost analysis

Functional cost analysis, as the name suggests, is the process of mapping the functions of the product broken down into components and assigning the cost to each element. The function is described in terms of verbs, that is, what activity or function is it that the product or the component needs to perform? This is then linked to the actual physical elements of the product.

For example, in a household water tap, the basic function is to allow the free flow of water as and when desired. Several components make up the tap. Each element performs a specific role within the design and has a cost attached to it. This could be materials and labor. If components are bought-in, the suppliers also need to be involved in the process. The parts are then assembled, packaged, stored, delivered, marketed, and sold to customers.

A table can be used that identifies the following elements: the functions, the parts, and the costs (materials, labor, and indirect costs that can be assigned using a technique such as activity-based costing). This breakdown forms the basis of a cost table that can be prepared with the help of the accountants. The marketing department will also have some input as certain elements will provide much more value to the customer than others. For example, those parts that are purely functional, that is, they have to be there to make the product work, may not be seen as a key selling point to the customer, but what customers value is the look, style, and finish of the product. Therefore, the handle design may have much more significance for the customer than the tap spindle, but the tap will not work without a spindle. This does not necessarily mean that the components can be made from lower quality and hence less costly material, as this may affect the reliability of the product, which may be a factor valued by the customer.

This example illustrates that some of the functionality required by the customer is subjective. For example, mobile phones include a camera. Still, the ease of use and handling the device when taking selfies are just as significant as the physical attributes and functions of the camera. Techniques such as functional cost analysis and value engineering enable a better understanding and consideration of the trade-off between product function and cost (Iranmanesh and Thomson, 2008). For example, the question would be, can the product be made from different materials that provide the desired reliability and quality?

The relative importance of various functions and attributes to the customer can be assigned based on a value 1 – 10 with 1 being not required, to 10 being of extreme importance. Or more loosely, it could be based on a simple scale of not needed, nice to have, or essential.

The difficulty of understanding how components add value and contribute to the whole cannot be underestimated. Imagine how many parts there are in an Airbus A380. There are several thousand engineers involved in the design, so it can be a significant project undertaking and requires appropriate project management skills and leadership as well as the technical skills and knowledge. Pronin et al. (2004) highlighted how engineers often overestimate the importance of their component or overdesign it to demonstrate their competence in design (Siemsen, 2008).

Overdesign can also occur through risk aversion or believing that the component must perform under extreme situations. This emphasizes the need to engender a team approach to value engineering and functional cost analysis, and to include review and critique sessions to guard against overdesign, but also to ensure that cost savings do not impact on the required functionality, reliability and quality of the product.

9. Reduce indirect costs

There may be scope to reduce the indirect costs that help to achieve the target cost. Techniques such as just-in-time management of inventory, production patterns, and improving the efficiency and effectiveness of activities such as machine set-up, maintenance, and so on, can provide cost savings. Nor should we ignore the concept of continuous improvement (Ellram, 2000), which can provide significant benefits in achieving the target cost through the life cycle as well as increasing the cost accountability of all those involved.

10. Undertake overall net present value analysis over the estimated life of the product or reasonable period

Where a significant investment is required to produce the new product or further investments to meet capacity requirements as the product grows, it is useful to undertake a net present value (NPV) calculation feeding in the cost estimates and demand profile. This financial evaluation then takes account of the cost of capital and provides additional comfort that the product is viable in the long term. It is always worth remembering that the NPV calculation will include estimates, and sensitivity analysis should be undertaken to establish acceptable levels of error in the forecasts for the future years.

11. Ensure a cost management system in place to monitor ongoing costs and take corrective action where necessary.

Target costing requires a sound cost management system for monitoring the costs and taking corrective action in the future. The database of costs can be developed and improved over time as experience is gained from using the technique. This stage should also include supplier evaluation and the continuous monitoring of supplier performance to ensure that costs are managed throughout the whole value system.

12. Feedback for organizational learning.

Not all new product launches are successful, and not all estimates will be accurate. The experience of target costing exercises needs to be fed back into future products so that the process can be continuously improved.

7.8.4 Benefits of target costing

The increasing competitiveness of many markets today means that customers are always demanding new products, with better quality and functionality, without an increase in price (Roy et al., 2005); therefore, a program of new product development is becoming a vital requirement of a successful manufacturing organization.

Target costing means that an organization needs to take a proactive approach to cost management and to understand the cost drivers. It helps to understand the trade-off between the cost and functionality of a product (Iranmanesh and Thomson, 2008).

The organization becomes much more customer-focused as, rather than developing products in an internal vacuum, the customer needs are considered, and a product designed to satisfy those needs at a price and cost acceptable to the consumer and organization. Indeed, it could be said to be acceptable to all stakeholders, as suppliers will earn a satisfactory profit, employees will be motivated with job security assured, and the shareholders receive an adequate return.

Target costing ensures the needs of the supply chain are considered. Helms et al. (2005) note that the days of squeezing suppliers for immediate cost savings are losing credibility and is not a good way to foster successful working relationships. The whole supply chain needs to be involved (Cooper and Slagmulder, 1999b). However, the issue of supplier power and buyer power may come into play and the relative negotiating positions of the parties involved.

Manufacturers of products must have the needs of the retailers in mind when designing new products. For example, shelf space occupied, ease of handling and so on, can all impact on a retailer's willingness to stock the product, and as such, adopting target costing enables an organization to consider not just the needs of the end consumer, but also the needs of the whole supply chain. The increasing awareness of sustainability issues has emphasized the need for organizations to work together through the development of new materials, packaging designs, and recycling systems, as well as new products.

Target costing fosters cooperation between internal functions of the organization, as well as between members of the supply chain (Monden and Hamada, 1991). Its introduction can enhance collaboration and awareness of the need to work together both internally and externally.

When considering the value of different functionality, and the need for such functionality, it enhances the understanding of the non-value adding elements of a product. Some of them may be essential even though they do not add any value in the eyes of the customer. This understanding can provide an insight into the areas where cost savings might be more productive, for example, reducing the non-value adding functionality or activities in the manufacture of the product. Careful monitoring and quality control of the component design can also help reduce costs in manufacture. For example, McKinsey (2000) estimated that overdesign of components in the assembly and electronics industries averaged at least 24%.

The need to reduce the new product development time (Gupta et al., 1992) and the effectiveness of the new product launches (Poolton and Barclay, 1998) help to highlight the importance of the target costing concept process in today's competitive market. If target costing is embraced as the way all products are developed within an organization, that is, it becomes part of the normal culture, it can reduce the time to market for new products and improve the success rate for new product launches.

7.8.5 Considerations of implementing target costing

Target costing requires the development and maintenance of detailed cost data. It is not just a one-off exercise to determine the initial cost but entails monitoring of costs throughout the product life cycle. Only then can experience be gained of how costs behave, and hence the learning fed into future cost estimates on other new products. If activity-based costing is used to help establish costs, it requires the maintenance of the ABC system, which involves the collection of a range of nonfinancial data.

It can be difficult to establish the value of functionality to the customer and its associated cost. It is also difficult to estimate the pricing impact and costs over the life cycle of the product, hence forecasts may be wildly adrift of the actual outturn. If managers view target costing as a way of setting the budget, it can have a demotivating impact if targets are not met. Instead, target costing should be providing the impetus for continuous improvement of operations and cost savings. Many products are launched that have not reached their target cost. Still, a program of continuously seeking to drive costs down without losing functionality, reliability, or quality can be put in place to strive to ensure a contribution is made over the life of the product. Reducing overhead costs and downstream costs, which are difficult to attribute to individual product lines, can also contribute to overall profitability.

Implementation requires a willingness to cooperate within the organization and with external partners. The design team is not always the same as those that have to live with the decisions and the options selected (Yazdifar and Askarany, 2012). Therefore, it is essential to ensure that a wide range of views is represented in the team and that all employees are employed and motivated to reduce costs in line with the principles of target costing, that is, lowering costs without a reduction in functionality, reliability, or quality.

Target costing requires the ability of the organization to capture consumers' views, and those of the members of the supply chain, and to interpret these into product designs. Therefore, excellence in marketing research, as well as product innovation, is a key capability required within the organization.

Target costing is undoubtedly more complex to undertake than cost-plus pricing, and there is a danger that it can be viewed as another accounting buzz word, mainly due to the inclusion of the word 'cost'. As we have seen, it should be an inclusive process if it is to be implemented effectively. Resources will need to be invested in the process, and it should be seen as a long-term project to implement the concept, as experience can be fed back into the process so that it contributes to organizational learning. The process becomes more valuable as experience grows. It, therefore, requires the full commitment and support of senior managers within the organization.

Learning activity. The process of target costing described is quite detailed. Imagine you are a small business with limited resources. Do you think that the concept of target costing is still useful? Go back through the steps and think of how you could simplify the process so that it was manageable. It will help you appreciate the concept of target costing. Think about how target costing fits with adding value to a product? If you have a brand-new product concept, would target costing still be appropriate? As an extreme example, think about whether target costing is applicable for space tourism offered by organizations such as Virgin Galactic, Blue Origin, and SpaceX.

7.9 Life Cycle Costing

Active reading. Note why life cycle costing has become more relevant in today's business environment. Think about what drives its use. Is it the changing business environment, the increased focus on sustainability that includes disposal and recycling in a product life cycle, or the need to recover the investment in developing new products?

7.9.1 Why life cycle costing?

One of the key strategic options available to organizations to sustain a competitive advantage is product development. It can encompass modifications to existing products, for example, adding cameras to cell phones, as well as developing entirely new products. The speed of developments in technology, an increased degree of competition, changing consumer demands, and a heightened awareness of sustainability means that product development is becoming an essential aspect of business strategy. The implication being that resources need to be allocated to activities such as research and development, design, and marketing research. These activities can often be viewed as separate and devoiced from the manufacturing and selling process, and the associated costs become lost in the accounting period in which they are incurred.

Accounting systems are good at recording revenues and costs during the normal operating cycle of a business. Costs are typically assigned when they are incurred and reported in periods, such as monthly, quarterly, or annually. These are usually reported against the revenue generated from the sale of products or provision of the services, within the same period. The primary purpose is to identify the profit or loss.

This practice establishes a relationship between the cost of sales, or service provision, and revenue generation. There is a danger that the costs of initial development, design, pre-production, and costs of disposal at the end of a product's useful life are either forgotten, not considered, or at best marginalized in consideration of the profit or loss generated by the product. When making pricing decisions, it is easy to identify the direct product costs in production, traditionally materials, labor, and machine time, then add on an element for overheads, perhaps via activity-based costing methods, and determine a selling price. Many of the decisions, however, that impact on the product costs during manufacture, distribution, and servicing of a product are made before the production stage.

When considering the overall success of a product, however, it is common to look for a return on investment, where the investment does indeed include the initial development, design, and pre-production costs. These costs are becoming more significant for many businesses as product life cycles are shortening due to the speed of developments in technology and the increased degree of competition. Shorter product life cycles make constant innovation and product development a critical success factor in many business sectors. The concept of life cycle costing suggests that considering the costs of the complete product life cycle from the cradle to the grave, or cradle to cradle, if we consider recycling after use, can provide additional benefits to the organization, particularly in the activities of new product development, affordability studies, source selection, and repair or replace decisions.

7.9.2 What is life cycle costing?

Active reading. Note the cradle to cradle concept. Think about how life cycle costing and target costing can work together, and at which points in the product life cycle costs can be controlled.

Life cycle costing is not a new concept. A definition was provided in 1976 that suggested: "the life cycle cost of an item is the sum of all funds expended in support of the item from its conception and fabrication through its operation to the end of its useful life" (White and Ostwald, 1976: 39). We could extend this definition to explicitly include the cost of recycling materials from the product following the end of its useful life. The typical stages are illustrated in Figure 7.5.

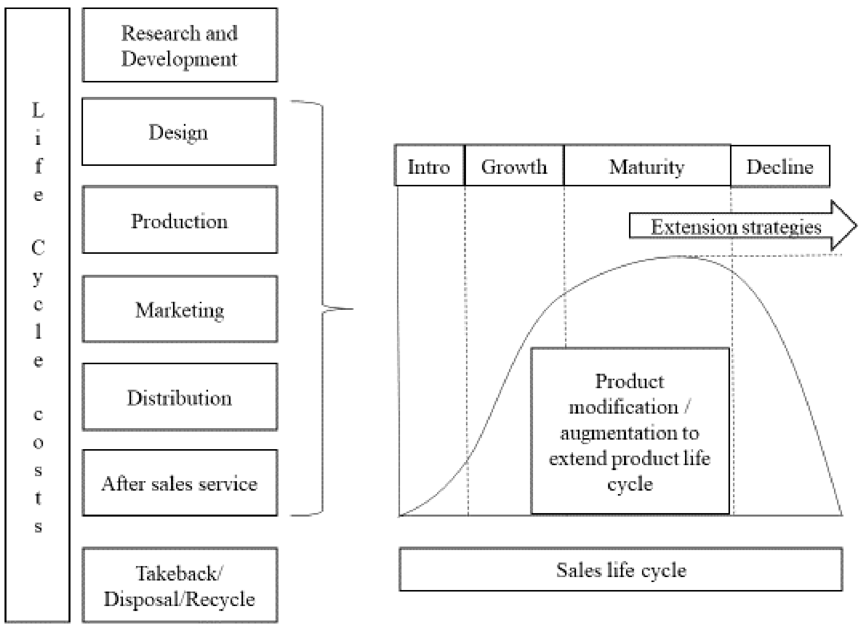

Figure 7.5 Life cycle costs

The life cycle costs include all costs incurred from the initial concept emerging from the research and development process to the recycling of materials at the end of the product's useful life. The diagram in Figure 7.5 also illustrates that modifications may be made to the initial design during a product's life. These modifications often take place during the mature phase of the sales life cycle as competition moves away from price towards product features, and companies adopt extension strategies to prolong the product and sales life cycle. It may not be possible to anticipate the additional functionality and modifications at the initial design phase. Still, there needs to be a recognition that the concept of life cycle costing should be considered when making product modifications, just as much as at the initial new product development stage.

The key phases where costs are incurred in the development of the product and its sales life cycle are illustrated in Figure 7.6. The duration, timing, and degree of overlap of these are dependent on the actual product or modification being developed, but they are useful headings under which to categorize the costs for planning and monitoring purposes. There may even be an element of ongoing consumable costs beyond the initial purchase. For example, a coffee maker such as the Nespresso machine where consumers purchase the machine, then purchase the consumable coffee capsules, which can be returned to a Nespresso recycling point after use. This creates an ongoing recycling cost as well as production costs.

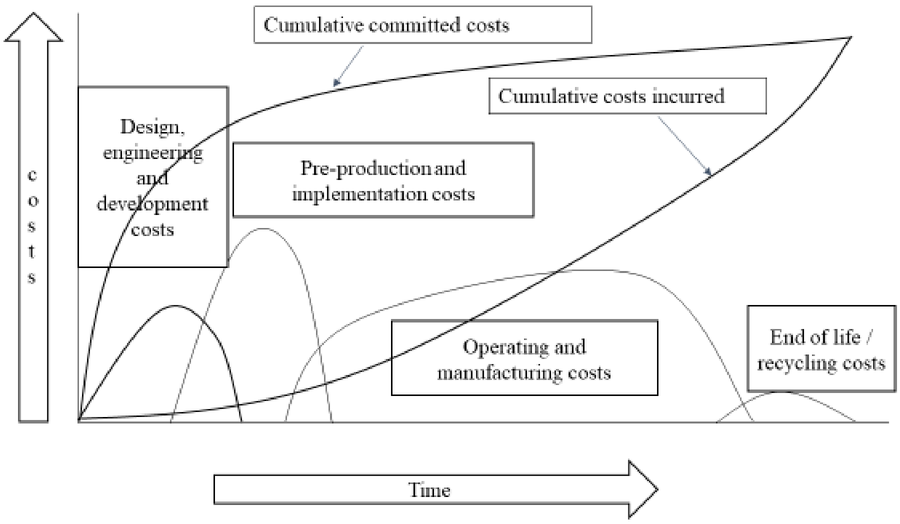

Figure 7.6 Stages in the life cycle costs

Recognizing the different categories of costs allows a trade-off between costs to be considered, for example, between design and manufacture. This categorization of costs also considers the fact that many costs are committed before they are incurred, for example, decisions about materials, the production process, product features, and so on, are made before commencement of manufacture. These costs can be up to 70-90 percent of the total product costs (Bescherer, 2005). The point here is that these costs are typically recorded and reported during the manufacturing phase, and therefore unless considered beforehand, can create surprises for management. The need to be aware of future costs is also relevant for the end of life costs, which are now becoming a key part of product development due to the increased awareness of sustainability issues.

Life cycle costing is connected to other concepts and techniques, for example, the use of target costing. Once the target cost is identified, which is derived from deducting the desired profit from the selling price (Garret, 2018), all phases of the life cycle can be considered in achieving the target cost. The concept is also widely used in the building and construction industry and found in the defense industry and the state sector (Woodward, 1997).

Life cycle costing is not confined to the design and development of new products, but include affordability studies, for example investigating the cost of acquiring and operating a building; source selection studies, for example, between different vendors or products; evaluating alternative operational decisions, such as whether to take out an extended warranty or simply repair or replace.

These uses recognize that life cycle costing can be used from different perspectives. For example, in new product development, it is being used from the perspective of the manufacturer, but in the selection of alternative suppliers and purchase options, it is being used from the perspective of the client.

7.9.3 Life cycle costing and new product development

Active reading. Think about the functions that need to work together to develop and successfully launch new products.

The new product development process is shown in Figure 7.7. This process illustrates that there are many costs and activities, other than product costs, that go into developing a commercially successful product or service.

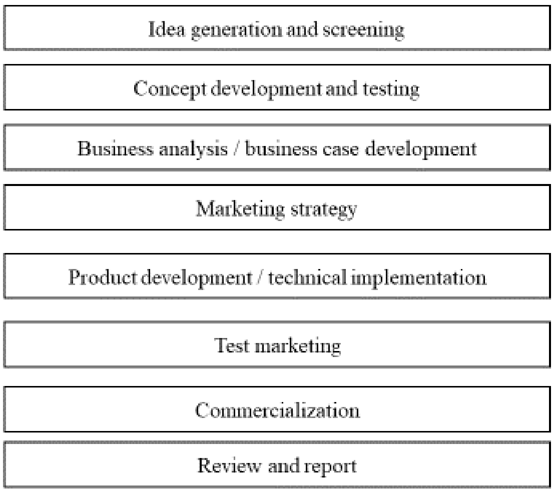

Figure 7.7 New product development phases

The life cycle costs begin during the idea generation and screening stage. It is worth taking a few moments to consider the activity of research and development. The accounting treatment of research and development costs is dealt with under the accounting standards. IAS 38 – Intangible assets. The standard defines the parameters for when development costs may be capitalized and written off over the expected commercial life of the asset. For the purposes of life cycle costing, we should recognize that organizations, such as pharmaceutical companies, may undertake two basic types of research – pure and applied research.

Pure research could be described as research that is undertaken with no real commercial product in mind but is undertaken to further knowledge and understanding. This research may or may not generate future revenue. It is usual practice to write this off in the year in which it is incurred. Applied research, however, is closer to development costs in that it seeks to solve a specific problem. The development costs include, for example, where a car manufacturer undertakes design, development, construction of a prototype, testing, and pre-production activities. These should all be treated as part of the life cycle costs and, if within the scope of IAS 38, could be written off over the commercial life of the product.

Consideration of the life cycle costs becomes highly significant during the development of the business case, marketing strategy, and commercialization of the product. Marketing research is required to establish whether there is a potential market of the product, what features and functionality consumers desire, and the price they would be prepared to pay for such a product.

Other techniques, such as target costing, may also be highly relevant. Target costing is where the market price, or the price at which consumers would be prepared to purchase the product, is established, and the required profit deducted, which derives the target cost. The derived cost then has implications for product design, development, manufacture, logistics, and takeback/recycling, to be able to develop a viable product that will sell in the market.

When determining where savings in cost can be made, the whole of the life cycle costs can be considered. In fact, the whole of the supply chain may need to be considered. For example, to encourage retailers to stock a particular product, they need to know that an acceptable level of profit per square centimeter can be achieved. This requirement has implications for product size, packing, ease of handling, transportation, storage, and so on. All these factors need to be considered, as well as the wants and needs of the end consumer.

The principle behind target costing is that the starting point is the price to the end consumer. If the old approach of making a product and adding a profit mark-up to the cost is adopted, this may mean that the initial price is too high to attract consumers. Even for new innovative products that are breaking new ground, creating a product that presents an attractive market proposition to consumers is a critical element of a product's success. As the new product increases in sales volume, the average cost per unit will reduce. Therefore, target costing is as much about establishing a price that will be profitable when a certain volume is reached, which considers economies of scale and the effects of the experience curve. Where products are manufactured by a company that then sells to intermediaries, who then sell to end retailers, this means that the costs throughout the whole of the supply chain need to be considered, and are of course, open to consideration in achieving the target price.

Manufacturers need to think in terms of the costs from the cradle to the grave rather than just cradle to gate, where traditionally, once the product had left the factory gate, it became someone else's problem. The cost incurred in transportation, storage, and handling through the supply chain by all intermediaries needs to be considered. Indeed, with sustainability in mind, the concept of carbon miles in transporting the product, and the importance of being able to recycle a high proportion of the products materials after use, indicate that the consideration of costs should be from cradle to cradle.

Table 7.1 provides an example of a life cycle cost report for the introduction of a new vacuum cleaner. This example is the case of a manufacturer that sells direct to the public.

Table 7.1 Life cycle cost calculation for a vacuum cleaner

Sales quantity in units	5,000	7,500	10,000	7,250
Probability	0.3	0.5	0.2	most likely
	$	$	$	$
Selling price per unit	300	280	250	280
Cost information per unit				
Direct product costs	100	100	100	100
Distribution costs	20	20	20	20
Customer service costs	50	50	50	50
Takeback and recycling costs	10	10	10	10

	$	$	$	$
Life cycle revenues	1,500,000	2,100,000	2,500,000	2,030,000
Life cycle costs				
R & D costs	200,000	200,000	200,000	200,000
Design costs	80,000	80,000	80,000	80,000
Pre-production costs	100,000	100,000	100,000	100,000
Direct costs of production	500,000	750,000	1,000,000	725,000
Fixed costs of production	250,000	250,000	250,000	250,000
Distribution costs	100,000	150,000	200,000	145,000
Customer service costs	250,000	375,000	500,000	362,500
Takeback and recycling costs	50,000	75,000	100,000	72,500
Total life cycle costs	1,530,000	1,980,000	2,430,000	1,935,000
Life cycle profit/(loss)	(30,000)	120,000	70,000	95,000
% of sales revenue	(2.0%)	5.7%	2.8%	4.7%

Life cycle cost per unit	$306	$264	$243	$267

The above example does not take account of the time value of money. The analysis could be undertaken using the net present value technique of discounting the cash flows in each year by a suitable discount factor. Other factors, such as inflation, can also be considered. It does take account of the volume effect on fixed cost recovery but does not take account of a learning curve effect, where some costs of manufacture may reduce per unit, as experience of the manufacturing process is built up.

Additional levels of sophistication can be added to the basic model, such as introducing probabilities to the cost estimates. For example, likely repair costs could be estimated based on the experience of failure rates. Each category of cost can be broken down into more elements than is shown in the example.

7.9.4 Life cycle costing and building and construction projects

Active reading. Think of industry sectors where life cycle costs relating to buildings might be appropriate. For example, supermarkets develop new sites and buildings; universities create new facilities on their campuses; football clubs build sports stadia.

Life cycle costing is used in the building and construction industry. The costs of a building are more than just the construction costs but include the operating or running costs. Energy is a significant element of the running costs, so decisions about energy usage over the life of the project can add significantly to the life cycle costs of a building. Similarly, aspects such as the need for, and ease of maintenance and repair, over the building's life can have an impact on the overall cost. Trade-offs in the cost of materials and maintenance and repair costs are important considerations at the design stage in determining life cycle costs.

Life cycle costing is useful in real estate management when considering alternative buildings. It is highly effective in determining the costs of facility ownership (Fuller and Petersen, 1995). Figure 7.8 illustrates the typical cost categories that should be considered.

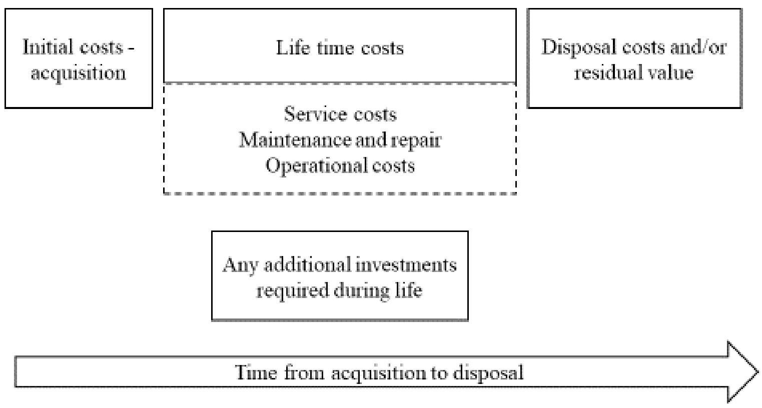

Figure 7.8 Affordability of building decision costs

7.9.5 Life cycle costing and comparison and affordability studies

Active reading. Manufacturing organizations frequently invest in plant and equipment where there is a choice of alternative suppliers. Why is it important that the investment appraisal is undertaken using the principles of life cycle costing?

Life cycle costing is also a useful tool when comparing products and vendors, for example, where a company has a choice between two different machines that can be used to manufacture its products. The comparison should be undertaken using the principles of life cycle costing, considering running costs, and repair and maintenance costs. This concept is easy to envisage when considering fleet management costs for a delivery company. Not only is there the buy or lease decision and the capacity of logistical space (that is the size of the vehicles), but within that, the running costs, estimated residual values, annual mileage, and replacement policy.

Tables 7.2 – 7.4 illustrates the comparison of a choice between two machines. Machine A can be purchased in the U.K., but a less expensive version can be bought from Asia. The costs of delivery and installation are higher for the machine sourced from Asia. However, the purchase price and delivery and installation in total are still less than the U.K. option. The following information has been gathered about both machines by consulting internal data and the technical specification provided by the manufacturers.

Table 7.2 – Basic data for machine comparison

	Machine A	Machine B
Cost item		
Product price	$210,000	$200,000
Equipment life	3 years	3 years
Delivery and Installation cost	$2,000	$6,500
Operating labor requirement	1 man	1 man
Labor hour rate	$10/hr	$10/hr
Operating hours per day	8	8
Annual operating days	200	200
Preventative maintenance cycle time	500 hrs	100 hrs
Preventative maintenance downtime	2 hrs	3 hrs
Average time between failures	1,500 hrs	500 hrs
Average time to repair	8 hours	36 hours
Maintenance labor rate	$15/hr	$15/hr
Parts and supplies cost	1% of purchase price	1.5% of purchase price
Power requirement per hour	9.0 kwh	12 kwh
Cost per kwh	$0.15	$0.15

Table 7.3 Workings of running costs

Workings		
Operating labor costs	**$48,000.00**	**$48,000.00**
(200 days x 8 hrs x 1 man x £10 per hr x 3 years)		

Table 7.3 Workings of running costs - continued

Total operating hours	4,800.00	4,800.00
Preventative maintenance cycle	500.00	100.00
Number of cycles	9.60	48.00
Preventative maintenance hours	19.20	144.00
Cost per hour $	15.00	15.00
Cost of preventative maintenance	**$288.00**	**$2,160.00**
Total operating hours	4,800.00	4,800.00
Corrective maintenance cycle	1,500.00	500.00
Number of cycles	3.20	9.60
Corrective maintenance hours	25.60	345.60
Cost per hour $	15.00	15.00
Cost of corrective maintenance	**$384.00**	**$5,184.00**
Operating hours	4,800.00	4,800.00
Kw per hour	9.00	12.00
Number of kwh	43,200.00	57,600.00
Cost per kwh $	0.15	0.15
Cost of power	**$6,480.00**	**$8,640.00**

Table 7.4 Comparison of machines

	$	$
Product price	210,000	200,000
Installation cost	2,000	6,500
Operating labor costs	48,000	48,000
Preventative maintenance	288	2,160
Corrective maintenance	384	5,184
Power requirements	6,480	8,640
Parts and supplies cost	2,100	3,000
Total life cycle cost	269,252	273,484

The total cost of the machines can be compared. Over the three-year life cycle, the cost of the machine from Asia is slightly more expensive. As with the example in Table 7.1, the costs involved could be undertaken using a net present value approach if the timing of cash flows is significantly different between the two options. The closeness of the comparison illustrates that the overall financial aspect is only one element of vendor selection.

7.9.6 Methods of determining life cycle costs

Active reading. Note that life cycle costs deal with costs into the future, and therefore, a degree of estimation is required. Also, note that organizations that have a program of developing new products will gain experience and become better at forecasting and estimating costs. The use of sensitivity analysis is always good practice.

Several methods can be used to determine life cycle costs (Fabrycky and Blanchard, 1991). As with every other decision that potentially has a long-time frame, there is a degree of estimation required, and therefore sensitivity analysis on the estimates should always be carried out. Techniques such as net present value calculations are also highly relevant as future costs and revenues, if appropriate, need to be converted to common values for comparison of alternatives, and present values are a suitable means of doing this.

Deterministic

A deterministic approach is where a detailed analysis is undertaken, and the actual cost of each element is costed. While this might be the most accurate means of conducting the analysis, it is dependent on being able to obtain sufficiently accurate information on which to base the calculation of cost. Collecting the data involves working closely with all the functional staff involved in the life cycle of a product, such as design and production engineers, operations and logistical staff, and marketers, as well as potentially gathering figures from external stakeholders, such as suppliers, intermediaries, and end retailers.

Estimation by analogy

In cases where new products have similar elements to other products which the company has experience of, the cost information of similar products can be used to estimate the likely costs of the new product. This method uses the previous experience of the company and, in some industries where new product development is a key to organizational success, a body of expertise can be built up that provides the basis of reasonable estimates.

Stochastic – probabilistic approach

To account for the risk aspect, and the fact that many costs are estimated, probabilities can be applied to the costs to create expected values. Previous experience can be used to generate statistical analysis. For example, failure rates, learning curve effects, and so on, can be calculated based on past products and used to help the life cycle costs of new products. Also, the degree of accuracy of previous estimates over the actual costs incurred can be monitored to build up experience of the costs of activities involved and be applied to future cost estimates.

7.9.7 Benefits of life cycle costing

Active reading. Think about how decisions involving life costing aid the development and implementation of the strategy.

The key benefits of using life cycle costs include:

Greater transparency of future costs

Life cycle costing forces a consideration of all the costs incurred through the whole of the supply chain at the development and design stages. It provides the opportunity to open the negotiations early in the process to ensure that all parties add value to the consumer and make a profit.

Encourages cooperation through the supply chain

Life cycle costing encourages companies to work together through the supply chain. For example, decisions taken at the design stage can have an impact on the handling costs of retailers and, thus, the end price to the consumer. It provides a much better understanding of the costs and the consequences of decisions made within the supply chain by all parties, and the potential effect on the attractiveness of the sales proposition to the end consumer.

Improved awareness of total costs

Life cycle costing also ensures that there are no surprises later in the product's life cycle. For example, factors such as the expected life of the product components, and the ease and costs of repair need to be considered. The reliability and maintenance issue can influence the length of the manufacturer's guarantee offered and subsequent costs under warranty claims that could emerge a long time after the initial purchase.

Performance versus cost

Life cycle costing, particularly if used in conjunction with target costing, can aid decisions concerning any necessary trade-offs of performance versus cost. It is always important to consider the requirements of the end customer to reduce the danger of taking away features or functions that reduce costs, but also remove the reason why the product is attractive to the end consumer. Therefore, market research is a crucial part of new product development to ensure that the product does what it is supposed to do, and indeed, performs as the consumer expects, so that it remains an attractive sales proposition.

Better forecasting

Life cycle costing provides a better understanding of costs such that future costs can be anticipated, but also, as experience is gained of life cycle costing, estimates can be made based on previous experience, which will, in turn, improve the accuracy of the forecasts.

Ability to plan for future resources

Understanding the stages of the product's life cycle facilitates the planning and provision of the necessary resources and, allied to better forecasting, to plan for the cost of these resources in advance.

Aids pricing decisions

Understanding the life cycle costs aids the pricing decision. Techniques such as activity-based costing are beneficial in the pricing decisions, but only if the total costs are considered. Ideally, for a product to be successful, all parties in the supply chain need to be able to make a profit. Therefore, it is essential that the total costs, including the effect of volume, are taken into account when setting the price. If life cycle costing is used in conjunction with target costing, it means that the whole of the supply chain can be used to look for potential savings in cost. Often the savings are looked for in the design or manufacturer of the product, but considering alternative methods to distribute the product, or reducing handling costs through packaging design, or thinking of the sustainability aspects and reducing the cost of recycling materials at the end of the products life, can all be taken into account.

Sustainable development

Life cycle costing encourages a cradle to cradle approach and ensures that the cost of recycling and end of life costs are considered at the initial phases of a product's life.

Evaluation of competing outcomes

In cases where there are alternative options, life cycle costing provides the basis for a decision to be made based on the total life cycle costs, rather than just an element of costs, such as initial purchase price.

7.9.8 Considerations in implementing life cycle costing

Active reading. Note the practical implications of using techniques such as life cycle costing. Forewarned is forearmed, so think how they can be overcome by the way the technique is implemented.

Time-consuming and resource-intensive

If detailed cost estimates are to be obtained for every stage of the product life cycle, it adds more time to the new product development process, particularly if third parties in the supply chain are to be involved.

Accuracy of data

It is always difficult to estimate future costs, particularly in instances where there is no track record or no similar experience, on which the estimates can be based. This uncertainty means that some form of sensitivity analysis or application of probabilities is required. Estimation by analogy based on previous experience can help to alleviate some of the issues surrounding the accuracy of data.

The difficulty of estimating demand and hence unit costs

The impact of the volume is also difficult to estimate, which puts a high degree of reliance on marketing estimates of the likely demand, particularly in cases where there is a significant impact on costs in terms of economies of scale and experience curve effects.

Technology changes

Estimating costs over the lifetime can be difficult enough, but also anticipating technology changes that might impact on the costs of production can be almost impossible to forecast. Technology changes illustrate why life cycle costs need to be revisited during the product life cycle as changes occur. Consider the case of software products that are invariably now supplied online instead of via a physical disk, or books that are currently available as e-books, as well as a hard copy. In these cases, the technology has changed the delivery method, reduced the need to hold inventory, and impacted on the production costs, and indeed, potentially changed the nature of the product.

Pricing

The life cycle costs can have an impact on the price, for example, the increased demand for sustainability to be designed into products may have implications for pricing as to who pays for the recycling of materials at the end of the products life. The need to sell at a price that covers the costs makes it essential to use target costing in conjunction with life cycle costing as the start point for target costing is the acceptable market price.

Performance management

Understanding the life cycle costs can provide the basis for performance management. Budgets will often be set based on the estimates made at the business case stage of the new product development process and refined at the commercialization stage. Monitoring of the actual costs, growth patterns based on the marketing strategy, and general performance of the product, will not only provide a platform for assessing performance but build up a databank of information on which to draw when estimating the life cycle costs of other future products. The organization must monitor performance to learn how it can improve in the future.

Decision making

Life cycle costs can have implications for decisions other than just new product development. For example, make or buy decisions, purchase or lease, affordability, comparison of products and vendors, can all benefit from the technique of life cycle costing.

Learning activity.
The following information is provided for product X. Calculate the profit or loss for each level of projected sales volume and the most likely outcome.

Sales quantity in units	1,000	2,000	3,000
Probability	0.3	0.5	0.2
Selling price per unit	$200	$180	$150
Cost information per unit	$		
Direct product costs	50		
Distribution costs	10		
Customer service costs	15		
Takeback and recycling costs	5		
R & D costs	10,000		
Design costs	15,000		
Pre-production costs	20,000		
Production overheads	50,000		

Solution

Sales quantity in units	1,000	2,000	3,000	1,900
Probability	0.3	0.5	0.2	most likely
	$	$	$	$
Selling price per unit	200	180	150	180
Cost information per unit				
Direct product costs	50	50	50	50
Distribution costs	10	10	10	10
Customer service costs	15	15	15	15
Takeback and recycling costs	5	5	5	5
	$	$	$	$
Life cycle revenues	200,000	360,000	450,000	342,000
Life cycle costs				
R & D costs	10,000	10,000	10,000	10,000
Design costs	15,000	15,000	15,000	15,000
Pre-production costs	20,000	20,000	20,000	20,000
Direct costs of production	50,000	100,000	150,000	95,000
Production overheads	50,000	50,000	50,000	50,000
Distribution costs	10,000	20,000	30,000	19,000
Customer service costs	15,000	30,000	45,000	28,500
Takeback and recycling costs	5,000	10,000	15,000	9,500
Total life cycle costs	175,000	255,000	335,000	247,000
Life cycle profit/(loss)	25,000	105,000	115,000	95,000
% of sales revenue	12.5%	29.2%	25.6%	27.8%
Life cycle cost per unit	175	128	112	130

7.10 Methods of Growth

Active reading. Note the main methods described but think about the practical implications of each method and situations where the different methods might be the most appropriate way of achieving growth.

The strategic options available to an organization can be viewed as a three-stage process. Review the competitive strategy (section 6.3) for appropriateness given the changes in the environment, decide the strategic option to be undertaken based on Ansoff's ideas, and then determine the best method of achieving the strategy. Growth could be achieved via organic growth, that is, undertaking the strategy by relying on the organization's resources and capabilities, merger or acquisition, or joint development. This section briefly considers the benefits and drawbacks of each method before looking at the accountant's role.

7.10.1 Organic growth/internal development

Organic growth involves developing the internal resources and capabilities of the organization. The distinct advantage is that the organization is in total control over its destiny and has strategic independence. The organization does not have to compromise on its strategic plans, but conversely, it is bearing all the risks and costs of development. The process of developing new products and new markets under an organization's resources can sometimes take a long time, involve considerable investment in resources, and carry a high risk. However, it is possible to spread the investment over time, and the organization is gaining experience and enhancing its capabilities via organizational learning through direct involvement in the process of developing new products and markets.

7.10.2 Mergers and acquisitions

The option of a merger or acquisition provides a speedier option than organic development. Entry into new markets or acquiring new products to complement an existing product portfolio can be achieved via merger or acquisition. The strengthening of a poorly balanced product portfolio, as determined by portfolio analysis, could be improved. For example, a merger between two pharmaceutical companies where one has many profitable cash cow products, but few rising stars or question mark products in development, and the other has products in development, but very few cash cows would benefit both companies by producing a merged company with a more balanced product portfolio. New capabilities and knowledge can be acquired, such as expertise in technology or enhanced skill base. Local knowledge of markets can be gained, or the strategy can be used as a means of overcoming barriers to entry to overseas markets, perhaps by merging with a local organization already operating in the country.

Financial benefits can arise from mergers, such as improved financial efficiency via a stronger balance sheet or achieving tax efficiencies due to tax treaties between different tax regimes where the companies are based in different countries. Rationalizing product capacity or releasing value by selling off unprofitable parts could also be a motivation for merger and acquisition activity.

There are, however, some drawbacks, such as the potential for a clash of cultures. This clash of cultures is more in evidence as the two organizations try to find a way to integrate the operations and potential rationalization costs, such as the elimination of duplicated resources, or excess capacity is closed involving redundancy of personnel.

Considerations

Factors that need to be considered when undertaking an acquisition or merger include:

- Strategic fit—does it build on the strengths, address the weaknesses, grasp the opportunities, or help to minimize the threats?
- Financing—how will the acquisition be financed? What level of financial risk is involved?
- Stakeholders' attitude, particularly shareholders—what do the stakeholders involved think of the proposed acquisition or merger? Are they for or against? How will they be affected?
- Value of the target—how to value the potential target? What is the ideal price? What is the maximum that the organization is prepared to pay? That is, what are the boundaries for negotiation?
- Effect on other organizations—what is the impact on suppliers, customers, and intermediaries?
- Rationalization costs, both financial and human—what are the costs of integration, and how will these be managed? How will the impact on employees of both organizations be managed?
- Potential synergies—what are the benefits of acquisition or merger in terms of synergies? Operating, marketing, and administrative synergies all need to be considered to ensure that they are achieved.
- The manner of integration and management approach—how much autonomy will be allowed to the acquired or merged organization(s)?

Integration Issues

The manner of integration of an acquisition can range from leaving the organization completely autonomous to subsuming the organization into the operations of the acquiring organization. This process needs careful consideration as it has implications for the motivation of staff and the effectiveness and costs of the integration. The parent organization also needs to consider the degree of control that it grants to a newly acquired subsidiary or business unit. (Goold and Campbell, 1987) identified three options.

- Financial control in which the parent organization allows a high degree of autonomy but sets strong financial controls.
- Strategic planning in which the parent organization undertakes the planning for the subsidiary and management simply implements the plan.
- Strategic control is a halfway house in which the parent sets strategic guidelines within which the subsidiary has some autonomy. It is sometimes referred to as parental control.

7.10.3 Joint Development Forms

Consortia

Consortia in which several individual organizations join to undertake a large-scale project, for example, a massive construction project.

Joint Venture

A joint venture, or equity alliance, in which a separate legal entity is formed to pursue a common purpose. The participant organizations still exist in their own right, and the joint venture is also a separate legal entity that employs its own staff. Profits and losses are shared in accordance with a joint venture agreement, as is the provision of resources and operational aspects of the venture. The key benefits here are that costs and risks can be shared as well as expertise, but there is the potential for disagreement between partners, or worse, the failure of one partner organization. Compromises might also need to be made to accommodate partner views resulting in a dilution of the strategic aims and objectives.

Strategic Alliance

A non-equity strategic alliance is usually governed by a contractual arrangement, which benefits both parties. Typical examples might be a franchise arrangement in which the franchisor grants certain rights to the franchisees, and provides the product or know-how and training, thus retaining some control over quality as well as managing the brand image and marketing. The franchisee contributes personal commitment to success, capital, and often local knowledge.

Licensing

There are also licensing agreements whereby the organization grants rights to manufacture a product under license, or confers rights to use a product, process, or brand name for which the licensee pays a royalty payment or fee.

Local Agent

In the case of overseas developments, the use of local agents is often beneficial as they provide the local knowledge of the market, and regulatory regimes of operating in the country. They can be incentivized to encourage referrals with penalties also imposed to prevent misuse of the arrangement.

De-Merger and restructuring

An option that should not be overlooked is that of de-merger or restructuring where an organization decides to split into several smaller parts to become more focused on specific markets, or to achieve more flexibility and speed of response to environmental changes from a smaller-scale operation. Unprofitable parts or elements of the business can also be sold off where there is no longer a strategic fit with the overall direction of the organization.

7.10.4 Direction and method of growth

The direction and method of growth can be considered as providing a matrix of choice options. Table 7.5 illustrates how, together, they form part of the strategic choice.

Table 7.5 Strategic choice

Method of growth		Internal (organic)	Joint development	Merger or acquisition	Reconstruction
Direction of growth	Market penetration				
	Product development				
	Market development				
	Diversification				

Learning activity. Using news articles available on the Internet, research two recent acquisitions or mergers that have been reported. Try and find two in different industry sectors. What were the main reasons given for the acquisitions or mergers that were reported? Are there any similarities between the two that you have found?

7.11 Summary

Management accounting can support the generation of strategic options in the following ways:

Withdrawal options

Working with marketing personnel to identify candidates for the withdrawal of products from markets or withdrawing operations from unprofitable markets. The use of portfolio analysis and customer profitability analysis can be helpful here.

Pricing decisions

Assisting in the pricing decision via costing and pricing strategies. This assistance is particularly useful in market penetration strategies where a loss leader approach might be adopted, as the potential cost of such a strategy needs careful consideration. Similarly, the use of price and product awareness strategies requires careful evaluation before implementation.

New markets

Evaluation of potential new markets and methods of entry in terms of the costs of acquiring the necessary resources and access options to the market.

Costing new products

The use of target costing and life cycle costing methods to understand the costs of product development and evaluating the potential viability of product development strategies, as well as contributing to the business case or, indeed, assessing the validity of a business case. ABC can also aid the achievement of target costs by highlighting costly activities. Benchmarking exercises can also be employed to improve the operation of the value creation system.

Methods of growth

Evaluating the various methods of growth in financial terms, including assisting in the negotiation of a joint venture or strategic alliance contractual issues. The accountant could help the legal team in agreeing on the terms of any joint venture by providing detailed financial estimates and allocation of costs.

Investment appraisal

Using knowledge of investment appraisal techniques, such as net present value calculations (section 8.5) and associated sensitivity analysis, in the evaluation of methods of growth, particularly if used as a basis for valuing an acquisition target. The accountant can make a significant contribution to the financial aspects of the initial feasibility study as well as the strategic aspects. The overall assessment of the feasibility of the project should include an initial financial appraisal and, at a later stage, as more detailed information becomes known and costs and revenue projections become more accurate, updated for known changes.

The comparison of actual performance against the plan is also an obvious area for the accountant to be involved—this can aid the learning process for future project appraisals as experience is gained of the option for growth. Knowledge of evaluation techniques and the evaluation of alternative courses of action will be invaluable as the organization makes the final decision. Incorporating risk assessment and sensitivity analysis into the assessment can also provide valuable information.

Due diligence

Undertaking financial due diligence of the acquisition target or merger company as well as involvement in the strategic due diligence process.

Forecasting and monitoring

The provision of estimates and forecasts/budgets as well as establishing monitoring systems and reporting of actual performance is another area where the accountant can make a significant contribution—generally providing support to nonfinancial managers in the implementation of the strategic option chosen. This does not relate just to the ongoing operations but to the control of initial investment costs and adherence to payment schedules that might be appropriate. Ensuring that the finance is available when required and that the financing of the strategic option chosen is managed effectively.

7.12 Review questions

(1) Discuss the various strategic options identified in the variation of Ansoff's growth matrix.
(2) Critically evaluate target costing as a technique to aid the development of a viable product offering.
(3) Why is life cycle costing important, given today's focus on sustainability issues?
(4) Discuss the role of life cycle costing in new product development.
(5) Discuss the merits of acquisition or merger as a means of organizational development.
(6) When is it appropriate to consider joint development as an option for growth?
(7) Discuss the advantages and disadvantages of joint development.
(8) Critically evaluate the contribution that management accounting can make to the generation of strategic options.

7.13 Case study activities 13 – 15 – HW Inc.

The following activities refer to HW Inc. in Appendix A of this learning resource.

Case study activity 13 – HW Inc. International expansion

HW Inc. to expand to a new country

HW Inc. is planning to increase its business in emerging economies. The management team has identified Bangladesh as a potential country in which to open stores. Bangladesh is set to be one of the top three fastest growing economies in the next few years. The country has a robust financial sector, and one of the key industries is textiles, which is also a significant export of the region. Its economy has grown on the back of exports of readymade garments. Manufacturers in the region supply clothing to discount companies such as Matalan. The Head Office team has identified the following information about the country.

The population is growing and are becoming more sophisticated consumers. The government-backed growth in telecommunications and technology within the country is fueling the growth of online shopping. Bangladesh is strategically important to the region as its seaports provide access to landlocked regions and countries such as Northeast India, Nepal, and Bhutan. China also sees Bangladesh as strategically important as it allows for a potential gateway to Tibet, Sichuan, and Yunnan.

The government of Bangladesh welcomes investment from foreign companies. It is keen to increase the competition in key industries in the country as a way of improving the economic growth of the country. More than 26% of the population live below the poverty line, so the government is keen to grow the economy and support local industries. Textiles and apparel manufacture are among the key employment industries. Unemployment in the country is about 5%, but many only work a few hours a week. There can be some bureaucracy to be overcome when setting up in business, and supply arrangements are not always as transparent as one might like. Still, generally, the prospect is particularly good for the U.K. and U.S.-based companies. The U.K. Government Export Office suggests that opportunities exist for companies offering quality, lifecycle costs, and after-sales service. Low-cost goods from China and India dominate the market, and as such, the market is very price sensitive.

The Bangladesh economy relies heavily on human resources, and the government is keen to promote education – approximately 20% of the total population (around 29 million people) are students.

Companies such as the International Homeware Company have recently opened stores in Dhaka and is reported to be doing exceptionally well with very favorable reviews on Facebook.

It is usual to appoint a local representative or local agent who understands the regulations and market when setting up a business in Bangladesh. The general advice is that working with a local partner is beneficial, as it is possible to set up an office to sell products and equipment to the end consumer. It is a requirement to register with the Bangladesh Investment Development Authority, and the Register of Joint Stock Companies. The local team suggests that it will be possible to open a store in Dhaka. They estimate that it will take approximately one year to gain the necessary permissions and establish the store, and trading would be able to begin in the second year.

Activity requirements

Using the model of Porter’s Diamond outlined in section 7.5, assess whether Bangladesh is a viable option and one that HW could pursue. Also, identify any other aspects or areas of information that you feel HW should investigate before making a final decision.

Case study activity 14 – HW Inc. Joint development

HW Inc. expands into out-of-town stores in China JV

HW China is currently planning to expand its operations in the country. As in most countries, the trend towards out-of-town shopping is still popular and, in some cases, this is being supplemented by 'Shopping Villages'. These are out-of-town single-story retail outlets where consumers can buy discounted top-quality brands. Luxury goods retailers have embraced the concept and are using them to sell old product lines that have been replaced in their high street stores. The shopping villages give consumers who are less wealthy the chance to buy luxury goods, and the retailer an opportunity to dispose of surplus stock and end-of-season product lines.

The Shopping Villages tend to be managed by their owners and management companies, who operate the sites quite aggressively in that they offer short term leases and can change the mix of companies represented depending on current trends. This practice, however, can be quite attractive to retailers where high street leases are typically much longer, so the Shopping Villages offer a lower risk in which to test the market. HW China has operated a small outlet in a Shopping Village near Beijing, which has shown some promise.

The short term lease is coming up for renewal, and HW China is now investigating the opportunity of closing the small store in the Shopping Village and opening a slightly larger store, more in line with an 'out-of-town' store, on a nearby site in the same area. To minimize the risk, HW China is considering entering into a joint venture agreement with a major food retailer. It is felt that this choice of partner would not pose a direct threat to HW China, as the product ranges are complementary but do not directly compete.

However, some of the luxury brands that HW Inc. stock such as Burberry, Prada, Amani, Abercrombie & Fitch, and Hugo Boss were not very happy with the fact that HW China had opened a small store in the Shopping Village, as these major brands have their own outlets in Shopping Villages. The "gift" culture in China means that these brands do very well in Shopping Villages where goods can be discounted by anything between 30% – 70%. These brands, therefore, see Shopping Villages as an excellent way to expand their consumer appeal outside of the large high street stores in which their goods are available. They are not happy about the prospect of HW China opening an out-of-town store, as they feel that this will confuse the consumer. In retaliation, they have indicated that they may not allow their brands to be sold in the out-of-town store.

HW China is keen to see the development approved as they are aware that at least two of their main competitors have opened up small scale stores in Shopping Villages on the fringes of major cities, so they are also testing the out-of-town market. The local government is keen to see the development go ahead, but there has been some opposition raised from the local community. Also, an agreement has been reached to established public transport links to service the operational superstore, but transport providers are now saying that as people will most likely travel in their cars to the site, they are no longer prepared to maintain the planned frequent services due to estimated low demand.

The central government has expressed concern recently about the impact that the growth in out-of-town stores and Shopping Villages is having on the high street and city center shops.

It has commissioned research into the social impact of out-of-town shopping to report within the next six months. HW China has made no firm commitment yet other than to undertake a feasibility study with the Joint Venture Company.

Activity requirements:

(a) Identify the market opportunities and threats that confront HW China if it adopts a strategy of developing more out-of-town stores in the future.
(b) Undertake a stakeholder analysis concerning the strategic decision to open the out-of-town store on the fringes of Beijing.
(c) Discuss the merits and drawbacks for HW China of pursuing out-of-town developments entirely on its own or as a joint development with other retailers. Pay special attention to the practical aspects and operational difficulties which may arise.

Case study activity 15 – HW Inc. Growth strategies

HW Inc. diversification into telecoms

Introduction

The senior management team has been investigating the possibilities of diversifying its activities. They have looked at supermarkets and other retailers that have successfully diversified into telecommunications and media, such as Amazon, Tesco, Virgin, and other major companies with the provision of the mobile phone and then into more media-related activities.

Caroline Quinn (Marketing Director of HW Inc.) has a contact in the media sector that has put HW Inc. in touch with a medium-sized telecommunication company that has ambitious plans to develop the company internationally, as well as to diversify into other areas of media such as TV. XYZ Inc. is looking for a friendly partner to help finance the expansion and would be open to talks about a possible partnership. Caroline Quinn, Shirley Valentine (Finance Director of HW Inc.), and Huang Zu (International Development Director at HW Inc.) have had an initial meeting with the Chairman and the Chief Executive Officer of XYZ Inc. At the meeting, the Chief Executive Officer of XYZ Inc. enthusiastically outlined the company's plans and seemed very keen to sell the idea of a partnership arrangement to HW Inc. One of the attractions for XYZ Inc. was to be linked to a company such as HW Inc. that had global recognition across six continents. The following is a brief outline of the background and plans of XYZ Inc.

XYZ Inc.

XYZ Inc. is a well-established company providing telecommunications services both nationally and internationally. Its business has been concerned with the provision of telephone lines and equipment and private telecommunications networks. XYZ Inc. has supplemented these network services by offering mobile phones, which, although highly competitive, is still an expanding market worldwide.

The company maintains a diverse customer base, including residential users, multi-national companies, government agencies, and public sector organizations.

Strategic development

The Chairman of XYZ Inc. stated within the latest Annual Report that there were three main areas in which the company aims to develop to remain a world leader in the telecommunications market. He believes that the three main growth areas reflect the evolving nature of the telecommunications market and will provide scope for development.

The areas in which development is planned are:

1. Expansion of the telecommunications business in the national and overseas markets, both by the company acting on its own and through partnership arrangements with other suppliers.
2. Diversification into television and multi-media services, providing the hardware to home entertainment and enhanced broadcasting services.
3. Extension of the joint ventures and strategic alliances to help extend their global reach, particularly in areas such as North America, Europe, and Asia.

The Chairman stated that their status as a world leader in telecommunications was built on a focus on the long-term development of continually improving its services to customers, developing high-quality up to date products, and being innovative, flexible, and market-driven.

Business opportunities

The Chief Executive of XYZ Inc. has stated that the major opportunities for the company lie in the following areas:

- Encouraging greater use of digital services, including making voice calls. Recent research suggests that customers are sending more texts and making fewer voice calls yet downloading more data.
- Provision of advanced services, and research and development into new technology, including superfast broadband and systems integration, for example, making services available on several digital platforms and making more use of the business ecosystem.
- The increasing freedom from government control via deregulation of markets in world-wide telecommunications services.

The company has used an extensive television and poster advertising campaign. This marketing campaign was designed to penetrate further the residential market by encouraging greater use of the digital services with varying charging incentives being offered to encourage customers to use the services more on a range of different digital platforms over fiber optic and superfast broadband connection to their home.

Investment plans

XYZ Inc. is currently planning on making a multimillion-dollar investment in new products that it believes will increase its market share in its domestic market. It currently enjoys a 55% market share in its local market, having previously been a state-owned provider of telecommunications services. It has been a private sector company for some years now, but the competition has found it difficult to make inroads into their domestic market. XYZ Inc. plans to make the most of this situation by investing in retaining the market share, if not increasing it still further.

Industry regulation

Despite the deregulation in some part of the world, several western countries in which XYZ Inc. has a relatively high market share presence, are strengthening the powers of the industry regulators to promote competition and deter anti-competitive behavior.

Activity requirements:
You have been asked by the Supervisory Board of HW Inc. to prepare a report covering the following points concerning XYZ Inc.:

(a) Explain the nature of the factors in the business environment, which will influence XYZ Inc. in developing its business and increasing its market share [Hint: use PESTEL to undertake a brief environmental analysis].
(b) To assess the extent of the potential market development opportunities available to XYZ Inc. [Note: Apply Ansoff's Product Market Growth Matrix to do this.]

7.14 References

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CHAPTER 8 - Strategic evaluation and choice

8.1 Introduction

There is a range of strategic options available to an organization to fill a profit gap. A gap can arise due to a change in the environment or internal resources and capability. Each option needs to be evaluated in terms of strategic and financial impact. In practice, however, many organizations, particularly small and medium-sized organizations, will not have the resources to assess every single option in detail. A strategy is often about making small incremental changes to the original plan and evaluating the results. In some instances, it may be the case that the strategy is decided, and the numbers are crunched afterward to provide some comfort that it will work (Pitcher, 2015), and these may only be rough estimates.

This chapter reviews a simple framework for evaluating strategic options that look at the suitability (strategic fit with the SWOT), acceptability (to the stakeholders), feasibility (sufficient resources or access to resources), and risk. It can be remembered as the SAFeR framework. As part of the suitability, the chapter covers stakeholder analysis and the key accounting technique of investment appraisal via net present value calculations and real options. Finally, the chapter reviews the need for and the process of risk management. Organizations have been accused of not taking enough account of the risk involved when implementing strategic options. It was highlighted by CIMA in 2007, interestingly before the financial crisis of 2008/2009, in a report that introduced the CIMA scorecard (CIMA, 2007). The report suggested a framework consisting of a strategic position (SWOT), strategic options, strategic implementation, and strategic risk.

8.2 Learning outcomes

After studying this chapter, you will be able to:

- Understand and apply the SAFeR framework for strategic option evaluation
- Discuss the concept of stakeholder mapping and its significance in strategic options evaluation
- Understand and apply a net present value calculation to a given investment opportunity
- Discuss the use of real options in investment appraisal
- Discuss the need for and the process of risk management
- Critically evaluate the contribution that management accounting can make to the evaluation of strategic options

8.3 Elements of Strategic Evaluation

Active reading. Note how the evaluation of strategic options uses the analysis developed from the SWOT and how the financial evaluation is just part of the decision.

The evaluation of options involves strategic as well as a financial evaluation. A useful framework for evaluating strategic options was put forward by Johnson, Scholes, and Whittington (2007), in their book *Exploring Corporate Strategy*. Suitability, acceptability, and feasibility, it is possible to remember this as SAFe. If, however, the aspect of risk is highlighted and considered as a separate element, the mnemonic SAFeR can be used.

Suitability

Suitability relates to the strategic logic of the strategy. The strategy must fit the organization's operational circumstances and strategic capability. It is asking whether the strategy builds on the strengths, addresses the weaknesses, grasps the opportunities, and avoids or minimizes the threats. Does it close any profits gap, and is it financially viable?

Acceptability

Acceptability relates to the stakeholders, and, as a minimum, the strategy must be acceptable to the key players.

Feasibility

Feasibility asks whether the strategy can practically be implemented. Is enough financing available? Does the organization have, or can it acquire the correct resource capability?

Risk

Risk identifies the risk and prompts risk management strategies to manage risk to an acceptable level.

In this chapter of the learning resource, we focus on stakeholders, financial viability, and risk management.

8.4 Stakeholder analysis concerning strategic choices

Active reading. Note the range of stakeholders that can be considered and the use of stakeholder mapping to prioritize and determine a strategy to manage the stakeholder views. Also, think about how the presentation of financial forecasts and financial information could be used to influence stakeholder support for the strategy.

Video link [Stakeholders and stakeholder analysis](https://www.youtube.com/watch?v=k9-6Wlt84Ws)

[https://www.youtube.com/watch?v=k9-6Wlt84Ws]

When organizations implement strategies, there are many different groups of people who are affected. Therefore, organizations need to consider the potential impact that their decisions will have on various stakeholders. Definitions of stakeholders concerning organizations vary by the emphasis they place on the relationship. In broad terms, a stakeholder is any group or individual who is affected by or can affect the organization's activities (Freeman, 1984). Other authors, such as Clarkson (1995), stress that stakeholders can claim ownership rights or interests in an organization and its activities past, present, or future. These claimed rights or interests are the result of transactions with, or actions taken by, the organization. They may be legal or amoral, individual, or collective.

Bryson (2004) suggests that stakeholders are persons, groups, or organizations that must somehow be considered by leaders, managers, and front-line staff. There is broad agreement that stakeholders have an interest or a reliance on the organization and that organizations have a responsibility to their stakeholders. As sustainability is becoming more prominent, this leads to the conclusion that stakeholders would include future generations who are not yet born, as organizations need to consider the impact on the planet when making strategic decisions that may impact on sustainability.

Different stakeholder groups will have different interests and levels of influence concerning the organization and the decisions that it makes, which indicates why organizations need to assess stakeholder views about the strategy that is adopted. Organizations need to understand the criteria by which stakeholders will judge their performance against their expectations, and therefore what the organizations can do to satisfy those expectations. The degree of power and influence that various stakeholders can exercise, together with the legitimacy of the stakeholder relationship and the urgency of the claim, needs to be considered (Mitchell et al., 1997).

In practice, organizations cannot satisfy all stakeholders. Therefore, there needs to be a way of identifying and prioritizing those individuals or groups that are affected by or can affect an organization's ability to achieve its objectives (George, 2003). There will also be an element of a trade-off between competing aims. It may be a case of satisfying rather than maximizing stakeholders' needs and expectations.

8.4.1 Classifications of stakeholders

Stakeholders have varying degrees of interest and influence, depending on their relationship to the organization. One approach to deciding which stakeholders are relevant is to view their proximity to the organization in relation to the task or general environment, as illustrated in Figure 8.1. It determines the degree to which the organization relies on the stakeholder group for the successful implementation of its strategies.

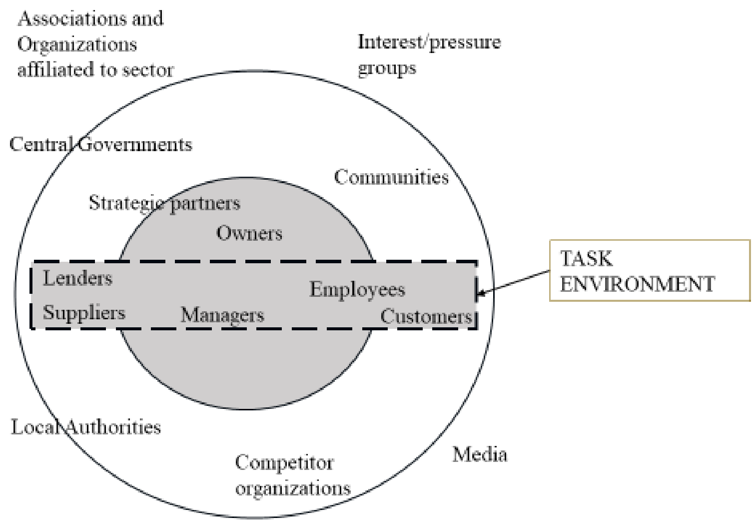

Figure 8.1 Stakeholders in relation to task and general environment

Another more simplified and potentially useful way of classifying stakeholders is using the mnemonic ICE, for internal, connected, and external

Internal

Typically, internal stakeholders are often thought of as employees being split between management and workers. However, employees can be broken down into many different groups who will have different interests, expectations, and degree of power or influence. Consider a hospital in which there are doctors, consultants, administrators, nursing staff, and porters. There may also be groups of workers who are contracted to another organization, such as caterers and cleaners. All groups could have a different view or reaction to a strategic decision taken by the organization, and some groups may be able to influence the success of the strategy more than others.

Connected

Connected stakeholders have a vested interest in the organization. This category will include shareholders and loan providers and sometimes suppliers and customers depending on the strength of the relationship with the organization.

External

External stakeholders might include the central government, the public, pressure groups, and the media.

Like most strategic analysis tools, stakeholder analysis is not a precise science. Mendelow (1991) suggested that stakeholders' views will differ depending on the strategic decision being made. Different dimensions need to be considered, such as whether power and influence are individual or collective. For example, an employee or customer may not have much power individually to change a decision, but collectively could exert a higher degree of power, often in the form of a trade union or consumer group. The impact that a stakeholder group may have could also be short term or long term.

It is possible to determine that there will be conflicts arising between stakeholder groups. For example, closing a manufacturing unit will not be acceptable to employees. If, however, it is increasing profitability via cost reduction and increased efficiency in other units, shareholders may well support the decision. The relative power positions of stakeholder groups can be determined by the degree of dependency an organization has on a stakeholder group at any time. For example, an organization that is experiencing severe cash flow problems may be dependent on its bankers to provide it with finance, which puts the bank in a strong position to influence strategy. In some cases, the bank may demand a seat on the senior management team to protect its position.

The degree of reliance can be analyzed by understanding the degree of disruption, ease of replacement, and degree of uncertainty that a stakeholder group can create (Mintzberg, 1999). As an example, the London underground train system has a strong driver's union, and disputes frequently arise between the union and the management team. The union is in a strong position as a stakeholder as they can disrupt the organization's plans by calling the drivers out on strike, that is, withdrawing their labor. Due to the labor protection laws in the United Kingdom, it is difficult to replace employees, certainly in the short term. The union went through a long-running dispute by threatening to go on strike, and then calling it off at the last minute. This action creates a high level of uncertainty for the thousands of people who use the underground train system to get to work, creating uncertainty in many organizations operating in London. These three factors put the union in a strong position with a high degree of power and influence over the decisions, requiring a participative approach to management by the organization in dealing with the stakeholder group.

8.4.2 Stakeholder Mapping

The technique of stakeholder mapping can be used to understand the dynamics of the stakeholder influence on a strategic decision being considered. A typical matrix showing the degree of influence and power on one axis against the expectations or level of interest on the other axis can be used, as shown in Figure 8.2.

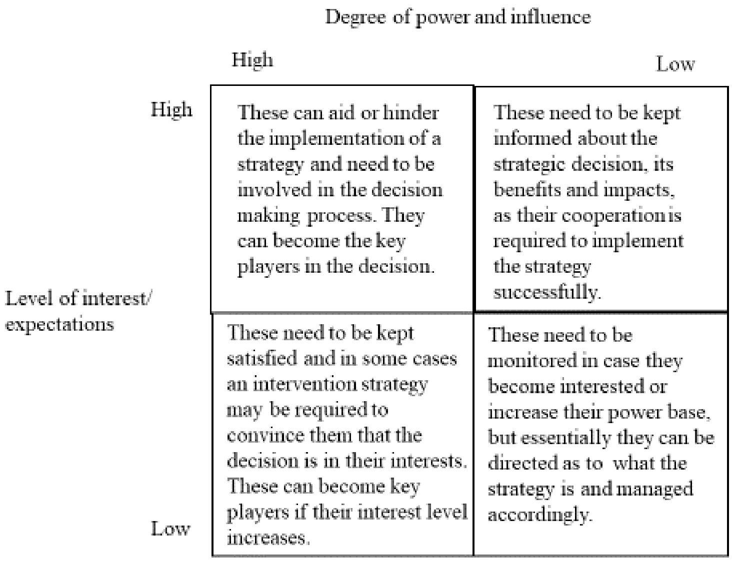

Figure 8.2 Stakeholder mapping

Stakeholders with a high degree of power and a high degree of interest can be described as key players: strategy must be acceptable to them, at least. These stakeholders can exert considerable influence on the strategic decision under consideration, for example, a significant provider of capital such as a bank, or a local authority from whom planning permission is required to develop the land. It can extend to powerful suppliers or customers where they hold a high degree of power in negotiations.

It is the key players that an organization needs to identify when formulating strategy. However, it is essential to realize that stakeholders can move from one quadrant to another depending on the situation under review and must, therefore, be managed appropriately, as indicated in Figure 8.2. Although the analysis can be undertaken as a general exercise, it is best deployed as a way of understanding the key players in relation to a strategic decision.

8.4.3 The Case of Dyson's Decision to Move Production Overseas

Dyson is a U.K.—based company that became famous for developing new technology for vacuum cleaners. Soon other products were added to the portfolio. In 2002, the multimillionaire and inventor James Dyson, the owner and then sole shareholder, decided to move production of his bagless vacuum cleaners to the Far East with the loss of 800 jobs in the U.K. The decision was also part of the strategy to launch products in the U.S. market. Countries such as Malaysia were closer to the U.S. market, and the move would not only reduce production costs by 30 percent but also release additional cash that could be used to fund the marketing campaign.

James Dyson had been critical of the U.K. government for not doing enough to support manufacturing, and not surprisingly, the U.K. government expressed their disappointment at the move. The trade union was also very vocal in their condemnation of the move but could do little to stop the decision. Mapping the stakeholders affected by the decision, as shown in Figure 8.3, illustrates why James Dyson was able to make the decision unopposed as there were no stakeholders with enough power and influence to affect the decision-making process.

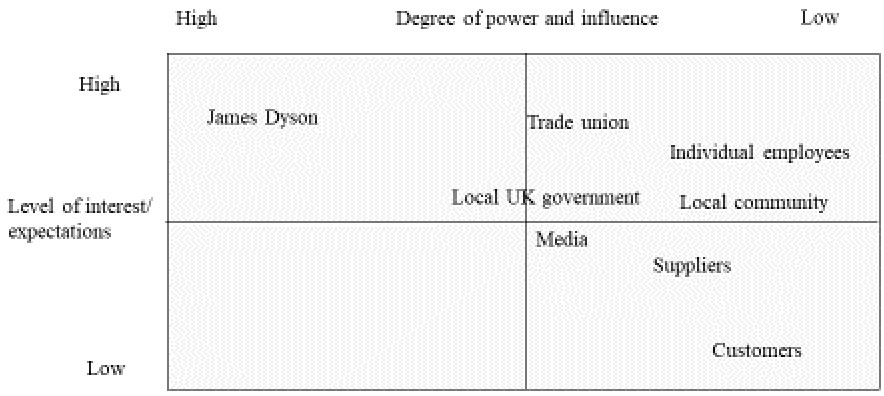

Figure 8.3 Stakeholders affected by the Dyson decision to move production overseas

Learning activity. As the covid-19 pandemic has affected many people in different ways, there is a growing need for help from volunteers and charities. The crisis has, however, also meant that many people are suffering financially, and charities have seen a drop in donations. Some governments are even talking about reducing the amount of financial aid given to international organizations for charitable enterprises.

Imagine that you are a senior manager with an international aid organization that provides humanitarian and development aid to children worldwide, receives approximately 60% of its funding from government grants, 10% from corporate donors and the rest from private donors. The organization has learned that government grants are likely to be reduced or not renewed next year. The organization has some permanent employees but relies mainly on volunteers at a local level.

The senior management team recognizes that it may need to reduce the amount of aid it can provide during the next few years if it is unable to attract the usual levels of funding. Undertake a stakeholder analysis to reflect the level of interest and degree of power of stakeholders related to this decision.

8.5 Financial Evaluation

Active reading. Note the different methods of financial evaluation that can be used and why the net present value calculation might be the preferred method. Remember that decisions should not be taken based on the numbers only. Think about the reasons why financial analysis does not provide the answer.

The accountant has a pivotal role to play in the evaluation of capital investment and strategic decisions that required significant amounts of investment over a period. The term capital investment appraisal is also often referred to as capital budgeting, as the organization may not be able to undertake every investment opportunity due to the limited availability of capital resources at its disposal. The investment appraisal process, therefore, provides a basis for evaluating those investments that will enable the organization to close any gap that arises from the GAP analysis discussed in Chapter 5, section 5.4.

It is important to note that strategic decisions should not be based solely on the numerical evaluation but also take account of strategic factors of a nonfinancial nature. There may be circumstances in which it makes sense strategically to undertake a decision that provides benefits other than financial, for example, developing a presence in a geographic market that eventually opens access to other markets. Considering strategic and financial factors has implications for being sure of the long-run benefits of the strategic decision being made and the time frame in which those benefits might be realized. For example, establishing a business in Bangladesh can open markets in countries such as Northeast India, Nepal, and Bhutan, due to the strategic importance of their seaports. It may be more appropriate to evaluate the cost of setting up in Bangladesh as a separate exercise. The future cash flows emanating from access to other markets may be too far in the future to be able to estimate with any meaningful accuracy, even though this may be the real intention behind the strategy.

The long-run impact of strategic decisions raises another critical issue in that some strategies, such as the instance of Bangladesh, can be broken down into phases, and at specific points in the future, different decisions can be made. The decision to operate in Bangladesh can be part of the cost of a much broader strategy. The example also serves to indicate that an investment appraisal of a strategic option is not just undertaken once, but should be repeated at significant milestones to see if it is still worth continuing given the changes in the environment. There are, therefore, exit points or decision points at which the initial decision can be reassessed considering new and more up-to-date information.

8.5.1 Methods of Investment Appraisal

Payback Period

A typical investment appraisal technique is known as the payback period. In its purest form, this is answering the question, how long does it take to recoup the initial investment? Everyone quickly understands the technique, and the basic principle states that the investment with the shortest payback period is the preferred option. However, there are some drawbacks to this method, as illustrated in Table 8.1.

Table 8.1 Simple payback period calculation

Years	Project A $	Project B $
0	(1,000)	(1,000)
1	900	100
2	100	900

The immediate difficulty is that both project A and project B payback in 2 years. However, the instinct suggests that project A would be preferred over project B, as more of the investment is recouped in year 1. This conclusion is instinctively considering two factors. Firstly, the time value of money, that is, given a choice people would prefer to receive the money earlier rather than later as they perceive that the buying power of cash now is more than in the future, owing to inflation and the chance of earning interest. And secondly, the risk involved in that early cash flows represent less risk than future cash flows. In its crudest form, the payback method ignores future cash flows received after the payback period.

Net Present Value (NPV) Calculation

The net present value (NPV) technique takes account of the time value of money by applying a discount factor to all future cash flows (capital costs and all revenues and expenses) that convert the nominal cash flows into present-day values. It is worth noting that discounted cash flows can be used within the payback method described above to account for the time value of money. It would then be called a discounted payback period.

NPV raises the issue of what to use as the discount factor. The organization's weighted average cost of capital (WACC) is typically used as the discount factor, and this can be adjusted to take account of risk and the effect of future financing requirements. Using a discount factor to convert cash flows to present-day values enables a comparison of different investment options that have different timings of cash flow as all cash flows are represented in equivalent values.

The standard rule is that a project providing a positive NPV would be acceptable in financial terms, and one with a negative NPV would not be acceptable. In the case where there are alternatives, the one with the highest positive NPV would be preferred. It is important to reiterate that strategic decisions should not be made purely based on the financial evaluation. The example in Table 8.2 illustrates this for three projects, each of which would require an initial investment of $50,000. Each project provides a different profile of net cash flows over the life of the project.

Table 8.2 NPV for three alternative projects

Year	Project A	Project B	Project C	Discount factor (10%)	Project A	Project B	Project C
	Nominal cash flows $,000				Discounted cash flows $,000		
0	(50)	(50)	(50)	1.0	(50)	(50)	(50)
1	28	0	40	0.91	25	0	36
2	22	30	8	0.83	18	25	7
3	8	30	12	0.75	6	22	9
4	4	0	14	0.68	3	0	9
5	0	21	1	0.62	0	13	1
	12	31	25		2	10	12

When looking at the nominal cash flow on the left, project B may be preferred as it provides a higher net benefit over the life of the project. However, when the timing of the cash flow is considered by applying the discount factor, which converts all cash flows into present-day values, project C produces a higher NPV. It is quite close to project B, so a final decision will also need to consider the nonfinancial factors.

The NPV analysis can be enhanced and made more sophisticated, for example, by applying probability values to future cash flows creating an expected value. Another variation might be inflating costs by an expected rate of inflation, but increasing sales by the predicted growth in sales value based on volumes and pricing strategy.

The discount factor can be adjusted for various situations. For example, it could be increased over the cost of capital to include a risk factor, and within this, different discount rates can be applied to revenues and costs. It may be that costs can be estimated with a higher degree of certainty than revenue cash flows. This degree of uncertainty can be accommodated by using different discount factors for different items. For example, future rental costs may be known with some degree of certainty, but raw material costs could be extremely volatile. Sensitivity analysis can also be applied to model different scenarios.

The process of the net present value calculation is to establish the cash inflows and outflows for a project and then to determine the discount factor to use, which, as already mentioned, is usually the weighted average cost of capital of the organization. The weighted average cost of capital is outside the scope of this learning resource, but as a simple example, suppose an organization has the capital structure shown in Table 8.3.

Table 8.3 Simple capital structure consisting of equity and debt

	$	
Equity: Share capital / common stock	60,000	60%
Loan stock at 5% interest per annum	40,000	40%
Total capital	100,000	100%

If shareholders expect a return of 8%, the weighted average cost of capital would be as shown in Table 8.4.

Table 8.4 Calculation of WACC

Equity – share capital	60% x 8%	4.8%
Loan capital	40% x 5%	2.0%
Weighted average cost of capital		6.8%

Many organizations will have a more sophisticated capital structure than illustrated here, but the principle of the calculation still applies.

It should be noted that there are alternative methods to estimate the cost of equity capital. A detailed explanation of these is more suited to learning resources related to corporate finance. In practice, an estimated cost of capital is often used. In situations where funding is limited, a higher cost of capital may be set as a hurdle rate that investments must reach before they are considered further. The hurdle rate is a technique commonly used in capital rationing, where there are many potential projects, but limited finance is available.

Example NPV calculation.

Chuck Sandecker left College wondering what to do with his life. He had been on a football scholarship and had enjoyed a successful college football career but had missed out on playing professionally in the NFL. However, having majored in sports science, he did know how to keep fit, and his girlfriend, Maria Esparido, had majored in business and economics. Pooling their expertise, they had decided to set up their own gym in their hometown of Gulf Shores in Alabama. The town has a population of just over 10,000 people and is famous for music festivals. It also borders the Gulf State Park, which is said to be the best in Alabama. The fitness center, which they named My-Kind-of-Gym, and branded **MKGym,** was extraordinarily successful, and on the back of their success, Chuck and Maria were investigating opening an outdoor activity center with accommodation near the Gulf State Park.

Chuck and Maria have prepared a forecast of the cost and potential cash flows of building and operating the accommodation at the **MKGym** outdoor center.

They estimate that it will cost $300,000 to create a timber-framed building that could include 15 large double rooms with en suite bathrooms and ten family rooms (also with en suite bathrooms) capable of sleeping four people. The building could be established very quickly and would be built by a local company that specializes in this type of construction.

The cost of furnishing a total of 25 rooms and bathroom suites would cost an additional $125,000.

The initial target for customers is to achieve an average occupancy rate of 50% in the first year, rising by 20% each year until a 100% occupancy rate is reached. The center would be open 365 days in the year, so 50% represents (25 rooms x 365 days x 50% = 4,562 rooms days in the first year). For planning purposes, it is assumed that all rooms will be charged at the same rate of $50 per day. At the moment, it is anticipated that this will be competitive, and Chuck suggests that they keep the same price for the foreseeable future.

The operating costs, such as energy and maintenance of the building, are expected to be $200,000 per annum. This cost will rise each year by the rate of inflation, which is currently 3% per annum.

A manager will be recruited to manage the building and make sure that accommodation and general site is maintained to a high standard. A salary of $35,000 per annum will be paid. For planning purposes, assume that this remains the same each year. One of the staff currently employed at the town gym is interested in the position. They are currently paid $25,000 per annum. Chuck is keen to promote from within the company, so it is highly likely that the employee will be transferred to the outdoor gym and paid at the higher salary. Chuck will not recruit a replacement at the town gym. [Note that in investment appraisal calculations, only the additional relevant cash flows are considered. In this case, as the employee is already employed, the only extra cost is the increase in salary of $10,000].

Cleaning will be done by a contract cleaning company that specializes in hotel cleaning and charge based on the number of rooms cleaned. For planning purposes, the cost can be calculated as 2% of the revenue earned from renting out the rooms.

Chuck is also anticipating that they can make extra money by renting out mountain bikes. He plans to invest $20,000 immediately to buy a range of mountain bikes of varying sizes. Chuck is then planning to increase the number of bikes each year by spending a further $4,000 in each of years 2, 3, 4, and 5. He estimates that the revenue generated in each year from hiring out these bikes will amount to 1.5 times the total accumulated cost of the investment in each year.

Assume the cost of capital is 10%, which includes a risk element. **MKGym** usually uses five years over which to evaluate capital investment projects.

Ignore taxation.

Calculation of anticipated room occupancy.

Total capacity is 25 rooms on 365 days in the year = 9,125. [Note that it could be deemed unrealistic to assume 100% all year round, but as a target, it enables a model to be established on which sensitivity analysis can be conducted.]

The number of rooms occupied each year each shown in Table 8.5.

Table 8.5 Calculation of room occupancy

Year	1	2	3	4	5
Number of rooms	4,562	5,474	6,569	7,883	9,125
Price $	50	50	50	50	50
Revenue $	228,100	273,720	328,464	394,156	456,250

The net present value calculation is shown in Table 8.6. Note that we use the year zero to account for costs that are incurred immediately. The normal convention in NPV calculations is to assume that all revenues and costs occur at the end of the year.

Table 8.6 NPV calculation for the expansion project

Year	0	1	2	3	4	5
Description	$000	$000	$000	$000	$000	$000
Cost of building	(300)					
Furnishing	(125)					
Revenue from rooms		228	274	328	394	456
Operating costs		(200)	(206)	(212)	(218)	(225)
Manager - increase		(10)	(10)	(10)	(10)	(10)
Cleaning		(5)	(5)	(7)	(8)	(9)
Purchase of mountain bikes	(20)		(4)	(4)	(4)	(4)
Revenue from the initial investment in bike hire		30	30	30	30	30
Revenue from additional bikes			6	12	18	24
Net cash flow	(445)	43	85	137	202	262
Discount factor 10%	1.00	0.91	0.83	0.75	0.68	0.62
Discounted cash flow	(445)	39	70	103	138	163
NPV						68

Note: The discount factors can be calculated using the formula PV = $1/(1+r)^n$ where r = interest rate (cost of capital), n = number of periods. There are also present value calculators freely available on the Internet or present value tables (see Appendix D) where the discount factors can be easily obtained.

Internal Rate of Return (IRR)

An internal rate of return can also be calculated as a means of making comparisons. It is the equivalent of the discount factor that is required to achieve an NPV of zero. It can be calculated by trial and error using an NPV calculation with different discount factors until the NPV is zero. The following formula shows what you are looking for.

$$NPV = \sum_{n=0}^{n} \frac{Cn}{(1+r)^n} = 0$$

Where: C = cash flows; n = number of years; r = cost of capital (in decimals)

There is an NPV function and IRR function in Excel that can be used to calculate the IRR.

Alternatively it can be calculated via interpolation, or ascertained using a graphical method shown in Figure 8.4. The method of interpolation uses a low discount rate to calculate a positive NPV and a high discount rate to calculate a negative NPV.

The result can be read from a graph, shown in Figure 8.4 where the IRR is approximately 9.5%. Or the following formula can be used.

$$IRR \approx a + \left\{ \left(\frac{NPVa}{NPVa - NPVb} \right) (b - a) \right\} \%$$

Where

- a: is the lower of the two rates of return used in the calculation that produces a positive net present value.
- b: is the higher of the two rates of return used in the calculation that produces a negative net present value.
- NPVa : is the positive net present value as the result of using lower rate of return a.
- NPVb: is the negative net present value as the result of using higher rate of return b.

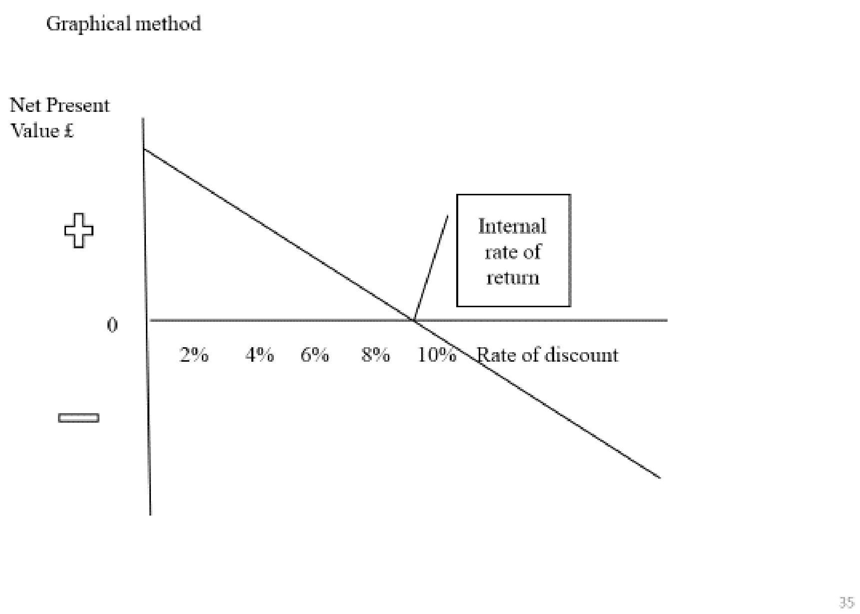

Figure 8.4 Internal Rate of Return

The IRR can be useful as organizations may set a high hurdle rate of return, which projects must achieve before they are accepted. Managers, therefore, readily understand that if a hurdle rate of 15 percent is set, the IRR must be above the target.

Accounting Rate of Return and Profitability Index

Other methods that could be used include the accounting rate of return in which the profit that can be earned is compared to the initial investment, or an average investment, to create a measure based on profitability.

$$\frac{Profit\ on\ investment}{Average\ investment}\ x\ 100 = \%\ return$$

A profitability index can be created, which compares different projects based on a calculation of the value per unit of investment.

$$\frac{Present\ value\ of\ future\ cash\ flows}{Initial\ investment} = profitability\ index$$

Learning activity.

Yelena Petrov and Vladimir Boshirov had moved from Russia to Salisbury in the U.K. in 2010. Yelena and Vladimir were both passionate about healthy eating. They had picked up on a growing trend for freshly made fruit drinks, particularly among the millennial generation, who were becoming more concerned with how they look and the benefits of a healthy lifestyle. Having settled into the local community and noting the tourist trade and the growing younger population of Salisbury, they began their first business venture in 2011, which was a small bar selling freshly made fruit juices from organic produce. The venture was called the Fruit Bat Bar. The business was hard work in the first year, but they managed to make a small profit. Within a few years, they had opened another four outlets in the region.

An interesting opportunity

Nisa stores, which are independently owned local convenience stores trading throughout the U.K., have recently expressed an interest in stocking a range of Fruit Bat juices.

The plan would be for them to stock the Fruit Bat products in their stores in the local area around Wiltshire, which is where Salisbury is located, and if successful, to broaden the sales to more regions. Vladimir thinks that if they agree to work with Nisa stores, they will need to set up a dedicated unit to service the demand from the stores. It would entail finding suitable premises and staffing them accordingly.

Vladimir is considering the opportunity from Nisa to provide their stores with Fruit Bat Bar products.

Nisa has proposed that they will sell them under the Fruit Bat Bar Limited brand. They are considering launching the products in the local region currently served by the Fruit Bat Bar outlets as this is where the brand is known, but eventually, assuming that it is successful, they will make it available to all of their stores. The Nisa stores are typically convenience stores located within the local community.

To satisfy the requirement, Vladimir estimates they will need to secure separate premises to produce the products required. Vladimir has found premises in Salisbury that would be suitable. There is a current space available that could be rented at an annual cost of £100,000. The unit also has additional space that could be rented in one years' time. Vladimir thinks that this would allow for expansion if Nisa decided to offer the product more widely after the first year. The extra space would be at an additional cost of £50,000 per annum commencing in year 2.

Vladimir will need to buy immediately the equipment necessary for juicing and packaging the product costing £25,000. In year 2, he would need to purchase additional equipment totaling £50,000. Assume that these have no value at the end of 5 years.

He would require 2 unskilled workers at the cost of £8 per hour for a 35 hour week, in the first year. He would manage the operations himself during the first year. Assuming the expansion goes ahead in year 2, he would need an additional 2 workers on the same pay as the initial workers but would recruit a manager on an annual salary of £25,000.

Administration and general operating costs in the first year associated with the new operation would be £75,000, rising to £90,000 per annum in the second year of operations.

Nisa wishes to trial the product initially in 5 stores local to Salisbury. They believe that they will be able to sell 2,000 units per week in each of their 5 stores for £3.60 each. They will take a margin of 60%, i.e., they pay Fruit Bat Bar 40% of the sales price.

Nisa will then roll out the product into the other 15 stores in the region in year 2. They believe that they will be able to sell 2,000 units per week in each of these stores as well.

The material cost for each unit produced is £1.20.

Vladimir usually undertakes investment evaluation over 5 years using an estimated cost of capital of 10% as the discount rate.

Ignore taxation.

Required:

Using NPV as a method of investment appraisal, recommend whether Vladimir and Yelena should go ahead with the opportunity to supply Nisa with juice products. Assume that the project extends for five years.

A solution to the learning activity						
Investment appraisal						
Description	0	1	2	3	4	5
Rental		(100,000)	(100,000)	(100,000)	(100,000)	(100,000)
Additional space rental			(50,000)	(50,000)	(50,000)	(50,000)
Equipment	(25,000)		(50,000)			
Workers		(29,120)	(29,120)	(29,120)	(29,120)	(29,120)
Additional workers			(29,120)	(29,120)	(29,120)	(29,120)
Manager			(25,000)	(25,000)	(25,000)	(25,000)
Operational costs		(75,000)	(90,000)	(90,000)	(90,000)	(90,000)
Sales by Nisa stores		1,872,000	1,872,000	1,872,000	1,872,000	1,872,000
Additional sales			5,616,000	5,616,000	5,616,000	5,616,000
Margin taken by Nisa		(1,123,200)	(4,492,800)	(4,492,800)	(4,492,800)	(4,492,800)
Cost of materials		(624,000)	(2,496,000)	(2,496,000)	(2,496,000)	(2,496,000)
Net cash flows	(25,000)	(79,320)	125,960	175,960	175,960	175,960
discount factor 10%	1	0.909	0.826	0.751	0.683	0.621
Discounted cash flow	(25,000)	(72,102)	104,043	132,146	120,181	109,271
NPV						368,539

8.6 Real Options

Active reading. Note how the real options approach uses the net present value concept. As with other methods, the numbers only provide part of the information required to decide the best course of action. Also, remember that many factors come into play when estimating future cash flows, and therefore the use of sensitivity analysis is recommended.

An approach that is becoming more popular is known as real options analysis. This method recognizes that organizations often have multiple options available related to a strategic decision. For example, concerning the case of the Bangladesh project discussed in Chapter 7 and HW Inc. activity 13, there are several options. The management team could decide to delay the project or adopt a graduated phased approach. For example, they could begin by exporting, then later establishing a local sales office, followed by creating local production facilities, and finally setting up a local subsidiary company, or; abandon at any stage, or entirely. Using this approach entails evaluating the various options. It makes management aware of the financial implications of implementing the different options that can be considered in the decision-making process. The real options are treated similarly to financial market options in that they create a right, rather than an obligation, to act.

8.6.1 The concept of options and real options in investment appraisal

A net present value (NPV) calculation within an investment appraisal evaluation assumes typically that a project commences immediately and proceeds until it finishes. It is treating the investment as a one-off decision. Many investment decisions, however, are flexible, and managers are faced with several possible actions that could be taken. NPV calculations also largely ignore the strategic value of the projects, such as the opportunity to expand into a new market, or develop natural resources such as shale gas, oil, gold, and other minerals, or exploit new technology, or agree to acquire or merge with another company.

Risks and uncertainties can be dealt with in NPV evaluations by adjusting the cost of capital, attaching probabilities to outcomes, or conducting sensitivity analysis (which is always recommended). This section reviews the basic concept of evaluating options within investment decisions. Firstly, by introducing the concept of options via a simple example. Then moving on to look at how an option is valued to aid decision making, and finally, it looks at the use of the Black-Scholes option pricing model to attach a fair value to an option within an investment decision.

8.6.2 Different types of options

Option to delay/defer

In business decisions, there are frequently options to delay/defer without losing the opportunity. For example, should the organization begin mining silver now or wait until the price goes up. Or wait until market conditions are more favorable before opening a new store. Or wait until the political environment is known with more certainty, for example, it may make sense to delay when an election is on the horizon, or new legislation is being debated, and the outcome is uncertain.

Options to switch/redeploy assets

If market conditions change, there may be options to switch/redeploy assets. For example, investing in a flexible manufacturing system that is capable of producing more than one product without any additional switching cost. Or changing the use of a building, such as an option for a college to turn office space into extra teaching space should the capacity be required.

Options to expand/contract operations

When market conditions are good, there may be options to expand, or when bad, options to contract. For example, designing projects in an easily scalable way may cost more upfront but saves money later. Similarly, construction projects such as a sports stadium could be designed to incorporate a single-tier stand with much stronger foundations than initially required. If the team (or venue) was successful and needed additional space to accommodate increased attendance in the future, a second-tier could easily be added without having to alter the foundations. These are sometimes described as follow-on projects where additional investment is made if phase one is successful. As in the example of the sports stadium, projects such as this often require more expenditure in phase 1 than would be necessary if there was no follow-on option. Thus there is a cost to building flexibility into a project. This extra cost is akin to a premium paid for a financial option, as will be explained in section 8.6.4.

Options to abandon/exit

The nature of the project may be such that there are options to abandon/exit the project at various stages during its lifetime. For example, a phased project to expand the market into overseas locations by first establishing an export facility, then later establishing overseas sales offices in key locations, then adding production facilities in key markets, provides opportunities to abandon part or all of the project at various stages within its lifetime. Similarly, projects that involve equipment or facilities that would have a resale value at various points within a project lend themselves to reviewing an abandonment option.

Situations where the concept of options is useful

Viewing options within investment decisions are generally useful in situations where there is:

- *Flexibility*: the ability to change the business route over time.
- *Uncertainty*: the value of a project cannot be fully predicted.
- *Irreversibility*: most decisions have no turning back, and as a result, imply sunk costs.

8.6.3 Viewing options as real options

An option definition when referring to financial options gives the holder the right, but not the obligation, to buy or sell an underlying asset, such as a stock or share. The option helps to place a value on the flexibility in the decision. For example, a call option (the right to buy in the future) on a share or stock allows an investor to wait and see what happens to the price of a share before deciding whether to exercise the option. It is possible for the price of the option, known as the premium, to benefit from favorable movements without being affected by adverse movements in the price of the underlying asset (the share). Real options, however, refer to the choices or opportunities that a business may or may not take advantage of, or realize. Real options involve decisions that managers make that involve tangible assets. As with financial options, real options can involve spending some money upfront (like the premium paid for a financial option) which provides the flexibility later.

The concept of real options provides a means of placing a value on the flexibility that is present in many real investment decisions. As with any numerical technique, it does not give the definitive answer to an investment decision but provides managers with some additional information that facilitates a more informed decision.

The following examples provide some simple illustrations of how the concept of real options can be used in different types of investment decisions. We begin by using NPV calculations.

Option to wait (example 1)

Suppose a company has the opportunity to launch a new product. The initial investment in machinery to produce the product will cost $27,500. There is, however, some uncertainty over the demand conditions for this year due to the impact of a virus that is potentially spreading around the globe and could reduce demand.

If demand for the product proves to be unaffected, the net cash inflow could be $10,000 per annum, but if the outbreak adversely affects demand, the net cash inflow may only reach $5,000 per annum. The marketing department suggests that there is a 50% chance of the demand being affected.

The concept of probabilities can be used to calculate the likely cash inflow.

($10,000 x 50%) + ($5,000 x 50%) = $7,500

The resultant net present value calculation is shown in Table 8.7, assuming a cost of capital of 10% and a time horizon of 5 years.

Table 8.7 – Net present value calculation

Year	0	1	2	3	4	5
	$	$	$	$	$	$
Initial investment	(27,500)					
Cash flow		7,500	7,500	7,500	7,500	7,500
Net cash flow	(27,500)	7,500	7,500	7,500	7,500	7,500
Discount factor (10%)	1.000	0.909	0.826	0.751	0.683	0.621
Discounted Cash Flow	(27,500)	6,818	6,195	5,633	5,123	4,658
Net Present Value						925

This option provides a positive present value, but it is relatively low.

However, the product development team does not believe that any of the competitors are in a position to launch a similar product and steal the market. They suggest that it would be a possible to wait and launch the product next year once the potential demand is more certain.

Another NPV calculation can be undertaken to illustrate what might happen if the company waited and launched the product next year. As with the normal convention, it is assumed that all cash flows occur at the end of the year. The best-case scenario is shown in Table 8.8, and the worst-case scenario is shown in Table 8.9.

Table 8.8 – Best-case scenario delaying by one year

Year	0	1	2	3	4	5	6
	$	$	$	$	$	$	$
Investment		(27,500)					
Cash flow			10,000	10,000	10,000	10,000	10,000
Net cash flow	0	(27,500)	10,000	10,000	10,000	10,000	10,000
Discount factor (10%)	1.000	0.909	0.826	0.751	0.683	0.621	0.564
Discounted Cash Flow	0	(24,998)	8,260	7,510	6,830	6,210	5,640
Net Present Value							9,453
Expected value 50% probability							4,726

The calculation provides a more significant positive NPV than going ahead immediately and facing a higher degree of uncertainty.

Table 8.9 – Worst-case scenario delaying by one year

NPV calculation	0	1	2	3	4	5	6
	$	$	$	$	$	$	$
Initial investment		(27,500)					
Cash flow			5,000	5,000	5,000	5,000	5,000
Net cash flow	0	(27,500)	5,000	5,000	5,000	5,000	5,000
Discount factor (10%)	1.000	0.909	0.826	0.751	0.683	0.621	0.564
Discounted Cash Flow	0	(24,998)	4,130	3,755	3,415	3,105	2,820
Net Present Value							(7,773)
Expected value 50% probability							(3,886)

The calculation returns a negative NPV.

It can be seen from this basic analysis that there is a benefit with the option to wait and see what the demand conditions are like in one year. If demand is high, the company will launch the product, but if demand is low, the decision not to begin would be more appropriate. The example illustrates that waiting until there is more certainty about the likely market would benefit the organization, either potentially making a higher gain, or avoiding a potential loss. The analysis of the option to delay gives management more information on which to base a decision.

Option to abandon (example 1)

The same basic approach can be used to evaluate an option to abandon.

Assume that the company launched the product but, at the end of the first year, has the option to abandon the project and sell the plant and equipment for $22,500. This option to abandon can be treated as a separate decision, as the initial cost and the first year of trading are effectively sunk costs. The concept of the opportunity cost can be used to determine that the lost future cash inflows constitute the cost of abandoning the product. The best-case scenario is shown in Table 8.10, and the worst-case scenario is shown in Table 8.11.

Table 8.10 – Best-case scenario – good trading conditions

Year	0	1	2	3	4	5
	$	$	$	$	$	$
Cash flow (Lost income)			(10,000)	(10,000)	(10,000)	(10,000)
Sale of plant and machinery		22,500				
Net cash flow	0	22,500	(10,000)	(10,000)	(10,000)	(10,000)
Discount factor (10%)	1.000	0.909	0.826	0.751	0.683	0.621
Discounted Cash Flow	0	20,453	(8,260)	(7,510)	(6,830)	(6,210)
Net Present Value						(8,358)
Expected value 50% probability						(4,179)

Table 8.11 – Worst-case scenario – adverse trading conditions

Year	0	1	2	3	4	5
	$	$	$	$	$	$
Cash flow (Lost income)			(5,000)	(5,000)	(5,000)	(5,000)
Sale of plant and machinery		22,500				
Net cash flow	0	22,500	(5,000)	(5,000)	(5,000)	(5,000)
Discount factor (10%)	1.000	0.909	0.826	0.751	0.683	0.621
Discounted Cash Flow	0	20,453	(4,130)	(3,755)	(3,415)	(3,105)
Net Present Value						6,048
Expected value 50% probability						3,024

It may not seem that surprising, but this example illustrates that if demand turns out to be good, then it is better to continue with the project. Abandoning the project produces a negative net present value, and therefore would not be accepted. If demand proves to be poor, then it is better to abandon the project as the net present value of the option is positive.

These examples only use the net present value concept to evaluate each option or decision. The following examples are slightly more complicated but use the same principle as they look at how the concept of financial options and, later the Black-Scholes option pricing model can be used to place a ‘fair value’ on an option.

Option to wait (example 2)

Assume that a company has a choice of investing in a new facility this year, wait until next year, or not at all. The plant and equipment can only be used for this investment, and once the decision is made, it cannot be reversed.

The cost of the plant and equipment is $50m, and the net cash flows arising from the investment are estimated with some degree of certainty at $75M. The cash flows for the next year, however, are less certain, and if trading conditions are favorable net cash flow generated could be $100m, but if conditions are bad net cash flow could be $50M. The marketing department predicts that there is a 66.66% chance of good conditions and a 33.34% chance of poor conditions.

In this example, we are ignoring the on-going situation in future years, and focusing on the initial decision of when to invest.

The case of investing this year is shown in Table 8.12.

Table 8.12 Invest this year

Year	0	1
	$m	$m
Investment now cash flow	(50)	75
Discount factor (10%)	1	0.909
Discounted Cash Flow (DCF)	(50)	68.175
Net Present Value (NPV)		18.175

If the investment is made next year, it provides the following net present values shown in Tables 8.13 and 8.14.

Table 8.13 - Good conditions

Year	0	1	2
	$m	$m	$m
Investment next year – Good year cash flow		(50)	100
Discount factor (10%)	1	0.909	0.826
DCF		(45.45)	82.6
NPV			37.15

Table 8.14 - Bad conditions

Year	0	1	2
	$m	$m	$m
Investment next year - Bad year cash flow		(50)	50
Discount factor (10%)	1	0.909	0.826
DCF		(45.45)	41.3
NPV			(4.15)

These calculations show that investing next year if conditions are favorable provides a higher NPV than investing this year, and if conditions are adverse, the company will not invest.

Taking the expected value of the good scenario 66.66% of $37.15m = $24.76m and deducting the NPV from investing this year of $18.157m, the option to wait has a value of $6.603m.

This result is by no means precise, but it provides the management team with more information on which to base a decision. If the decision is made to invest without this knowledge, there is a 33% chance that management finds themselves in a situation with reduced net cash flows and regretting having made the decision to invest. With this knowledge, management has a better idea of the value of waiting and having the benefit of additional information on the likely trading conditions.

Option to wait/abandon phase 2 (example 3)

Supermarkets often have a similar dilemma when entering a new market. Assume that a supermarket is planning to enter a new market, and the operations team and marketing team have combined to identify the following information.

Open 1 store, 2 stores, or not invest

Table 8.15 Expected cash flow under demand conditions

	$m		$m
Cash flow if high demand	14	50%	7
Cash flow if low demand	8	50%	4
Expected value of cash inflow			11
Investment per store	(10)		

An analysis of the situation might be as follows:

Invest in opening one store now and operating for 1 year. The expected value of the cash flows generated can be used.

Table 8.16 Invest in one store now

Year	0	1
	\$m	\$m
Investment per store	(10)	
Cash flow		11
Net cash flow	(10)	11
Discount factor (10%)	1	0.909
Discounted Cash Flow	(10)	9.999
Net Present Value		(0.001)

This calculation produces an extremely low NPV, and therefore the company may be uncertain as to whether to proceed. However, suppose that management has made the strategic decision that there are significant benefits to entering the new market. They decide to proceed with the risk that if demand is low, the store may lose money.

The cautious approach is to open one store now and then see how demand develops before deciding to invest in second and potential future stores.

If demand conditions are good or bad, it generates the following NPV's under each scenario for the investment in the second store.

Table 8.17 – Best-case scenario

Year	0	1	2
	\$m	\$m	\$m
Investment per store		(10)	
Cash flow good conditions			14
Net cash flow		(10)	14
Discount factor (10%)		0.909	0.826
DCF		(9.09)	11.564
NPV			2.473
Expected value 50%			1.2365

Table 8. 18 – Worst-case scenario

Year	0	1	2
	$m	$m	$m
Investment per store		(10)	
Cash flow bad conditions			8
Net cash flow			8
Discount factor (10%)		0.909	0.826
DCF		(9.09)	6.608
NPV			(2.482)
Expected value 50%			(1.241)

If demand conditions are bad, then the decision would be not to open the second store. A decision must then be made as to whether to close the first store and cut its losses.

However, taking the expected value of the good outcome of $1.2365, and adding it to the NPV of opening one store in year 1, which was $(0.001)m, indicates that the value of the option to wait is $1.2355m.

This is a relatively crude way of putting a value on the option to wait, and various authors suggest that the options are treated in the same way as financial options, and use the Black-Scholes option pricing model that was developed to place a 'fair value' on the options.

8.6.4 Black-Scholes Option Pricing model

The benefit of the Black-Scholes model is that it takes account of the volatility in the future cash flows.

The Black-Scholes formula is given as follows:

$$c = S_0\, N(d_1) - K\, e^{-rT} N(d_2)$$

$$p = K\, e^{-rT}\, N(-d_2) - S_0\, N(-d_1)$$

where $$d_1 = \frac{\ln(S_0 / K) + (r + \sigma^2 / 2)T}{\sigma\sqrt{T}}$$

$$d_2 = \frac{\ln(S_0 / K) + (r - \sigma^2 / 2)T}{\sigma\sqrt{T}} = d_1 - \sigma\sqrt{T}$$

c = a call option – this is the right, but not the obligation, to buy a share by, or at, a specified date and price, in the future

p = a put option – this is the right, but not the obligation, to sell a share by, or at, a specified date and price, in the future.

There are five variables that we need before we can calculate the value of a real option. Table 8.19 illustrates how these relate to the financial option calculation.

Table 8.19 Real option variables

Symbol	**Financial Option**	**Real Option**
S	Stock price	The underlying asset value, which is the present value of future cash flows arising from the project.
K	Strike price	The exercise price, which is the amount paid when the call option is exercise or amount received if the put option is exercised.
T	Time to maturity	Time before the opportunity expires
σ	Volatility	Riskiness of asset/project. This is measured by the standard deviation and can be derived from past projects or estimated using statistical techniques.
r	Risk-free rate	The risk-free rate which is normally taken as the return offered by a short-dated government bill.

[For the mathematicians among the readers, the e in the formula indicates an exponential term, and IN signifies the natural logarithm. N is the cumulative probability distribution function for a standardized normal variable]

The formula can look quite daunting, but it is relatively easy to undertake using Excel, and there are excellent free resources that can be downloaded to help. In this learning resource, a free resource is used from the Corporate Finance Institute web site that can be found at:

https://corporatefinanceinstitute.com/resources/templates/excel-modeling/black-scholes-calculator/

This calculator is free to use for educational purposes, but other sites provide access to a calculator.

Option to wait (example 4)

An organization has the opportunity to bid for a contract that will give it exclusive rights to manufacture and market a new product in its home country. The initial set up costs would be $50m, and the cash flows generated over four years are estimated as follows:

Table 8.20 Expected cash flows generated

			1	2	3	4
Cash flow $m			20	25	15	10

However, there is considerable volatility attached to the cash flows. The rights are such that the organization does not have to commence manufacturing straight away but could wait 2 years to see how the market conditions develop before deciding to go ahead and manufacture.

If the organization manufactures immediately, the NPV, assuming a cost of capital of 11% is as follows:

Table 8.21 NPV of manufacturing now

Year	0	1	2	3	4
	$m	$m	$m	$m	$m
Initial investment	(50)				
Cash flow		20	25	15	10
Net cash flow	(50)	20	25	15	10
Discount factor 11%	1	0.901	0.812	0.731	0.659
DCF	(50)	18.02	20.3	10.965	6.59
NPV					5.875

The difficulty is the high degree of volatility over the cash flows, which means that the future, if a decision to wait, is taken, could be quite different. The difficulty is how much to bid for the contract. Logic might suggest that the company could offer up to $5.875m, as this is the estimated NPV of the project.

However, what is the value of the option to wait? This is like a call option where the organization pays a cost (the premium) to provide the opportunity to buy a share in the future. The Black-Scholes option pricing formula can be used to calculate a value for this option.

S – the asset value would be the NPV of the cash flows generated if the organization waited. Assuming a cost of capital of 11%, this provides the following net cash flows.

Table 8.22 NPV of waiting to manufacture as input to the Black-Scholes model

Year	0	1	2	3	4	5	6
	$m	$m	$m	$m	$m	$m	$m
Cash flow				20	25	15	10
Net cash flow	0	0	0	20	25	15	10
Discount factor 11%	1	0.901	0.812	0.731	0.659	0.593	0.535
DCF	0	0	0	14.62	16.475	8.895	5.35
NPV							45.34

S = $45.34m
K = $50m
T = 2 years
r = 4.5% (assumed)
ơ = 50%

If these values are input to the Black-Scholes formula, it provides the following value of the option.

Table 8.23 Value of call option

Type of Option	Call Option
Stock Price (S_0)	$ 45.34
Exercise (Strike) Price (K)	$ 50.00
Time to Maturity (in years) (t)	2.00
Annual Risk Free Rate (r)	4.50%
Annualized Volatility (σ)	50.00%
Option Price	$ 12.40

Additional Calculation Parameters	
$\ln(S_0/K)$	(0.098)
$(r+\sigma^2/2)t$	0.340
$\sigma\sqrt{t}$	0.707
d_1	0.342
d_2	(0.365)
$N(d_1)$	0.634
$N(d_2)$	0.358
$N(-d_1)$	0.366
$N(-d_2)$	0.642
e^{-rt}	0.91393

The call option has a value of $12.4m. The organization could, therefore, bid up to $12.4m for exclusive rights rather than the $5.875m. The increase in value reflects the fact that there is a period before the decision needs to be made and the volatility of the cash flows. The benefit of the model is that it can take some account of the degree of volatility in the outcomes (future cash flows) without having to undertake numerous NPV calculations. However, as highlighted later, in section 8.6.5, under the limitations of Black-Scholes, the model makes some assumptions about the behavior of the stock market. Therefore it is always advisable to undertake some sensitivity analysis by adjusting the input values to take account of differing cash flows and different degrees of volatility. As with any model, it is an aid to decision making, not the decision-maker itself.

Follow-on option (example 1)

This example illustrates the situation where a company has the option to undertake a follow-on project at some point in the future.
Assume the following data has been provided.

Table 8.24 Basic information

Cost of capital	10%
	$000
Initial investment	(750)
Additional investment in year 2	(600)

Table 8.25 Estimated cash flows of the project

Year	1	2	3	4	5	6	7	8	9	10
	$000	$000	$000	$000	$000	$000	$000	$000	$000	$000
Net cash flow from first project	150	150	150	150	150	150	150	150	150	150
Net cash flow from additional investment			75	75	75	75	75	75	75	75
	150	150	225	225	225	225	225	225	225	225

If the NPV for the overall project is calculated, it provides the following NPV.

Table 8.26 NPV of total project

Year	0	1	2	3
	$000	$000	$000	$000
Initial investment	(750)			
Additional investment			(600)	
Cash flow		150	150	225
Net cash flow	(750)	150	(450)	225
Discount factor (10%)	1	0.909	0.826	4.409*
Discounted Cash Flow	(750)	136.35	(371.7)	992.025
Net Present Value				6.675

* using the annuity value for years 3 – 10

The management team is worried that this is quite low.

However, the project could be viewed as consisting of two separate phases.

Table 8.27 – NPV of Phase 1

Year	0	1	2	3
	$000	$000	$000	$000
Initial investment	(750)			
Cash flow		150	150	150
Net cash flow	(750)	150	150	150
Discount factor (10%)	1	0.909	0.826	4.409
DCF	(750)	136.35	123.9	661.35
NPV				171.6

Table 8.28 NPV of Phase 2

Year	0	1	2	3
	$000	$000	$000	$000
Initial investment	0		(600)	
Cash flow				75
Net cash flow	0	0	(600)	75
Discount factor (10%)	1	0.909	0.826	4.409
DCF	0	0	(495.6)	330.675
NPV				(164.925)

Phase 1 is positive, but phase 2 is negative, which gives us the low overall NPV for the project. But what if phase 2 is optional? Inputting the values into the Black-Scholes formula, a value for the follow-on option can be calculated.

Note the $600m is used as the investment required in year 2 for phase 2, but the NPV of the future cash flows of $330.675m

Table 8.29 Value of call option

Type of Option	Call Option
Stock Price (S_0)	$ 330.67
Exercise (Strike) Price (K)	$ 600.00
Time to Maturity (in years) (t)	2.00
Annual Risk Free Rate (r)	5.00%
Annualized Volatility (σ)	50.00%
Option Price	$ 41.24

Additional Calculation Parameters	
$\ln(S_0/K)$	(0.596)
$(r+\sigma^2/2)t$	0.350
$\sigma\sqrt{t}$	0.707
d_1	(0.348)
d_2	(1.055)
$N(d_1)$	0.364
$N(d_2)$	0.146
$N(-d_1)$	0.636
$N(-d_2)$	0.854
e^{-rt}	0.90484

This gives an option value of $41.24m. The total NPV could be given as Phase 1 plus the option value. $171.6m + $41.24m = $212.84.

Phase 1 is clearly beneficial, and the company then has the option to undertake phase 2 if it finally becomes worthwhile. Note, again, that the benefit of the Black-Scholes model is that it takes account of the volatility of future cash flows.

Option to abandon (example 2)

The two examples using the Black-Scholes model are call options; however, the option to abandon can be viewed like a put option (the right to sell).

XYZ is part of a group of companies that operates worldwide. XYZ is known for its innovative approach to developing new technology projects but often lacks the marketing expertise to exploit its potential fully. To date, XYZ has developed new products that it has effectively sold to the parent company, which then organizes one of the operating subsidiaries to manufacture and distribute the product.

XYZ has developed a new product that is ready for launch, but the senior management team is uncertain about future demand. The marketing department, however, is confident that once consumers use the product and word of the benefits gain momentum, the product will do well. The marketing department is so bullish about the product that they want XYZ to manufacture and distribute the product. The NPV for the product was calculated by the finance department as follows:

Table 8.30 NPV of the project

Year	0	1	2	3	4	5
	$000	$000	$000	$000	$000	$000
Initial investment	(40,000)					
Cash flow		1,750	5,500	12,500	15,000	20,000
Net cash flow	(40,000)	1,750	5,500	12,500	15,000	20,000
Discount rate 10%	1.000	0.909	0.826	0.751	0.683	0.621
DCF	(40,000)	1,591	4,543	9,388	10,245	12,420
NPV						(1,814)

Despite the negative NPV, the marketing department is still extremely keen to launch the product. The chief executive was not entirely convinced and sought advice from their parent company.

The proposal was sent to the parent company for review, and the result was that they liked the idea. However, their operations team was unsure about the reliability of the new technology, so they have agreed that if XYZ wants to take the risk and launch the product, they can do so. Once any teething problems have been sorted out, after 2 years, the parent company would buy the project for $30,000,000 and manage the project after that.

The marketing department of XYZ insisted that there was a strong possibility that cash flows could improve in the future. The finance department suggested using the Black-Scholes option pricing model to calculate the value of the abandonment option at the end of year 2.

The benefit foregone in this case would be the NPV of the cash flows in years 3 – 5 of ($9,388 + $10,245 + $12,420) $32,053. The finance department suggested using a volatility of 50% and a risk-free rate of 5%.

Table 8.32 Value of put option

Type of Option	Put Option
Stock Price (S_0)	$ 32,052.00
Exercise (Strike) Price (K)	$ 30,000.00
Time to Maturity (in years) (t)	2.00
Annual Risk Free Rate (r)	5.00%
Annualized Volatility (σ)	50.00%
Option Price	$ 5,940.38

Additional Calculation Parameters	
$\ln(S_0/K)$	0.066
$(r+\sigma^2/2)t$	0.350
$\sigma\sqrt{t}$	0.707
d_1	0.589
d_2	(0.119)
$N(d_1)$	0.722
$N(d_2)$	0.453
$N(-d_1)$	0.278
$N(-d_2)$	0.547
e^{-rt}	0.90484

The put option value – the right to sell the project to the parent company, has a value of $5,940.

The NPV with the put option is therefore $5,940 - $1,814 = $4,126.

It suggests that it would be worth XYZ undertaking the project with the put option in place; that is the right to sell to the parent company.

8.6.5 Limitations of the Black-Scholes options pricing model

There are some limitations to using the Black-Scholes model of option pricing.

It is useful for valuing European style options where the option has a specific time that it can be exercised. However, many real business decisions are akin to American style options that can be exercised at any time up to the exercise date. The use of the Black-Scholes model, therefore, indicates the likely value. The model also makes some general assumptions about the performance of the stock market, which may not apply directly to real business decisions.

It is also not able to take account of the behavioral aspects of many decisions. As with any business decision, the strategic aspects should always be considered, and a decision should never be made based purely on the numbers. The numbers are only part of the information that is used to make strategic decisions.

Whatever method is used, the accountant can undertake sensitivity analysis to understand the potential impact of inaccurate estimates; that is, what degree of error could be accommodated before the project becomes nonviable in financial terms. Long-term projects inevitably entail making estimates, which could prove to be incorrect due to environmental events beyond the control of the organization. Therefore, testing the estimates can be a valuable exercise.

Investment appraisals are useful in a variety of strategic decisions, such as product development, market development, mergers and acquisitions, customer lifetime profitability, investment in assets such as new technologies, and when making any business case.

8.7 Risk Management

Active reading: Note that not all risk is bad, but that effectively managed some risk can be beneficial. Also, note that the accounting role is to aid in the quantification of risk in financial terms.

There is now an increased awareness of the need to consider strategic risk and the management of risk when making strategic decisions. Therefore, due to the increasing accountability and responsibility attached to good stewardship of organizations, in which accountants play a key role, this section briefly reviews the management of risk.

Toward a Definition of Risk

Risk is often seen as unfavorable; however, in business (and in investment), there is a risk-reward relationship, that is, the higher the risk, the greater the reward. Therefore, not all risk is necessarily a bad thing. Luhmann (1996: 3) defines risk as “the threat or probability that an action or event will adversely or beneficially affect an organization’s ability to achieve its objectives.” This definition suggests that risk can be beneficial as well as adverse. The purpose of risk management is not to eliminate risk, as this might be too costly, but to manage the risk to an acceptable level—acceptable to whom? —the stakeholders, and almost certainly the key players.

Types of Risk

There are many different classifications or types of risks that organizations face. It is not the intention to provide a comprehensive list, but typical headings might include:

- Business or operational risk relating to the activities carried out within an organization
- Financial risk relating to the financial operation of a business
- Environmental risk relating to changes in the political, economic, social, and financial environment
- International risk relating to economic and political factors
- Reputation risk caused by failing to address some other risk

Accountants are likely to experience risk in various situations in the working environment, for example, the financial risk concerning the financing methods and foreign exchange risk. Audit risk in terms of inherent risk that is inherent in some areas, for example, dealing with high volumes of cash, and control and detention risk, that is the whether the control audit tests are likely to find any errors. There are other areas, however, that are not strictly financial where accountants have an input, such as new product development with life cycle and target costing, investment appraisal, product liability, and personal liability. Risk in all its forms will have some financial consequences for the organization, and therefore it needs effective management.

The Risk Management Process

There are some key steps in managing the risk, most of which are self-explanatory. For example, the risk management process at Lego® sets out to manage the risk by identifying the risk early, ahead of the strategic decision, that is, they are taking the decision knowing what the risks are and how they could be mitigated. They then measure the risk on a risk impact scale. Based on previous experience, they can assess the level of risk that a strategic decision poses to the organization and other stakeholders. This example highlights the importance of monitoring decisions and their outcomes so that it contributes to organizational learning and can inform future decision making. Lego® also assesses the financial impact of the risk. A strategy is then developed to manage the risk, which includes delegating responsibility to managers.

The Committee of Sponsoring Organizations (COSO, 2004) published guidelines on enterprise risk, which recognizes that risk occurs at all levels in the organization, for example, strategic, business, and operational, as well as in all functions. It is also worth noting that many corporate governance codes of practice and laws that have been implemented in different countries require organizations to identify the risks associated with the business and how they intend to manage them.

COSO (2004) highlights the following benefits:

- Risk appetite is considered in setting strategy
- Helps the organization to choose the best risk response
- Reduces operational surprises and losses
- Identify and manage risks across different parts of the organization
- By considering potential events, management is better able to seize opportunities
- Better risk information allows management to deploy capital more effectively

A key point to note is that risk is the responsibility of the senior management team; however, they can delegate to a risk management group within the organization, often with a risk manager in charge, but it remains the senior management's overall responsibility. The starting point is the business strategy, as this will ensure that the specific risks associated with a particular course of action are identified. When evaluating risks, the risk appetite is an important concept as individuals have different appetites. For example, some individuals are risk-averse, while others are risk-loving, and others are risk-neutral. The senior management team will include a mix of individuals, all with individual risk appetites, but collectively, via their strategic decisions, the management team will exhibit a risk appetite of its own.

A typical risk management process is set out in Figure 8.5

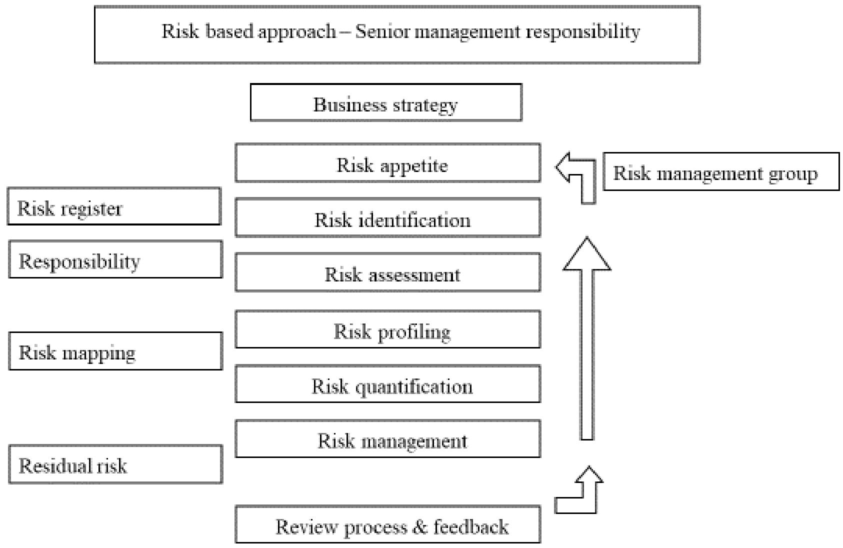

Figure 8.5 The risk management process

The risk appetite of a senior management team is significant as it indicates their willingness to accept and manage risk, which will attract certain types of investors. The risk of strategic options needs to be assessed with knowledge of the kind of investor that the organization attracts. If, for example, a new CEO is appointed who has a different risk profile and convinces the senior management to pursue a more risky strategy to combat the changes in the environment, it may upset some of the more risk-averse shareholders. These shareholders may sell their shares for safer investments, but attract new shareholders who like the more robust risk approach being adopted. This clientele effect of attracting certain types of shareholders can mean that a change in the risk profile of the strategy adopted impacts on the share price, even if only in the short term.

The risk identification stage is self-explanatory in that the risks are identified and, more importantly, are then logged in a risk register with the responsibility being assigned to an individual, which ensures that someone takes responsibility for managing the risk.

The stages of risk assessment, profiling, and quantification merge in that they involve identifying the type of risk, determining the degree of risk, and estimating the potential impact (including the financial impact) of the risk. A business impact analysis identifies and assesses in financial terms and operational terms the effect of disruption on the business. Strategies can then be developed to get the business back up and running as quickly as possible following any disruption. This will involve training people and communicating the recovery plan to make sure that everyone knows what to do if a business disruption event occurs.

Different strategies can be adopted. A simple framework for assessing the degree of risk is shown in Figure 8.6.

Figure 8.6 – Severity versus frequency risk assessment

The matrix enables risks to be assessed in terms of the severity of the impact on the business and the frequency with which events may occur. Strategies shown in Figure 8.7 can then be developed and implemented to mitigate the risk.

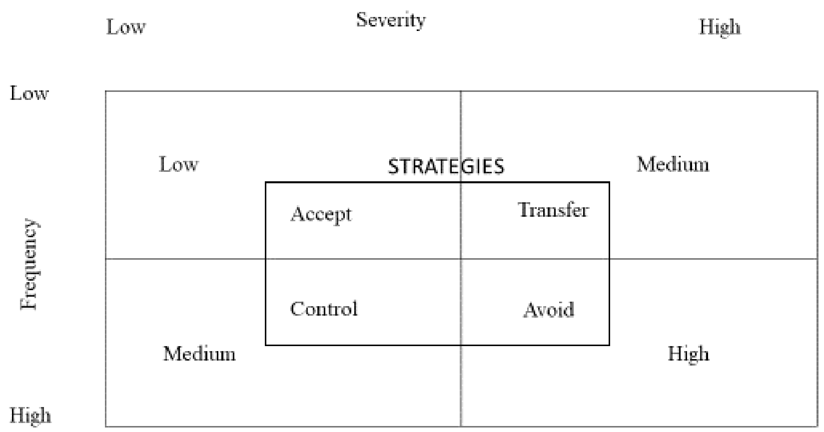

Figure 8.7 – Risk strategies

The labels of accept, transfer, control, and avoid are sometimes given as tolerate, transfer, treat, and tailor. The tailor often suits the high – high category as it there is potentially nothing inherently wrong with a high degree of risk, so long as it is managed correctly.

Some risks are inevitable and may have a low impact on the business but occur infrequently; therefore, the organization may decide to accept the risk and deal with the consequences as they arise. For example, it could be that the incident of product failure is exceptionally infrequent, so a low degree of testing and inspection may be undertaken. In cases where the product is relatively inexpensive, if the product did fail, a policy of merely replacing it free of charge for the customer could be adopted. It may have the added benefit that customers feel good about the organization as the product was replaced without question. This policy links to the cost of quality, as it might be less expensive to simply replace rather than undertake high levels of testing and inspection. The accountants can assist in establishing the trade-off in financial terms.

A typical example of transferring risk is insurance. Also, outsourcing may be an option in situations where a degree of expertise is required. Outsourcing can reduce the risk of the organization undertaking an activity in which it has a lower level of expertise than a specialist organization. In the outsourcing situation, however, the organization does not transfer the full risk as it still has ultimate responsibility for the overall quality of the product or service. Still, it has part of the risk under control as it becomes a contractual risk with the organization to which the activity was outsourced.

Where the risk of failure could occur frequently, the risk can be mitigated by introducing enough controls so that it is managed effectively. It is not, however, just a case of establishing high levels of controls, as to over control an area can be expensive and a waste of time and money, so the risk requires proper assessment. Then an appropriate degree of control can be implemented.

The ultimate objective is to manage risk to an acceptable level as it is not always possible to eliminate the risk altogether. However, the organization must assess whether the residual risk is acceptable to the key stakeholders. The final element is to review the risk and risk management strategy regularly, particularly considering the changing business environment. For example, the growing incidence of cybercrime creates additional risks for organizations that can have reputational impacts.

The control cycle of risk management has three key phases: detection, correction, and prevention. The system in place needs to be able to detect when something has gone wrong. The organization then needs to be able to correct the deficiency. And, crucially, there need to be controls put in place to stop it happening again. It is this phase that, due to pressures of running a business, organizations frequently do not invest enough time and effort in investigating why something went wrong. And subsequently making changes where necessary, or inputting controls so that it does not go wrong again. This follow-up phase is linked very closely with total quality management and lean systems in that continuous improvement is a goal of the organization and identifying failures, correcting them, and preventing them from reoccurring should be part of the culture of the organization.

Learning activity.

The Directors of the E Company Limited are in danger of losing a major contract to a competitor organization, which could result in significant redundancies being necessary to ensure the company's long-term viability. The company produces chemical products that are sold to agricultural sector companies who then mix them in specific quantities to create a range of pesticides and fertilizers that they sell to governments and farmers in less developed countries. The industry is becoming increasingly competitive as the governments can drive down prices by offering volume contracts and, in some instances, incentives to build production plants in the overseas countries, which results in reduced distribution costs.

E Company Limited is under increasing pressure to reduce prices and to cut costs had made changes to the production process by investing heavily in new technology. The introduction of the new process had created a near pollution episode that was recorded by its quality control department. The Production Director was aware of the incident but said nothing to the customer as the event had not created any problems and had been unreported in any external context. None of the other Directors were aware of the incident.

The Company operates a code of conduct that clearly states that the officers must always act with the utmost honesty and integrity. The Company was granted a renewal of the contract as its price was lower than competitors. This lower price was made possible by the reduced costs of production due to the changes made in the production process. However, following the renewal of the contract, an internal audit report identified the pollution incident as a potential risk. The Directors were surprised to see the incident mentioned and were meeting to discuss the action to be taken.

Question 1

Which ONE of the options (A – E) includes the actions listed (i – v) that would be the MOST appropriate in the circumstances?

(i) Request the resignation of the Production Director for breaking the code of conduct.

(ii) Seek to ensure that the production process is safe and take positive steps to reduce any risk to a minimum.

(iii) Inform the customer of the problem, the action taken, and offer to renegotiate the contract.

(iv) Improve the reporting procedures so that future incidents are brought to the attention of the Board of Directors.

(v) Return to the previous method of production to avoid the possibility of any pollution.

Options

A (i), (ii) and (iii) only

B (ii), (iii) and (v) only

C (iii), (iv) and (v) only

D (i), (ii) and (iv) only

E (i), (iii) and (v) only

Question 2
Which ONE of the following environmental changes is having the MOST significant impact on the performance of the E Company Limited?

A An increase in the degree of competition in the industry is forcing down margins.
B An increase in the bargaining power of buyers in the market.
C Technological developments that provide opportunities to reduce costs.
D The world economy increasing the importance of efficient food production.

Question 3
Which ONE of the following was the MOST significant risk associated with the contract bid?
A The loss of production volumes from losing a contract from a major customer.
B The potential loss of reputation from a reported pollution episode.
C The risk attached to introducing changes to the production process.
D The risk associated with capital investment in the new technology.
E The risk of less developed countries acquiring the capability to produce the chemicals themselves.

Solutions to learning activity:
Question 1 Answer: D
Rationale
This question tests the ability to identify the ethical dimensions behind a business situation. The company operates a code of conduct which the director broke. If the director is seen to go unpunished, the code losses its integrity and force within the company, therefore the director should resign. Therefore element (i) is relevant.

The importance of identifying a problem and ensuring that safeguards are put in place to protect against a reoccurrence is essential and is the subject of element (ii). Directors are obligated to reduce the incident of risk.

In this instance, the customer has not suffered as a consequence and is not concerned about the internal production process as long as the product is safe. The incident is internal and has now been dealt with, the customer could be informed, but there is no obligation to renegotiate the contract as the customer granted the contract on price, rather than safety aspects of the production process, that is, production safety was not a condition of the contract.

As part of governance, the directors should endeavor to ensure that the reporting procedures are improved to safeguard against another breakdown in the system. Element (iv) is relevant.

The problem has been identified, and procedures can now be implemented to ensure that effective monitoring is put in place. There is no evidence that the process is unsafe. Therefore there is no particular need to return to the old method so long as the Directors take action to reduce the level of risk to an acceptable level.

Together elements (i), (ii), and (iv) indicate the most appropriate actions to take.

Question 2 Answer: B
Rationale
Although the scenario includes technological development and the corporate social responsibility issues, the critical factor that is increasing competition and driving down margins is the incidence of increased buyer power in all elements of the industry, that is, not just E Company's customers, but also the customers of the customers, such as Governments.

Question 3 Answer: A
Rationale
The risk to reputation, production, and capital investment can all be controlled to an extent or at least managed. The risk of less developed countries developing the capability themselves is a long-term risk. However, the immediate risk, and the less controllable risk, is the loss of a major contract.

8.8 Summary

Management accounting can contribute to the strategic evaluation in the following ways:

Impact on stakeholder groups

The explanation of stakeholder analysis illustrates that evaluating strategic decisions is much broader than just financial analysis. Accountants can assist the analysis by evaluating the possible impact of stakeholder actions on a strategy by carrying out sensitivity or scenario analysis considering different outcomes—in short, to assess the financial implications of stakeholder actions.

Investment appraisal and business case

Aiding managers in terms of undertaking investment appraisal techniques to evaluate the financial viability of strategic options and assisting in the development of a business case to persuade, inform, and educate stakeholders where necessary.

Closure of the gap

Following on from the investment appraisal and business case, the accountant, can quantify the extent to which the strategies will close the profits gap.

Evaluation and monitoring of risk

Evaluating the financial risks of strategic options and the costs of risk management measures and assisting in the implementation and monitoring of appropriate controls.

8.9 Review questions

(1) Discuss the benefits of using a framework such as SAFeR to evaluate strategic options.
(2) Why is it important to consider the expectations of stakeholders when evaluating strategic options?
(3) Outline the process of stakeholder mapping and the strategies for dealing with different categories open to organizations.
(4) Briefly outline four different methods of investment appraisal.
(5) Why is the use of the concept of real options considered useful in strategic option evaluation?
(6) Outline the risk management process and discuss the role of accountants within the process.
(7) Briefly discuss four different types of risk that an organization may face and strategies that could be used to mitigate the risk.
(8) Why is it not necessary to eliminate all risk?
(9) Critically evaluate the contribution that management accounting can make to the evaluation of strategic options.

8.10 Case study activities 16 – 17 – HW Inc.

The following activities refer to the case study in Appendix A of this learning resource.

Case study activity 16 – HW Inc. Investment appraisal and stakeholders

HW Inc. is considering opening a new warehouse in the North of Belgium. Currently, the stores in Antwerp and Aarschot are serviced by a warehouse just outside of Brussels. Building on its expansion program of opening new stores in Turnhout and Hasselt, and establishing a hub and spoke strategy to its logistics, the local management team of HW Brussels had been asked to investigate the possibility of opening a new warehouse/depot just outside of Herentals. See Figure 8.8.

One of the polices that HW Inc. has set is that for warehouses/depots to be beneficial, they must not cost more than 7% of the revenue generated from goods sold in the stores that it services and for which products pass through the depot. They usually are evaluated over five years based on a net present value calculation using a discount rate of 5%, which represents the relatively low risk attached to such an investment.

The main hub is based in Brussels, which is where the current sales from Antwerp and Aarschot are serviced. The management team believes that it would be more useful to establish a spoke so that a regional depot was supplied from Brussels, which then serviced the current stores in Antwerp and Aarschot, and the new stores in Turnhout and Hasselt. The benefit is that bulk deliveries can be made from Brussels to the regional depot, and smaller vehicles can then be used to split the bulk for delivery to the local stores.

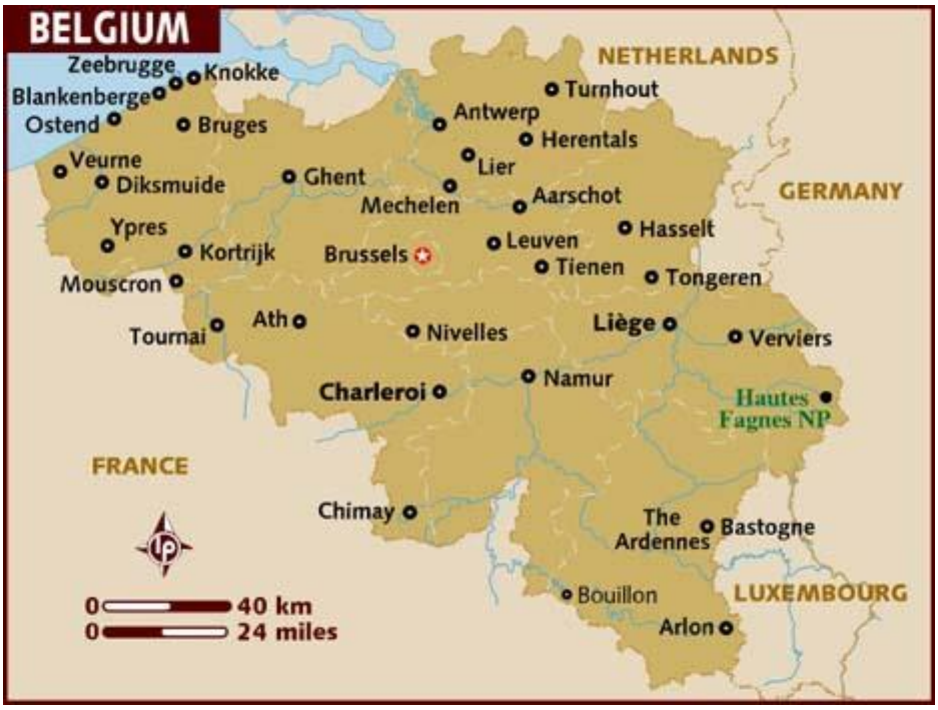

Figure 8.8 Map of Belgium

Current sales in Antwerp are €5.5m per annum and in Aarschot €4.5m per annum. Sales have been constant during the last three years and are expected to remain at that level for the foreseeable future. The stores do good business, but consumers tend to shop locally so, for sales to grow, expanding the number of stores is the best strategy. However, once the new stores are opened, it is expected that there will be some cannibalization of sales, that is, people that visited the stores from Turnhout and Hasselt will now shop in the local stores. It is estimated that the effect will be to reduce the sales in Antwerp and Aarschot by 5%. Forecast sales for Turnhout and Hasselt together are expected to be €4.5m in the first year, growing by 10% (compound) a year for five years before stabilizing.

The cost of the new depot, land, and buildings is estimated to be €0.5m – a potential site has been identified that could be ready for operations within a few months of the decision to go ahead is made. Annual running costs are estimated to be €300,000 per annum, rising each year by inflation of 2.5% per annum. There is local unemployment, so it is expected that labor will not be difficult to obtain. A manager will need to be recruited at a salary of €25,000 per annum, and 20 workers employed on a shift pattern earning an average of €15,000 per annum – all salary costs are expected to increase by inflation. A forklift truck and 2 stackers (a smaller version of a forklift truck) would be needed immediately at a total cost of €18,000. These will be replaced at the end of five years with no residual value.

A fleet of 10 vehicles will be attached to the depot. A deal can be done with a local dealership. The fleet of medium-sized box trucks could be acquired immediately on a five-year lease rental, at a total cost of €250,000, covering the whole five year period. This cost includes maintenance for five years and all operating expenses, subject to a maximum mileage of 100,000 miles for each vehicle within the five years. HW Inc. would need to supply the drivers, who are each expected to earn €18,000 per annum – one driver per vehicle, The existing drivers, have raised some concerns as they see this as potentially reducing their earnings because they will be making fewer trips and the possibility of earning overtime could be reduced. However, the senior management team of HW Belgium felt that opening the depot would be better for the health of the current drivers and that there is less chance of them going over the maximum driver hours allowed in any one day imposed by the EU.

The central senior management team (C-suite) of HW Inc. is keen to expand in Belgium and is entirely behind the hub and spoke policy of distribution. There is some concern about the impact of BREXIT, but the management team is keen to go ahead anyway. The local bank is more than prepared to offer a competitive loan to finance the purchase of land, buildings, lorries, and forklift trucks at an annual interest rate of 3% as the bank is keen to expand its business with international companies. This cost of finance is not included within the current cost of capital of 5% that HW Inc. typically uses to evaluate investment opportunities. The local management team of HW Belgium feels that this would be the cheapest way to finance the depot and would only use the finance for this project. They, therefore, suggest that the marginal cost of capital of 3% should be used for evaluation purposes.

The local management team is also aware of local residents who have lodged a protest against the proposed site due to the increased number of lorries on the local roads that will result from establishing the depot. Half of the members of the local government (the local council in the Herentals town) are keen to see the development go ahead as it will help with employment. There is a re-election process due within the next six months, so HW Inc. is keen to push for a decision before the local elections. A few councilors have suggested that they would press for traffic restrictions to be put in place, that is, no early morning or late evening deliveries.

The regional authorities (the municipality) are keen to see companies expanding in the area that has the potential to stimulate the local economy and are likely to support the proposal, providing the traffic issue can be resolved. The municipality oversees the local government but traditionally has not involved itself too deeply in local decisions. For the development to go ahead, HW Belgium needs approval from both the local council and the regional authority. Several of the competitor stores are not so impressed and are likely to try and make life difficult for HW Belgium stores to establish themselves in the new locations as the competitors try to hold on to their market share.

Activity requirements:

(a) Undertaken a net present value calculation to establish whether the planned depot meets the requirements of HW Inc. Also, state any assumptions you make and indicate any other form of analysis that might be useful.

(b) Undertake a stakeholder analysis for the strategic decision to establish a depot in Herentals. State the stakeholder group, their expectations, and the degree of power they may have concerning the strategic decisions.

Case study activity 17 – HW Inc. Investment appraisal

HW to expand to a new country

HW Inc is planning to increase its business in the emerging economies. The management team has identified Bangladesh as a potential country in which to open stores. Bangladesh is set to be one of the top three fastest growing economies in the next few years. The country has a robust financial sector, and one of the key industries is textiles, which is also a vital export of the region. Its economy has grown on the back of exports of readymade garments. Manufacturers in the region supply clothing to discount companies such as Matalan.

The local management team suggests that it will be possible to open a store in Dhaka and have provided some initial estimates of start-up costs (for ease of use, these have been provided in U.S.$). These are shown in Table 8.33. They estimate that it will take approximately one year to gain the necessary permissions and establish the store, and trading would be able to begin in the second year.

Table 8.33 Estimated costs and revenues for Bangladesh

	$
Allowance for legal fees and local agent costs to be paid during the year of set up	150,000
Annual rental of premises – it is anticipated that the premises will be acquired 4 months before the official opening to allow for fitting out the store and the training of staff on the product ranges. 4 months' rent will need to be paid for this period.	300,000
Arrangement fee for property dealer paid before opening plus a commission fee is payable each year equal to 1% of annual rental fee payable each year. Note this is paid from the date of acquisition of the premises, that is, a 1% fee is payable for the 4 months before the official opening	12,000
Fitting out of premises incurred before opening – treated as capital expenditure	400,000
Recruitment and training of staff before opening	50,000
Marketing costs announcing the launch of the store before the official opening	200,000
The initial investment in stock and working capital before opening – treated as capital expenditure	250,000
Sales revenue in the first year of operation following the official opening, rising by 10% per annum	3,000,000

A gross margin of 30% is anticipated	
Operating costs per annum, following the official opening, including all costs except rental of premises. These are expected to rise by 5% inflation in subsequent years.	350,000
For the purpose of planning, assume taxation of 40% is payable on operating cash flows and is paid in the year to which the charge relates. Legal fees and agents' fees are deductible expenses for tax purposes, and losses can be carried forward. Capital items are excluded from tax computations.	

The typical evaluation for these projects is over five years of operation. The cost of capital is estimated to be 6%.

Assume all costs and revenues occur at the end of the year.

Activity requirement:

Evaluate whether the Bangladesh store would be a viable proposition (undertake an NPV calculation over 6 years, that is, year 1 set up, followed by 5 years of trading).

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CHAPTER 9 - Implementation issues

9.1 Introduction

It could be said that the most challenging part of the strategic management process is the implementation phase. The accountant is well placed to aid with this aspect as the strategic plan needs communicating and, the first year at least, needs crystallizing into an operational plan. The operational plan is typically done in the form of a budget. Although the preparation of a budget is commonplace in most organizations, they have been criticized for being inflexible and restricting the innovation required in a dynamic and complex business environment. This chapter covers the use of budgets but also the idea of beyond budgeting that is promoted by those who suggest that budgets are not much use.

Implementing a strategy often requires change. Implementing a new system such as lean accounting, or beyond budgeting requires a shift in the way the organization operates, and accountants often have a pivotal role to play in supporting strategic change. The principles of effective change are relevant to accountants and the need to ensure that the accounting systems are not just tailored to the specific needs of the organization but that they are capable of adapting as the organization changes over time. It can be the case that a growing organization is still using the same systems that were in operation when it began. This legacy often means that the system is struggling to provide the information that managers need to manage the changing business.

9.2 Learning outcomes

After studying this chapter, you will be able to:

- Discuss the different types of budget and where they are appropriate
- Discuss the concept of beyond budgeting and form an opinion as to its usefulness
- Understand the process of change management and techniques for achieving successful change
- Critically evaluate the need to ensure that management accounting systems are tailored to business needs and respond to changes as the business develops

9.3 Crystallizing the strategic plan into an operational budget

Active reading. Note the different types of budget and where they are appropriate. Also, note the role that accountants play in the preparation of budgets and their use via budgetary control.

The use of operational budgets is a standard accounting tool that is used in strategy implementation (Horngren et al., 2000). There have been numerous citings of the criticism of the budgeting process over the years (see, for example, Otley, 1994; Hope and Fraser, 2000; Hansen et al., 2003; Dugdale and Lyne, 2006; Libby and Lindsay, 2010). Despite the criticisms, the multiple facets of budgeting and diversity of purpose that budgets provide can go some way to explaining why their use is still evident in many organizations (Hansen and Van der Stede, 2004).

Budgets provide a mechanism for crystallizing the strategic plan, or at for the least the first year. The operational budget is expressed in both nonfinancial and financial terms, although the ultimate budgeted income statement (profit and loss account) and balance sheet capture the impact of the strategy implementation on the overall short term financial performance of the organization.

The budget preparation process enables the strategic intent and objectives to be communicated to the participants in its detailed preparation. It provides a means of coordinating the activities of the functions and subsequently provides the mechanism for control. Budget centers provide the framework for responsibility accounting, which can be used for motivational purposes, target setting, and subsequent performance evaluation. Budgets also provide a basis for resource planning, such as capacity planning, materials, and labor.

The accountant is heavily involved in the preparation of the budget, and, in small to medium-sized organizations, is often the primary coordinator of the functional budgets. The accountant will liaise with functional managers to ensure that budgets are prepared following any corporate guidelines, such as inflation rates, or salary rises to be applied, and that it is completed within the budget timetable. In larger organizations, there may be a budget committee involving all functional heads, that sets the schedule and guidelines. The typical budget period is the normal accounting year (twelve months or thirteen four weekly periods).

Due to the annual timeframe applied, it often becomes seen as a yearly chore of managers to prepare the budget. Some of the criticism of budgets, therefore, arises from the process of their preparation. They are said to be time-consuming. They may constrain managers and thus act to stifle innovation and initiatives. They can cause dysfunctional behavior in their preparation, such as gaming strategies. For example, artificially inflating costs and being conservative on revenues to generate easy targets, adopting the mentality of spending it or lose it next year, or not taking ownership of the budget. However, there are ways to overcome some of the criticism that will be discussed later in this section.

9.3.1 Starting point of the traditional budget process

The starting point of the traditional budgeting process is the sales budget. In this instance, sales would be referred to as the principal budget factor, although other factors, such as production capacity, maybe the constraint around which the annual budget is built. In this case, a strategic option being pursued would be the expansion of production capacity, assuming the demand warranted such a choice. At the same time, the operating budget would be set to assume that all of the existing capacity can be sold until any additional capacity is made available.

The sales forecast usually sets the basis for production, which in turn considers any planned increase or decrease in inventory levels. The forecast represents an estimate of what is likely to occur in the future. Statistical techniques can be employed, such as regression and time series analysis to help identify trends. Time series is useful for identifying seasonal or cyclical variations. The environmental analysis will also be invaluable in helping to identify factors that could affect market demand and, subsequently, the organization's level of demand. Elements from the PESTEL (political, economic, sociocultural, technological, environmental, and legal) and Porter's five forces analysis may influence future demand. Issues such as pricing strategy and the degree of marketing support that can be provided will also impact on sales levels.

The resource audit from the internal analysis will also indicate any constraints on the organization in terms of fulfilling demand. The effect of any planned new strategic options needs to be built into the budget so that the budget encapsulates the first year of the strategic plan. This setting down of the first year in a fixed plan leads to another criticism that in fast-changing environments, the budget can quickly become out of date.

The use of sensitivity analysis and computer modeling can be a useful aid in settling on the overall level of demand as it sets the target against which performance is measured during the year, and it needs to be challenging yet achievable. For that reason, all functional managers must have an input into the budgeting process against which their performance is measured so that they buy-in to the targets. Budgets that are set centrally and passed down to managers are doomed to failure due to a potential lack of commitment from the managers that implement the strategy at ground level.

9.3.2 The budget process

Once the principal budget factor has been agreed upon and the level of operational activity set, the other functional budgets can be established. In the case of the production budget, this can be worked backward from the number of items to be produced, given the planned levels of inventory, to determine the purchase of raw materials and components, and ensure that labor requirements are available. Systems such as material requirements planning (MRP) and enterprise resource planning (ERP) systems can aid this process.

The service functions can then be determined, such as maintenance, which might include a planned changeover, setups, and so on. All functions within the organization prepare a budget to support the planned level of demand. Any new capital expenditure that is required will be identified on a capital expenditure budget. All the functional and capital expenditure budgets are then coordinated and combined to produce the overall cash budget, profit and loss, and balance sheet for the financial year.

Agreeing on the budget is inevitably an iterative process as the first pass may not produce the desired profit levels. Profit could be increased in broad terms by increasing sales revenue or reducing costs. There is an element of negotiation and target setting within the budgeting process so that the end budget becomes a target for achievement. Monitoring is then traditionally done against the budget with reporting explaining any deviations from the budget and informing actions to correct any undesirable deviations. Or, indeed, to increase and continue any favorable variations.

The format of the budget and planning relationships is shown in figure 9.1

Figure 9.1 Budgeted profit and loss account elements

The projected budgeted balance sheet is calculated, taking into account any capital expenditure required on new investments, such as plant and equipment. The accounts receivable and accounts payable from sales and expenses are calculated, together with any changes in inventory levels to calculate the working capital and cash budget.

The master budget then consists of the budgeted profit and loss account, the balance sheet, and cash flow statement, as indicated in figure 9.2.

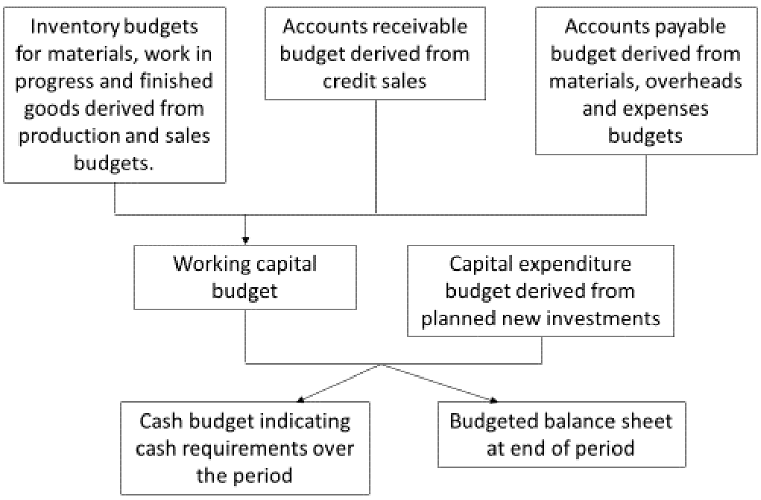

Figure 9.2 Cash budget and budgeted balance sheet

9.3.3 Types of budget process

There are several types of budget processes that have been adopted for various circumstances over the years.

Incremental budgeting

Incremental budgeting has been commonly used and is one way of speeding up the process. The last year's figures are used as a base and increased or decreased depending on levels of activity compared to the previous year. Some accounting software has a facility to populate the budget fields for next year with the current year (or last year's) actuals plus or minus a percentage. This approach is dangerous as there is no guarantee that next year will be the same as last year. Plus, it almost inevitably means that managers will not pay enough attention to the budget process as a means of planning the next year in relation to the strategy. Of course, there may be situations in some businesses where it is part of a growing market, with low levels of competition and a stable environment where this is appropriate. Still, it is not a method that encourages buy-in to the strategy of the organization from front line managers.

Zero-based budgeting

The zero-based budgeting (ZBB) approach is almost the opposite of the incremental budget in that the budget is prepared from scratch. Once the level of activity is decided, managers determine the level of resources required to achieve the objectives. The advantage is that it encourages managers to question the way operations are performed. They can consider whether the activity needs to be carried out, and what would be the consequences if it is not carried out? Are there alternative ways of providing the function? It has the advantage that managers can consider the most appropriate and best way of achieving the objective.

For example, suppose the maintenance of the production line can be carried out in-house by employing two full-time employees or using an external organization to provide maintenance under an outsourcing contract. These are known as mutually exclusive decisions as it would not be appropriate to do both, so the manager must decide as to which is the best. It is not just a financial decision but encourages managers to consider the strategic implication of outsourcing this function. It also has the added advantage that managers are fully involved in the process and promotes efficient allocation of resources, but it comes with added effort in the preparation. The principle of ZBB, however, can provide added benefits to specific functions, such as maintenance or service level departments. Still, the production budget may be prepared simply based on the number of units required to be produced.

Activity-based budgeting

As the title suggests, the budget is based on activity levels. It is designed to be used with ABC costing systems in which the organization has access to activity level data.

Program planning and budgeting system

In an organization where large projects are undertaken that span more than one year each program or project may have its own budget that was prepared as part of the project proposal. For example, a consulting engineering firm that designs and oversees the construction of large civil engineering projects, or construction companies involved in large projects that span several years, will have probably won most of its work under a competitive tender. The tender process will have involved preparing a detailed budget plan for the whole of the project. In these cases, it makes sense to use the project budgets as the basis for an annual budget to ensure that resources are available to undertake the projects currently underway, plus new projects that it hopes to win and commence during the year. In organizations that provide project services, there may well be a base level of resources, for example, a given level of staff that is supplemented, in the short term, by contract staff as new contracts are won.

Program planning is also useful for the public sector and not-for-profit organizations in that they can focus on programs and activities that generate the most beneficial results. In a similar way to zero-based budgeting, there may be alternative programs that the organization can undertake to improve the situation for its beneficiaries. These programs often span more than one financial year, and it is not possible to determine, for example, a specific number of victims, crimes, patients, or sufferers that can be helped. Still, these organizations are often judged on an annual basis. Preparing and reporting against a budget based on a program of activities can be a useful way of planning and reporting the costs and benefits of the various alternative programs.

Rolling budgets

Rolling budgets are budgets that are continuously updated by adding a further period (for example a month, or a quarter) and deducting the earliest period. The use of rolling budgets is useful in times of uncertainly when it is difficult to prepare accurate forecasts. At the outset, an annual budget is made, and then at the end of each reporting period, the plan/budget is extended so that it always covers a total of one year. This process does initially involve more effort, but it can become part of the regular activity of the reporting and evaluation phase. Managers are encouraged to consider changes to the environment continually and to incorporate these into future plans.

Senior managers can provide oversight to ensure that the organization is always moving in the right direction, and the strategic intent does not get lost in the detail. It does, however, run the risk of managers not paying enough attention to updating the rolling budget as they would if it were an annual activity. There is a danger that managers merely extend a trend into the next accounting period without much thought. Whereas a yearly review might encourage a focused consideration of the budget, simply because of the spotlight, the annual activity places on the process.

9.3.4 Budgetary control with the latest estimated forecast or trend

The use of an estimated forecast or trend column on monitoring reports can be used to allow managers to take account of changes in the environment. Once developed and agreed, the monitoring of budgets would include the reporting of a trend or estimated forecast. This can be achieved by reporting the actual period results against budget/plan, together with the year to date and the future estimated forecast, as illustrated in the headings shown in Table 9.1.

Table 9.1 Typical headings for reporting actual results with the latest estimated forecast

Description Income and expense headings	This period		Year to date		Total year	
	Actual	Plan	Actual	Plan	Latest estimated forecast	Plan

The idea behind the representation in Table 9.1 is that the latest estimated forecast of the total year allows business units to express what they think they will be able to achieve, given the changes in the environment and resource position, since the original plan was developed. The reporting of the current year ties into the need to produce financial accounts for publication and communication to shareholders. It not only provides an early warning of any potential gap but also indicates that business unit managers need to be aware of their business environment and the progress toward achieving strategic objectives. The use of rolling budgets every quarter can also assist in this process, as the process of forecasting becomes part of the regular job. However, there is a danger that managers fall into the trap of merely extending the actual to-date and extrapolating a trend line to indicate the future when the idea is that managers proactively manage the future, not merely assume that current trends continue.

Learning activity.
The use of budgets has received their fair share of criticism over the years, such as time-consuming, resource-intensive, lack of buy-in by managers, inflexible, stifle innovation, and speed of response. There are, however, benefits in that they provide a means of planning, communication of objectives, coordination of activities, and allocating resources. Before reading the next section on beyond budgets, think about the following questions.

Do you think that the benefits outweigh the criticisms? Could the drawbacks of preparing budgets be overcome? Would you be in favor of using budgetary control as a means of monitoring progress towards achieving objectives?

9.4 Beyond budgeting

Active reading. Note the criticisms of traditional budgets that beyond budgeting seeks to address and the principles of beyond budgeting.

Due to the criticisms leveled at the budgeting process, mainly time-consuming, resource-intensive, restricting innovation and prompt action, and the potential for dysfunctional behavior by the participants (Hansen et al., 2003)(Otley, 1994), several authors proposed alternatives, notably Hope and Fraser (2000). The system promoted by Hope and Fraser is known as "Beyond Budgeting" with organizations and interested parties promoting its use through the Beyond Budgeting Round Table (https://bbrt.org/.). The beyond budgeting idea challenges the use of the traditional budget. Traditional budgets are frequently produced within the comfort zone of the managers, whereas beyond budgeting encourages the use of stretch targets. It moves from stability to continuous challenge at work, from a routine-based performance to a nonroutine-based performance.

The principle of continuous improvement measured against challenging targets in comparison to competition or past performance is a crucial aspect of beyond budgeting. It is about moving beyond the comfort zone of normal operations (Hope and Fraser, 2000; Bourmistrov and Kaarbøe, 2013). The system requires a move towards decentralization, or as Hope and Fraser suggest, it is not so much decentralization as autonomy within boundaries. It is more like managers are running their own business (Hope and Fraser, 1999). It has been found that this attracts certain types of employees and encourages high levels of performance. This change in mindset can, however, have an adverse effect in that faced with challenging targets, instead of treating it as a learning environment and relishing the challenge, managers may move to panic and experience high anxiety levels, discomfort and lower performance (White, 2009). Managers need training and support when moving towards beyond budgeting.

9.4.1 Principles of beyond budgeting

The beyond budgeting system, as put forward by Hope and Fraser (2000), sets out several principles.

Governing through shared values and clear boundaries

Governing through shared values and clear boundaries require senior managers to set the strategic direction of the organization and to communicate this to all employees. Oversight is then provided by the senior managers to ensure that decisions made by managers do not force the organization away from the overall strategic intent.

Creating as many autonomous profit centers as possible

Creating as many autonomous profit centers as possible provides managers with the freedom to feel that they are in charge of their bottom line and running their own business. Indeed, all employees appear to be given considerable latitude in how they reach their goals (Østergren and Stensaker, 2011).

Coordinating the organization through market forces

Coordinating the organization through market forces encourages an external view of the organization rather than an internal perspective. It promotes a customer focus to the organization, and one based on adding value. The external view encourages managers to look for changes in the environment and to monitor competitor actions.

Giving managers the freedom to act and the responsibility to deliver results

Managers have the autonomy to respond to changes in the environment, competitor actions, and to make improvements to meet the challenging targets. Performance, however, should not be so much about beating the target as making continuous improvements.

Providing front-line managers with fast and open information networks

If managers are to respond to changes in the environment and make continuous improvements, they need access to timely information, both internal and external. It is the responsibility of the organization to provide systems that can provide managers with information to manage effectively.

Giving managers the training and tools to think and act decisively

It is recognized that managers will require support in any move towards beyond budgeting as it is a change of mindset and a different way of working. A coaching style of management provoking empowered, and accountable employees are the core to the beyond budgeting approach (Bogsnes, 2009).

9.4.2 Features of beyond budgeting

Setting targets relative to benchmarks

Features of a beyond budgeting system include setting targets relative to benchmarks, such as industry standards, or competitors, whether internal or external. It is about striving to be the best in the sector. Beyond budgeting requires the use of effective anticipatory management systems, such as rolling forecasts that allow managers to adjust projections to take account of changing environmental conditions. The managers are not bound to an original target but are allowed flexibility and encouraged to act and adapt to changes in the market. This flexibility extends to the strategy process, which is devolved to the business units and teams, with oversight from senior managers.

Keeping performance measurement in step with strategy

Melnyk et al. (2014) noted that when environmental changes take place, there is a need to update the strategy that then feeds through into a change in the performance measurement and management (PMM) system. In many organizations, the PMM system is not updated, or there is a delay in making any changes required. They suggest that the strategy and the PMM system need to be co-created so that it better reflects the business environment and strategy being developed. Beyond budgeting will enable the PMM system to be updated as the strategy is updated due to the flexibility of the systems and that strategy and targets (performance measures) are reviewed regularly.

Encourage flexibility

Becker et al. (2016) noted that in times of crisis, the users of traditional budgeting systems tended to focus on the planning and resource allocation aspects of the process, and the performance evaluation was less of a priority. The advocates of beyond budgeting would suggest that the organization adopting the beyond budgeting principles should enable the organization to respond to a crisis more effectively than the traditional fixed annual budget approach, simply because the beyond budgeting encourages flexibility, the ability to respond, and externality of the stretch targets.

Big picture approach to investment

The investment management process needs to be flexible and able to respond as managers are encouraged to be flexible and adaptable in their approach to environmental changes. They are encouraged to look at the big picture and to focus on possibilities and flexibility (Østergren and Stensaker, 2011). Using an approach such as real options would provide a means of providing managers with an evaluation of the potential investment options, including exit routes.

Reporting to managers

The performance reporting needs to be aimed at front-line managers with senior managers informed on an exception basis. The use of interactive controls, belief, and boundary systems (Simons, 1994) are more appropriate to provide managers with the degree of autonomy that they need. The rewards are based on relative performance, and therefore managers need to feel that they are in control.

Measure relative performance against a balanced scorecard

The idea of relative performance is that performance is measured against a benchmark that encourages improvement. The measures should be few, simple and transparent, which aligns performance and rewards to the strategic goals. A system such as the balanced scorecard is ideal as the use of objectives, targets, and initiatives provide the basis for continuous improvement. The idea of interlocking scorecards (section 10.3) also provides the coordination required between business units.

System of rewards

Where possible, it is desirable under beyond budgeting to reward teams. In this context, a team is any group that represents an interdependent value delivery network (Hope and Fraser, 2003). This idea has links to lean systems, and lean accounting (section 6.7) in that value streams may constitute the formation of a team for rewards and continuous improvement. It has been suggested that rewarding teams enables the slackers to benefit, but under systems where peer pressure encourages performance, slackers are soon found out (Hope and Fraser, 2003). The beyond budgeting system, despite the competitive aspect (internally between teams), encourages the sharing of ideas. For example, if a team finds a good way of solving a problem or improving performance, they are encouraged to share with other teams.

Learning activity. Do you think that the principles of beyond budgeting adequately address the criticisms and provide an alternative to the more traditional approaches to budgeting of monitoring performance and aiding the achievement of strategic objectives? Which system would you personally prefer to work under, and why?

9.5 Change

Active reading. Note that strategic change can sometimes involve cultural change, and therefore needs effective management, and employees may need time to adjust. Also, note that introducing new accounting techniques and systems requires change, creating the need for the accountant to act as a change agent.

The implementation of beyond budgeting, like any change, needs to be appropriately managed; as such, the principles of change management apply.

There are many models and frameworks for strategic change that can be applied to guide organizations in managing a change of strategy, for example, Kotter's (2012) eight-step process, or Francis et al.'s (1996) four-dimensional process for business transformation. In this section, we discuss some of the generic issues related to strategic change and focus on the role of the accountant.

Chapter 2 of this learning resource placed a strong emphasis on the need for management accounting to support the strategy; indeed, this is the basic premise behind the learning resource. It implies that if a change in strategy is adopted, there needs to be a change in management accounting to support the new strategic direction.

For example, suppose an organization has been competing on price and finds that the market is becoming dominated by more extensive and global competitors that can sell at a much lower price due to economies of scale and buying power. A possible strategy might be to make a strategic market shift to move upmarket and provide a higher level of quality service to a niche market, that is, to move towards a focus differentiation strategy. Market research indicates that this market is large enough to sustain smaller, more specialist suppliers. A new product development program is implemented, and supporting marketing strategy is developed to support the move to a more upmarket product range with higher levels of customer service. Techniques such as target costing (section 7.8), life cycle costing (section 7.9), cost of quality (section 6.8), and control of discretionary costs such as marketing become much more significant within the management accounting system.

It is not to say that traditional accounting becomes less important but indicates that the benefits of specific techniques and monitoring of different aspects of the business become more relevant. The managers of the organization may need training in the use of the new accounting information provided to support and monitor the changed focus in business strategy. It is then incumbent on the accountant to assist in the change process.

9.5.1 Key features of effective change

Commitment from the top

Any change in strategy requires commitment from senior managers. The same applies to a change in management accounting as many techniques. For example, beyond budgeting, lean accounting, balanced scorecard, and activity-based costing, to name a few, require the involvement of all employees in the organization. Therefore, a strong lead and commitment from the senior management team provide the support, and where necessary, the authority for the management accountant to implement the changes.

Change agent or champion of change

Appointing a change agent or identifying a champion of change can be highly beneficial. There are often people who resist a change for various reasons, such as not being convinced of the benefits, the need to change, or just dislike of any change in the status quo.

The appointment of the change agent, with support from the senior management, can be beneficial as this provides the authority and central point of communication and coordination for the implementation. The change agent often has a role in the monitoring and progress of the change. In cases of a change in management accounting systems, it is beneficial if the change agent is a functional or operational manager. The management accountant provides technical expertise and training in the use of the new system. The champion of change promotes its adoption and galvanizes support among other managers. If the focus of management accounting also needs to change to support a shift in strategy, the management accountant may well be the initial change agent. In large decentralized organizations, it is often possible to roll out a change on the basis of division by division, or subsidiary by subsidiary. In instances such as a careful choice of a receptive division as the first user can pay dividends as they then champion the change throughout the rest of the organization.

The three Cs

A key to successful change in working practices is often said to be communication, consultation, and counseling.

The communication aspect should communicate:

- What is changing
- The reason for the change with stress on the benefits
- The plan for the change, that is, how and when it will be implemented, and
- The impact of the change on employees.

Changes in working practices required to implement a strategy can be met with resistance from some areas or individuals in an organization, ranging from passive to active resistance. A period of consultation, or at least talking to those affected, makes life easier later in the process. Communication can be one way; that is, the organization tells the employees what is happening. Effective consultation is a two-way process and allows worries and concerns to be expressed and heard. The implementation process and support required can then be tailored to take those concerns into account.

The counseling aspect ensures that individuals are supported through the change process. It may involve providing additional training for those finding it difficult to adapt to the new changes. Training can be necessary when a change in corporate culture is required to make the strategy a success. Providing support to managers via additional assistance in the use of the management accounting information available is a crucial part of the accountant's role. It gives confidence in the information and reporting, not least in indicating the success of the strategy from the performance measurement and management systems.

A three-phase approach to change

Lewin (cited in Schein, 1999) identified three phases associated with change for which Schein provided more detail. This model is commonly referred to as Unfreeze – Change – Refreeze.

The unfreeze element can be the most difficult if it involves a change of culture and is likely to have a significant impact on the employees' normal way of working. It requires a strong motive for the change and is concerned mainly with selling the reason for the change, and benefits to the employees. If the need for change is obvious and externally motivated, for example, a change in legislation requiring compliance, or if not responding to change puts the survival of the organization in doubt, this stage can be accelerated. Routine changes where the rationale is not apparent to the employees may be harder to sell. It is at this stage that communication and consultation are essential in laying the groundwork for the change to occur. The change agent also has a pivotal role to play in galvanizing momentum behind the change.

The unfreeze phase is characterized by disconfirmation where events begin to lead to dissatisfaction with the current conditions; this growing dissatisfaction can emanate from external or internal sources. The current situation and beliefs are gradually seen to be invalid, which can lead to survival anxiety. The growing need for change can lead to learning anxiety in which individuals become concerned about having to unlearn what has been previously accepted. This, in turn, despite the realization that the current situation is becoming unsatisfactory, can lead to inertia, or even resistance to change. The wider the gap between the current state and the desired state, the more difficult the change becomes.

Force field analysis (Lewin, 1951) is part of the three-phase approach in that it helps the organization to understand the imbalance between the driving forces (for example, new personnel, changing markets, new technology, legislation) and the restraining forces (for example, individual's fear of change, organizational inertia). Applying force field analysis (see Figure 9.3) can aid the development of a change strategy.

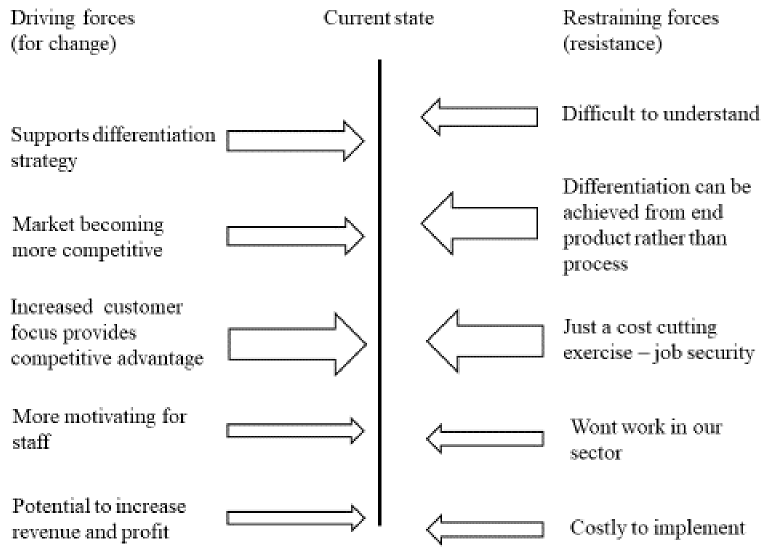

Figure 9.3 Force field analysis for implementing lean manufacturing and lean accounting

The process of drawing up a force field analysis enables the organization to understand the strength of feeling about the change. Thinking about the communication and the rationale that is put forward for the need for change helps to identify the driving forces for change. The consultation with staff helps not only to understand the worries and concerns but the strength of those concerns. The diagram then represents the strength of the force by the size of the arrow. This indication of strength helps the senior management and the champion of change, or change agent, to focus on the significant concerns. A strategy to strengthen the driving forces and weaken the restraining forces can be devised by persuasion, the participation of influential individuals, or to form the basis of negotiations, especially where trade unions are involved. Before the change takes place, the resources required, the necessary training and support, timing, milestones, and responsibility need to be established.

The change process is concerned with the implementation of the changes to working practices, including the training of employees in new techniques. The scope, pace, and manner, for example, phased or not, is determined beforehand and are all elements that can ease the change process. The management accountant can play a crucial role, not just in ensuring that the necessary management information is made available to managers, but in devising training programs and support to managers in the use of new techniques and systems.

The refreeze phase involves embedding the new way of working into the culture of the organization, and reinforcement of the change. It could be positive reinforcement by, for example, intrinsic or extrinsic reward or negative reinforcement by sanctions applied to those who deviate from the new way of working. In the case of the new accounting techniques, this could involve additional training and support for those managers finding it difficult to adapt. Publishing the success of the change, that is, actively demonstrating that the new strategy is working, or the new accounting technique/system is providing benefits, is also a vital aspect of the refreeze phase, even if this takes a while to show through.

Learning activity. Imagine that you work for an organization that is introducing a system of lean accounting and beyond budgeting. The senior management team has become convinced that the two systems would work well together as they both look towards continuous improvement and empowerment of employees. Think about how this change could be achieved and the role that the accountant could play in the implementation of these systems. What are the issues that could arise, and how could you deal with them?

9.6 Tailoring the accounting system to the strategy and using appropriate reporting

Active reading. Note the importance of ensuring that the appropriate accounting techniques are used to support the strategy being adopted. You may like to refer to Chapter 2 and the discussion of whether strategic management accounting techniques are more appropriate for a differentiation strategy. Also, note that the format of reporting needs to support the strategy in that if the strategy entails a decentralized approach with autonomous business units, the reporting must also support this approach.

The accounting system needs to be tailored to support the overall strategy. For example, Ward (2016) identified that the focus of the accounting techniques employed by organizations adopting a cost leadership strategy would be different from those used by an organization adopting a strategy of differentiation. If the strategy changes, the accounting focus will need to change. In this way, when implementing strategies, the accountant is heavily involved, not just in providing the technical know-how and training provision, but by participating in managing the change process.

Changes to the strategy may involve a change to an organization's structure, for example, introducing more autonomy to the business units. It could be supported by the introduction of beyond budgeting (section 9.4). Indeed, introducing a system based on beyond budgeting principles requires that business managers have more autonomy, so there is a reciprocal relationship between the strategy and the management accounting system, in that one supports the other.

9.6.1 Reporting structures and focus of management reports

The reporting structure can also support the strategic management process by focusing the reporting on the future. Many management reports spend eighty percent of the report explaining the difference between the actual and the plan, whereas the focus should really be on the implications for the future and what can be done to ensure the achievement of objectives. Reviewing historical performance and the reasons for any variation is important, but so is extrapolating and indicating the potential impact if the deviation continues in the future.

Engineered and discretionary costs

Ward (2016) makes a distinction between engineered and discretionary costs. Engineered costs demonstrate a direct relationship between inputs and outputs. For example, a vehicle assembly plant takes components and assembles them into a complete vehicle with a given specification. The most important aspect of control is to ensure that the process is undertaken as efficiently and effectively as possible to a given quality standard. The main emphasis is on productivity and efficiency measures of performance. Accounting techniques such as ABC (section 6.6) can highlight areas where management needs to focus attention to improve performance. ABC is not just a technique for costing products but can be used to highlight areas where there is scope to reduce the cost of specific activities to support the cost leadership strategy. It is not the technique itself but the way the output of the technique is used to support strategy implementation that is important. Similarly, if used within target costing (section 7.8), ABC can help to identify areas where costs can be reduced to achieve a competitive advantage on new products.

Developing a good understanding of costs over a period through the detailed analysis of everyday operations can be fed into developing operational strategies that support the overall strategic objective. For example, based on the experience curve, how will costs reduce as the product gains a market share of twenty percent? This knowledge can also be fed into the pricing strategy of new products or entering new markets. Linked to the portfolio analysis (section 4.5), this can help to establish the level of investment required, which might include initial losses on the product, to gain a substantial market share.

ABC, however, will not necessarily help to the same extent with the marketing budget to launch the new product. Marketing is a discretionary cost, and therefore an appropriate technique needs to be used when setting and reporting the marketing costs. A suitable method would be an objective-based approach where the budget is based on the marketing activity required to achieve the objective. Again, this approach can be based on experience and knowledge of the likely competitive responses. The reporting of costs against the achievement of objectives can help build up the required experience of how effective different marketing activities are in building or maintaining market share, even though there may be no direct relationship.

9.6.2 Responsibility accounting

Active reading: Note the significance of striking a line at controllable costs.

The use of responsibility accounting can aid implementation and subsequent monitoring in that the reporting of income and costs follows the responsibility of the managers. The separation of controllable and noncontrollable costs can be useful in motivating managers to use the report proactively. For example, if managers are judged based on a figure including centrally allocated costs, valuable time and resources can be wasted arguing about the validity of the bases used to allocate the costs. Striking a controllable costs and profit line can focus managers' attention on improving the performance of their area of responsibility toward meeting strategic objectives.

If, however, the allocated costs are also shown after the controllable subtotal, it highlights to managers that there are costs incurred that are the responsibility of others that support their business unit/function. This approach to reporting can encourage business unit managers to challenge the basis of allocation and the level of costs incurred, without becoming too emotive. It also ensures that managers responsible for organization-wide costs, such as central marketing, and management support, including accounting, are held accountable by those they serve, as well as those to whom they report. The concept of internal suppliers and customers is a useful way of thinking about the relationship between operational and central service functions. Adopting this concept can ensure that the central services provided are appropriate to the needs of the business units.

9.6.3 Ensuring that the systems are developed to the changing needs of the business

Active reading: Note the need to keep systems up to date. Also, think about the behavioral impact of providing access to information via devolved reporting systems. How does this change the accountant role?

Accounting systems are often notorious for becoming legacy systems within an organization as the system that was purchased ten years ago is no longer able to cope with the demands placed on it by the current business. All systems develop entropy over time, and it is vital to ensure that the systems can develop as the business grows. In this respect, it is suggested by IT specialists that the system should be an open system capable of being developed as the organization's information needs change.

Accounting systems have improved considerably over the years to the extent that much of the information required by managers is available to access via their desktop terminals, computers, and personal computing devices, often remotely from the office. This free access to information for all approach can be an advantage as the role of the accountant is no longer just to provide the numbers, but to aid interpretation and support decision making at all levels. However, financial information in the hands of nonfinancial managers can sometimes be the cause of incorrect decision making; therefore, the accountant needs to adopt a supportive role and often that of an educator and mentor in the use of the financial information.

9.7 A note on business partnering

Active reading: Note the need for accountants to understand the strategic management process.

There is often a need for accountants to support managers by the provision of training in the use of the management information. This training is an aspect of business partnering, which is being actively promoted by the professional accounting bodies, accounting firms, and consultants. The role of the management accountant is much more about getting involved with the business and working with the business managers. Management accountants now need a good understanding of how the business works and how organizations formulate strategies so that they can assist in the process.

9.8 Summary

Management accounting can support strategic implementation in the following ways.

Crystallization of strategic plan into operational budgets

The first year of the strategic plan, at least, needs to be crystallized into some form of an operational plan. Whether this is in the way of a traditional budget, or a more flexible open-ended beyond budgeting approach, the accountant, can provide support to managers in establishing quantitative targets and determining the financial value of the sales activities and resource requirements.

Aiding the planning process

Accountants have a good understanding of planning and budgeting processes and can advise on appropriate systems that can be adopted. For example, whether a form of traditional budgeting such as ZBB or rolling budget or beyond budgeting, is best suited to the organizational needs. Having made a choice, the accountant can provide advice on its implementation and use.

Updating forecasts and reporting against a plan

The accountant can aid managers in updating the forecast figures and in monitoring actual performance against the plan or updated forecast.

Analyzing variations and evaluating actions

A feature of budgetary control systems is that action is taken in response to variations from plan or expectations. The accountant can aid in the investigation of deviations from the plan and in evaluating interventions.

Aiding change and agent of change

Accountants can aid the process of strategic change where necessary and act as an agent for change when a change in accounting techniques is required. This role can involve training or support a functional manager who is acting as a champion of change.

Tailoring the accounting system to the business strategy

The accountant must ensure that the accounting system adapts as the business grows and changes and that the systems in use always support the strategy.

Business partner

The accountant should be able to work as part of the management team, acting as a business partner to functional managers. The skill set and understanding of the business provide a strong basis for providing sound business and accounting advice to managers.

9.9 Review questions

(1) Describe the various systems of budget preparation and where they may be appropriate.
(2) Why are traditional budgets criticized as not being helpful to managers?
(3) Discuss how the promoters of beyond budgeting suggest that beyond budgeting improves on and overcomes the criticisms of the traditional budget process?
(4) Evaluate the role of the accountant in aiding strategic change.
(5) Discuss why it is essential to ensure that the accounting system is capable of evolving.
(6) Critically evaluate the role of management accounting in the implementation of the strategy.

9.10 Case study activity 18 - HW Inc. Strategic implementation

The following activity refers to the HW Inc. case study in Appendix A of this learning resource.

The CEO has heard about the beyond budgeting round table. He and has asked you to put together a briefing note on how beyond budgeting could be applied in HW Inc. And how it could be implemented if the senior management were convinced of the benefits. You can prepare the briefing as a PowerPoint presentation if you wish. [A briefing note is a short paper that quickly and effectively informs a decision-maker about an issue].

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CHAPTER 10 - Multidimensional performance management

10.1 Introduction

Traditional performance measurement systems tended to focus on financial performance measurement, particularly measures of profitability and capital efficiency. The reporting focus was based on historical information that might indicate a problem but did little to help fix it or highlight the potential impact on future performance. By the time the measure was reported, it would be too late. The measure often ignored what lay behind the financial measures such as innovation, customer satisfaction, employee morale, the effectiveness of business processes, and where value was added or destroyed.

Academics such as Kaplan and Norton (1992), Lynch and Cross (1992), and Atkinson et al. (1997) noted that a range of performance indicators was required to capture the totality of perspectives and viewpoints on how well an organization is performing against its objectives. Organizations set the vision, mission, and objectives to address a range of stakeholder viewpoints, not all of which are satisfied by financial performance alone. Therefore it is necessary to monitor all aspects of the organization's performance.

This chapter looks at the use of multidimensional performance management to evaluate and monitor the effectiveness of strategies. It looks at ways of measuring divisional performance within large organizations and the issue of transfer pricing, where more than one division participates in providing the product or service to the end consumer. A review of benchmarking discusses how it facilitates improvements in performance and can aid the development of multidimensional monitoring.

Finally, in this section, as most performance management systems involve reviewing the performance of people, there can be some behavioral issues that need to be considered when establishing performance management systems.

10.2 Learning outcomes

After studying this chapter, you will be able to:

- Discuss the importance of establishing a multidimensional performance management system within an organization
- Understand the use of critical success factors in determining objectives and performance measures
- Evaluate the balanced scorecard as a performance management tool
- Discuss the different types of controls that can be used in performance management

- ➢ Critically evaluate methods of monitoring and comparing divisional performance including economic value added (EVA^{TM})
- ➢ Discuss the various methods of transfer pricing
- ➢ Critically evaluate benchmarking as a means of improving performance
- ➢ Discuss behavioral issues related to performance management and ways of overcoming them

10.3 A multidimensional approach to performance management

Traditional performance measurement tended to focus on financial, historical, and internal aspects of the performance. Multidimensional performance measurement systems encourage the inclusion of financial and nonfinancial, internal and external, and quantitative and qualitative measures.

10.3.1 A balanced scorecard

Active reading. Note the four perspectives suggested by Kaplan and Norton and the four elements of each perspective. Also, note the developmental aspect of the balanced scorecard in that targets should encourage improvement and initiatives to invite innovation. Also, note that as with any framework, there are benefits and drawbacks.

Video link Performance management and the concept of the balanced scorecard

https://www.youtube.com/watch?v=CR4oP_TOvqo

A framework known as the balanced scorecard was developed by Kaplan and Norton (1996) that enables organizations to think about performance monitoring from several different perspectives other than just financial. The organization's vision and mission are the heart of the framework, and thus all performance measures stem from what the organization is seeking to do in business terms. It provides a means to translate the vision and mission into a set of performance measures that facilitate the implementation of the organization's strategy. The interlinkages between performance measures can also be highlighted, which aids the understanding of the implications of new or revised strategies.

The four perspectives

The primary framework suggested includes viewing the organization from four main perspectives.

- Customer perspective (how do customers see us?)
- Internal business process perspective (what must we excel at?)

- Learning and growth perspective (how to improve and create value? How will we ensure that we are in business in the future?)
- Financial perspective (how do we look to our shareholders?)

Organizations are encouraged to design perspectives that suit their specific organization and should not feel restricted to the four perspectives noted above. For example, a supermarket may consider performance measures in the form of financial, customers, suppliers, operations (business processes), community, and learning and growth. The focus is to create a scorecard that monitors perspectives that are important to the achievement of strategy, and that includes financial and nonfinancial, internal and external focus, quantitative and qualitative, and short-term and long-term measures. The use of lagging (backward-looking) and leading (forward-looking) performance measures is also encouraged.

Other authors, such as Atkinson et al. (1997), suggest that a stakeholder approach can be taken. If an organization takes into account the stakeholders in making strategic decisions, and each stakeholder has different expectations, it follows that various measures of performance will need to be used to know that an organization is meeting these expectations. Each stakeholder will judge the success of the organization by different criteria.

Objectives and measures

Kaplan and Norton suggest that four elements can be considered under the various perspectives adopted.

- Objective or goal
- Measure
- Target
- Initiative

The objective should be derived from the organization’s strategy. The measure is derived from the objectives and should provide the answer to the question — what needs to be measured to know whether the objective has been met? It is sometimes overcomplicated when, in practical terms, using the most straightforward measure is the most appropriate. Deciding the performance measures has implications for the information systems. The information needs to be available to measure the degree to which the objectives have been achieved. Creating a sophisticated form of measurement increases the costs associated with data collection and can result in managers not really understanding how the performance can be improved. The measure needs to aid the understanding of whether the strategy is working.

As a simple example, suppose an objective is to increase sales revenue. It can be measured by comparing sales revenue last year with sales revenue this year. The measure does not, however, indicate why the increase has happened. It could simply be because of price increases. But suppose the intention was to achieve this by increasing the customer base to attract and retain a higher number of customers. A nonfinancial measure of comparing the number of customers last year with the number of customers this year helps to determine this. However, increasing the number of customers does not necessarily mean that sales revenue will increase.

The sales revenue is also influenced by the volume of purchases made by each customer, so this could be linked to an objective and measure to increase the average spend by individual customers over that achieved last year. Sales revenue is also linked to customer satisfaction levels (a qualitative objective) and customer retention rates. The qualitative objectives also need to be quantified, for example, to increase customer satisfaction so that ninety-five percent of customers are happy this year.

The design process can be a valuable tool in gaining a thorough understanding of how the business works and actions that impact on more than one perspective. Kaplan and Norton were keen to stress that measures should link together and that the use of redundant measures that do not help the organization achieve its objectives should be avoided. It is, therefore, essential to understand the interlinkages between objectives and measures.

For example, suppose a supermarket has several checkouts that can be opened to service customers. During quiet periods, the supermarket does not want staff members occupying checkouts that are not being used, and conversely, in busy periods, a build-up of queuing customers is undesirable. Therefore, an objective may be to achieve optimum utilization of checkouts. This objective could be monitored by monitoring average queuing time at various times during the day, and the usage of checkouts. This impacts on customer satisfaction levels and possibly customer retention, as well as the utilization of staff. It has implications for the customer perspective and the business processes as well as staff training and employee morale. Hence there is a need to understand the interlinkages between the different perspectives, as shown in Figure 10.1. The process can be expanded to include all performance measures to create what Kaplan and Norton refer to as a strategy map.

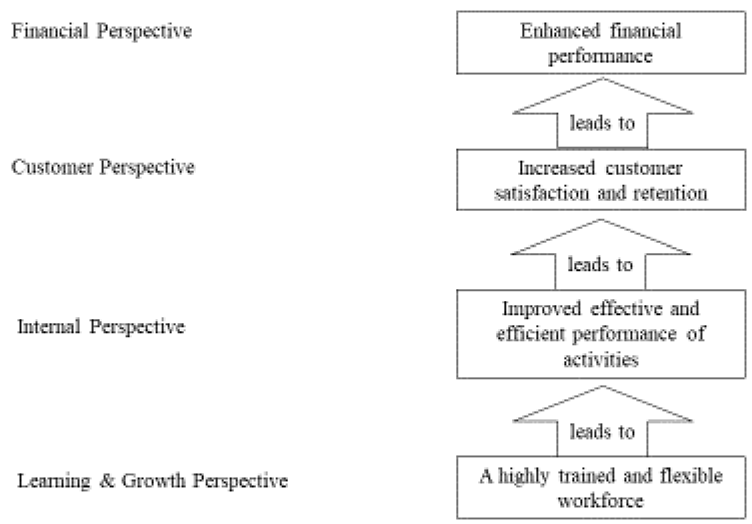

Figure 10.1 Linkages between scorecard perspectives

Targets can be used as a means of improving performance year on year and can form part of a performance management system at an individual level. Everyone in an organization has objectives, for which targets can be established.

The initiative provides the opportunity for the organization to ask, is there anything that can be done differently to aid the achievement of the objectives? It means that the balanced scorecard can be used as a developmental tool. It stops performance targets being rolled over each year without challenging the status quo.

10.3.2 Critical success factors and interlocking scorecards

Another concept that is important in performance measurement is identifying the critical success factors (Figure 10.2).

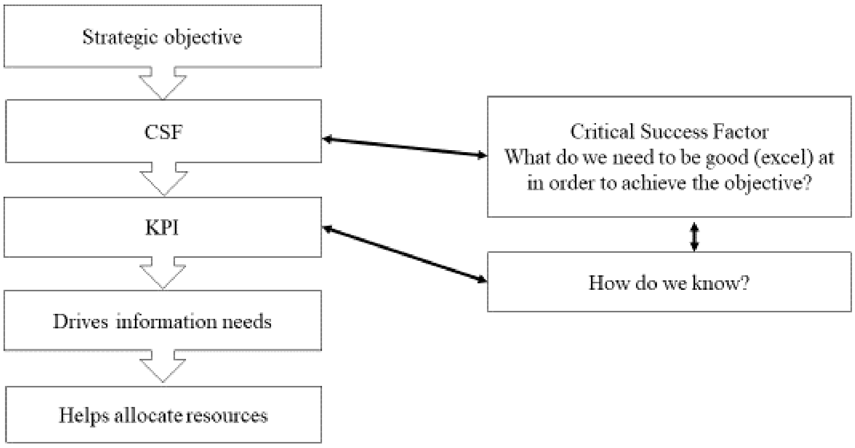

Figure 10.2 Critical success factor

A critical success factor is addressing the question, what does the organization need to be good at to achieve its objectives? The next logical question is, how does the organization know that it is good at what it needs to be good at? This helps to determine the key performance indicator that, in turn, helps to drive the information needs, that is, understanding the information required to monitor the achievement of strategy and, in turn, aids the allocation of resources to the areas of the business-critical for success. This process also ensures that the right aspects of the business are being measured and can stop information overload.

Developing the concept of critical success factors means that the senior management of an organization does not need to monitor every single performance measure but can focus on the critical success factors. This is because they delegate responsibility to lower levels of the organization for more detailed aspects of the business operations. These tiered levels of management can have their own balanced scorecard so, instead of one organizational scorecard that would be difficult to manage, a series of nested scorecards can be created and monitored at different levels of responsibility. The key is ensuring that employees at all levels are aware of how their role fits into the overall scheme of things. It is suggested that the balanced scorecard, and resultant strategy map indicating the linkages between the perspectives, can be used as a communication tool to ensure employees at all levels understand the organization's strategy and their role in its achievement.

There can be some difficulties with the balanced scorecard in that establishing too many measures can confuse managers, and the strategic focus can be lost. The behavioral implications of introducing a balanced scorecard also need to be considered as employees can become concerned when performance is being monitored closely. However, the process of introducing the approach should be inclusive and, if done with the involvement at all levels, can be positive in that all employees understand the organization's strategy.

10.3.3 Example of objectives and measures in a balanced scorecard

When using a balanced scorecard approach, the perspectives need to be tailored to the organization. The Royal Botanical Gardens Kew, London, is an organization that raises most of its funds from philanthropic donations, commercial ventures, and entry fees. The charity The Foundation and Friends of the Royal Botanic Gardens Kew support the organization from fundraising activities, but RBG Kew also receives government grants to support its work. Located toward the edge of the city, the Gardens are regularly visited throughout the year by many local families and are an internationally well-known tourist attraction.

Despite charging admission, it is one of the top five visitor attractions in the country. Every year it answers many thousands of inquiries from Universities and research establishments, including pharmaceutical companies from all over the world and charges for advice and access to its collection. Inquiries can range from access to the plant collection for horticultural work, seeds for propagation, or samples for chemical analysis to seek novel pharmaceutical compounds for commercial exploitation. There is also a thriving education program that provides a range of educational services promoting horticulture. It is also possible to hire the use of the facilities for occasions, such as weddings and other events, such as conferences and so on.

The Key strategy document for 2020/21 published on the website states (https://www.kew.org/sites/default/files/2019-03/corporate-strategy-0417_0.pdf):

> Royal Botanic Gardens, Kew's mission is to be the global resource for plant and fungal knowledge, building an understanding of the world's plants and fungi upon which all our lives depend. We use the power of our science and the rich diversity of our gardens and collections to provide knowledge, inspiration and understanding of why plants and fungi matter to everyone. We want a world where plants and fungi are understood, valued and conserved – because all our lives depend on them.
>
> The 2020/21 document includes the following priorities initiatives:

1. Delivering the Science Strategy and curating the collections
2. Maximizing the potential of the gardens
3. Growing commercial income
4. Creating outstanding learning and outreach propositions
5. Engaging the public and key stakeholders in RBG Kew's importance and impact
6. Growing philanthropic support and Friends income
7. Achieving success through our people
8. Improving the built and technological infrastructure

The following objectives and performance measures illustrate how the scorecard can be tailored to the individual organization. Targets are not provided, but the management teams would set sensible, achievable targets. The objectives and target together make the objectives SMART (specific, measurable, agreed, realistic, and time-bound) in that the target would quantify the objective. Initiatives would also be developed that would help the achievement of the objectives.

The illustration uses five perspectives: scientific and conservation community perspective (customer), public amenity and education perspective (a different customer), internal perspective including own research projects, learning and growth, and the financial perspective.

Note how simply some of the measures are expressed and that some objectives have more than one measure that helps to assess if the objective has been achieved. There is often a tendency to make the measures too complicated when simple is best. It is also possible, and often desirable, to break the objectives down into smaller objectives targeted at specific areas of the business with managers who have particular responsibilities in the form of nested scorecards.

Table 10.1 illustrates the type of performance measures that could be used for the Royal Botanical Gardens – Kew.

Table 10.1 – Objectives and performance measures suitable for the RBG – Kew.

Potential objectives	**Performance measures**
Scientific and conservation community perspective (Customer)	
To increase the number of publications in high-quality journals	Number of papers published/presented at conferences
To provide an improved service to the scientific community	• Number of enquires successfully answered • Number of new projects supported • Number of completed projects • Number of new species successfully identified and cataloged. (As this depends on the new species discovered, it might be better to use a

	success rate such as 100% of new species presented for classification successfully cataloged.) • Number of days to update new species into manuals for plant identification
To improve access to collections	• Number of online inquiries, live visits
Public amenity and education perspective (a different customer)	
To increase the number of public visitations	• Number of visitors to gardens and educational events
To increase the number of students undertaking a formal course of study	• Number of new students • Number of successfully completed courses • Number of new courses offered • Number of attendees on training days for teachers and study days for children.
Internal perspective including own research projects	
To undertake scientific research projects that aid plant conservation	• Number of research projects undertaken, successfully completed, written up, and published.
To increase the number of items in the collections	• Number of items added to collections in the year. By collection and by plant type • Number of endangered species saved or reintroduced successfully to natural habitats during the year. (note: definition of "saved" is required to make this measurable, i.e., may be measured over five years). • Number of species transferred to other botanical centers to ensure the preservation
To increase the volume of literature held for use by researchers (internal and external)	• Number of items held in the library.
To improve the level of service from support functions during the year	• Response times to request for support • Activities completed that relied on support activity, e.g., educational program launch.

	• Number of events catered for / revenue raised from catered events
To increase the accessibility of collections	• Number of collections accessible by scientific community/public
To retain staff employees and volunteers	• Staff and volunteer retention rate
Learning and Growth	
To increase the number of international partnerships	• Number of new partnerships by geographic location, number of lost or dissolved partnerships • Volume of activity between partnerships conducted during the year (exchange visits, or other activities as appropriate)
To improve the effectiveness of communications to attract visitors, donations, etc.	• Number of new media outlets introduced in the year • Number of hits on web sites by page/area • Number of people aware of the work of the RBG – Kew
To achieve 100% capacity utilization of training facilities during the year	• % Capacity usage of the training facility
To increase the number of collections that are available digitally	• Number of collections digitally cataloged.
Improve training of staff	• No of effective training days achieved
To attract new researchers to work with the RBG – Kew	• Number of new researchers /collaborations in year
Financial perspective	
To operate on a financially sustainable basis	• Expenditure report and surplus/deficit in the year
To increase revenue from sources other than the government grant	• Number of successful events held • Number of hiring's • Revenue generated from items sold through retailing • Number of new recruits to the Foundation and Friends RBG - Kew • Number and size of donations from individuals and corporate

A draft strategy map is shown in Figure 10.3. The map would be refined via discussion and testing to make sure that all the measures aided the achievement of the strategy.

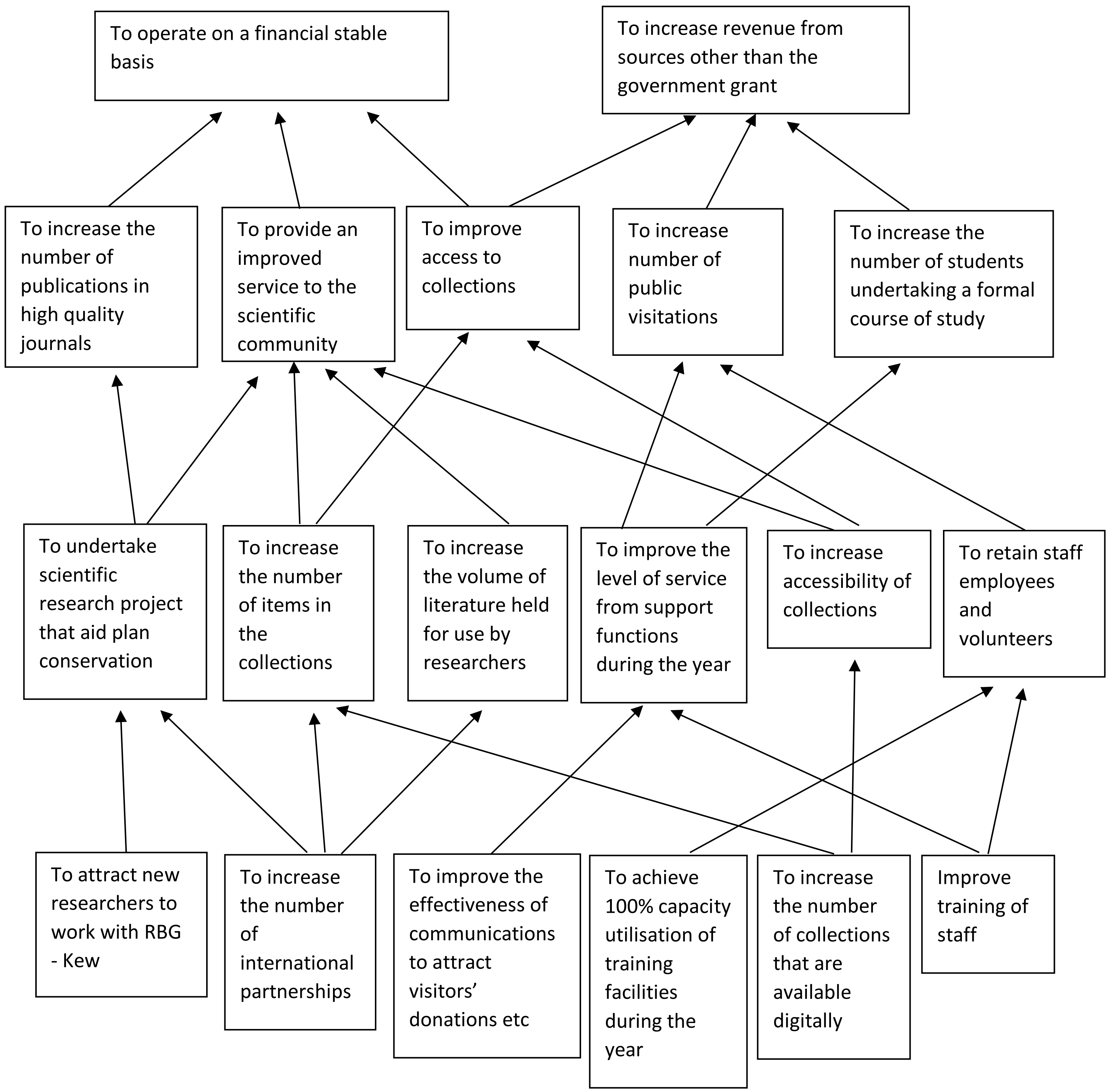

Figure 10.3 Draft strategy map for RBG Kew

Learning activity. Think of an organization with which you are familiar and construct a balanced scorecard with at least two objectives in each perspective, and associated performance measures. Do not feel obliged only to use the four perspectives suggested by Kaplan and Norton if you think that different perspectives are important.

10.4 Performance management in service organizations

Active reading. Note that financial performance is the result of the strategy. It is the determinants where action is required.

An approach for performance measurement in service sector organizations was put forward by Fitzgerald et al. (1991) and highlights that the traditional approach of monitoring only the financial perspective is in danger of focusing on the results and ignoring the determinants. The multidimensional approach to avoid this is shown in Figure 10.4.

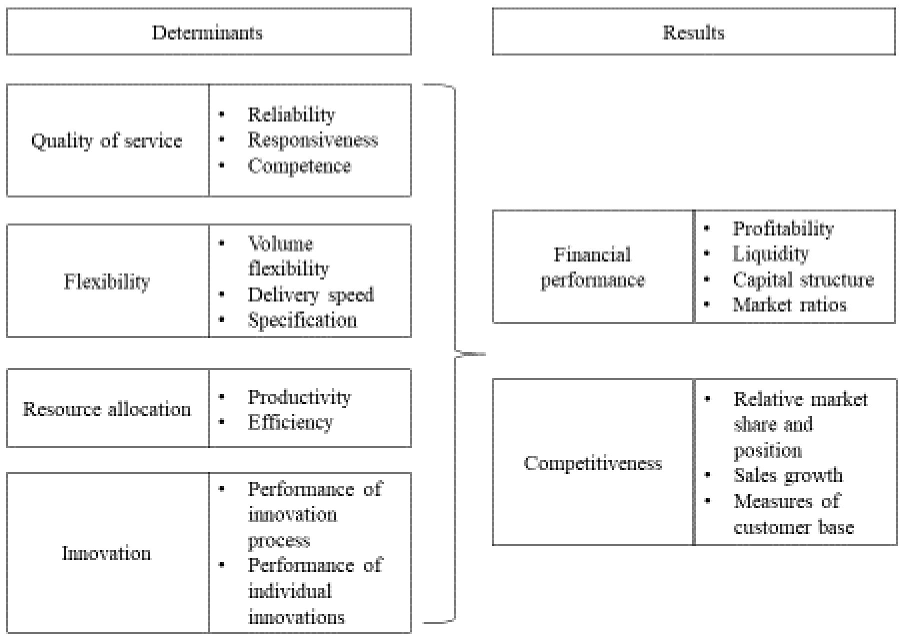

Figure 10.4 Multidimensional approach to performance management for service organizations

The secret to performance measurement is to gain an understanding of what determines success. The understanding can be built up over a period via the use of a range of multidimensional measures. Performance measurement, however, is only part of the broader concept of performance management. Therefore, for the measurement to mean anything, the results must inform management such that it stimulates appropriate actions.

10.5 Simons' levers of control

Active reading. Note that the financial controls, such as budgetary control, would fall within the diagnostic category. Beyond budgeting, however, might include elements of interactive controls.

Simons' (1994) levers of control are often used as a framework for categorizing the type of controls that an organization can use.

- Diagnostic use of control systems—ex-post monitoring, corrective action, and management by expectations
- Interactive use of control systems—frequent use and dialog to stimulate organizational learning and change, for example, meetings and briefing sessions
- Belief systems—communication of core values related to sustainability to trigger a change in mindset and support organizational change processes (for example, mission statements)
- Boundary systems—restraining organizational members from entering in an extreme zone (for example, code of conducts, anti-bribery guidelines)

In practice, an organization will use a range of controls. However, due to its culture, it might use a predominance of one of these; for example, a highly controlled bureaucratic organization might use the prevalence of diagnostic controls. In contrast, an organization run as a meritocracy that gives employees more autonomy, and encourages an open exchange of information and ideas, might use a predominance of interactive and belief controls. Therefore, the culture of the organization, as well as the strategy, has an impact on the type of controls that would be adopted. This tailoring of control implies that the design of management accounting systems can help to support and develop the culture of the organization.

10.6 Divisional performance

Active reading. Note that the comparison between divisions is not just about financial performance.

When an organization is structured in a way that has divisions or subsidiaries, it is useful to be able to set targets and monitor the performance of each division separately and, if sensible, to make comparisons. When comparing divisional performance, it is essential to make sure that the comparison is meaningful and that other factors are considered. For example, two divisions undertaking the same activity, but operating in different countries, may perform differently, due to the economic conditions prevailing in their market, such as the U.S. economy performing differently to Asian economies. Therefore, differences in performance are not just due to management performance. This emphasizes the importance of monitoring external environmental PESTEL factors and how they impact on different markets and the significance of comparing performance against competitors in the same market.

10.6.1 Levels of performance monitoring of business units

Active reading. Note that it is possible to use a mix of approaches for certain cost elements.

Organizations can be divided into strategic business units or operating/functional units for the purposes of monitoring performance. Typically, functional units are treated as cost centers in which costs are allocated to the functional units and monitored against a cost budget. If the organization can identify business units to which revenue streams and costs can be meaningfully allocated, they can be treated as profit centers. In this case, a series of profitability ratios could be used as financial performance indicators, for example, operating profit percentage. In cases where it is possible to allocate capital items, such as plant and equipment, buildings, and so on, the business units can be monitored as investment centers. Suitable financial performance indicators, in this case, might be return on investment.

In all cases, costs, revenues, and capital items need to be allocated on a meaningful basis; otherwise, the monitoring is not helpful. It is also essential to be able to monitor and report those costs that are controllable by the manager responsible for the business unit or cost unit. Apportioning costs such as central marketing costs can create time-consuming discussions and wasted resources if managers feel they are being penalized for something outside of their control.

The preferred approach is to strike a line at a controllable profit, or cost, and then show apportioned costs separately below the controllable line. This style of reporting enables managers to take ownership of their area of responsibility. Still, it keeps in front of them the fact that the unit benefits from decisions that are made centrally, such as central marketing. And that they are expected to contribute to the cost of providing those central activities.

The reporting of central services costs becomes significant when these types of costs are allocated to business units. For example, consider the use of a central I.T. function in organizations.

If a central I.T. function is treated as a cost center and costs are not charged out to users, it can encourage users to request more and more services, as there is no cost to the user. However, if charges are made to divisions at the cost of provision, based on usage, business units are aware that I.T. services cost money and are more prudent and careful in their requests. They may well undertake a cost-benefit analysis before requesting additional I.T. services. Indeed, the head office may require a business case to be made before any additional investment is made. A further step could be made, and the I.T. function makes a charge to divisions based on a market rate. This allows the I.T. function to operate as a business unit in its own right, which can result in I.T. staff being keen to “sell” services to divisions and actively seek out areas where they can assist. Therefore, there is a motivational aspect of the I.T. function derived from the approach taken to charging internal services.

One way of establishing a market rate is to investigate what it would cost the organization to outsource its I.T. function. By investigating this, it sets an external benchmark against which the I.T. function can be measured, and in some instances, it may be more efficient to outsource some of the essential I.T. functions. There are, however, strategic aspects here such as loss of control, confidentiality, and so on that need to be considered, again illustrating that cost is not the only consideration. This idea can take an extra dimension in that large organizations may decide that divisions can buy certain I.T. services from external providers; that is, they do not have to use the central I.T. function. This approach can add a degree of competitiveness to the I.T. function in that it encourages efficiency and effectiveness within the in-house service.

A possibility is that a function such as I.T. provision lends itself to a hybrid style of cost allocation. The provision of an organization-wide network is a decision that benefits the whole organization and is treated as a central “head office” cost. The costs of I.T. that are directly attributable to a business unit can be charged at cost to the units, for example, computers used by the business units become their assets, with the subsequent depreciation charges, maintenance (even if managed by the central I.T. function) and so on. Additional bespoke services required by divisions are charged at a market rate. The design of such a cost allocation system can ensure that a service function such as I.T. is contributing to the overall strategy of the organization.

10.6.2 Return on investment (ROI) and residual income (R.I.)

Active reading: Note the behavioral implications of comparing divisions.

Two conventional methods of monitoring divisional performance are, return on investment (ROI) and residual income (R.I.).

The return on investment is typically calculated as:

$$\frac{Divisional\ profit\ before\ interest\ and\ tax\ (operating\ profit)}{Investment\ in\ the\ division}\ x\ 100 = \%$$

ROI is frequently used to compare divisional performance. However, it is important to compare performance against external benchmarks if available.

For example, economic performance is as much an issue as is managerial performance. If a division in Hong Kong is making a 25 percent ROI, yet the division in the U.S. is making a loss of 3 percent, does it mean that the management team of the division in Hong Kong is better? Apart from the fact that divisions may be operating in different sectors, competitor organizations in Hong Kong may be making 30 percent ROI, in which case the Hong Kong division is not doing as well as it should. Or if the competition in the U.S. is losing 5 percent, then the U.S. division is doing quite well.

The external comparison underlines the fact that external information, particularly of competitors, needs to be considered when making judgments about the managerial performance of divisions. It also highlights the need to set targets with external reference points rather than taking a purely internal viewpoint. Senior managers often focus on poorly performing divisions when, at times, they need to be pushing divisions that are meeting organizational targets if they are still below the competition.

The residual income is typically calculated, as shown in Table 10.2.

Table 10.2 Calculation of residual income

	$
Divisional profit before interest and tax (operating profit)	x
Less a charge for the use of capital (notional interest)	(x)
Residual income	X

One aspect to note is that residual income is usually expressed as an absolute figure and is positive or negative. It is useful as a performance measure when the head office primarily controls the investment in the division. In some instances, this is said to be a better measure to use when considering further investments as it can reduce some of the behavioral implications of the ROI measure.

Suppose a division has achieved an ROI of 20 percent, beating the target set by the head office of 15 percent. The management team, who are keen to demonstrate continued high performance, may be reluctant to undertake a project that yields 17.5 percent. Although it is above the head office target if the division undertakes the project, it will reduce its average ROI to below 20 percent, and make the division look as if its performance has declined. Therefore, there is a dysfunctional or motivational aspect of ROI.

As RI is an absolute figure, if a project increases R.I. by $100,000 then, all other things being equal, the management would be more motivated to undertake the project. R.I. uses the concept of net present value (section 8.5) and is said to have the same properties in decision making, that is, a favorable outcome encourages acceptance, whereas a negative result discourages acceptance. The fact, however, that R.I. is often reported as an absolute figure can be a problem. For example, increasing profit by $1,000 sounds good, but if it requires an investment of $10,000,000, it is maybe not so good. It is, therefore, helpful to express R.I. as both an absolute figure and a percentage of the investment.

Learning activity.
Division X has the opportunity to undertake a project which will require an investment of $150,000 and yield a profit of $25,000. The parent company, XYZ Inc., sets a target return on investment of 12%, which is 2% above its cost of capital. Division X has, in recent years, achieved an ROI of 20%.
Calculate the ROI and R.I. of the project opportunity and advise whether the project should be undertaken.

A solution to the numerical element:

ROI

$$\frac{\$25{,}000}{\$150{,}000}\ x\ 100 = 16.67\%$$

RI

$Cost\ of\ captial: 12\% - 2\% = 10\%$

$Capital\ charge: 150{,}000\ x\ 10\% = 15{,}000$

$Residual\ income: \$25{,}000 - \$15{,}000 = \$10{,}000$

10.7 Economic value added

Active reading. Note the similarity to R.I., but also the rationale for adjusting the traditional profit or loss reported.

Economic value added (EVA™) was developed by a firm of consultants (Stern Stewart & Co., now Stern Value Management) as a means of measuring organizational performance. The economic value is the net operating profit after tax from which a deduction is made for the use of capital in the form of a capital charge, based on the weighted average cost of capital (WACC), to arrive at the economic value, shown in Table 10.3.

Table 10.3 Calculation of economic value added

	$
Adjusted profits to arrive at net operating profits after tax	x
Capital charge (adjusted capital employed x weighted average cost of capital)	(x)
Economic value added	x

It is an absolute value, that is, a number rather than a percentage, and in a similar way to R.I., if used as an investment appraisal method, would encourage managers to undertake an investment if it increased the economic value added. In this way, it is said to be a good measure as it encourages managers to make decisions based on the interests of the shareholders and the organization.

Stern Stewart recommended that adjustments should be made to the financial accounting profit to derive an adjusted net operating profit. The typical adjustments include adding back noncash items and accounting adjustments, such as depreciation. This adjustment is made to arrive at a figure that is closer to cash generated. Other typical adjustments include research and development, marketing, and training. The underlying justification for adjusting these items is that they are an investment in generating future revenue streams rather than a charge against profits in the year in which they are incurred.

An adjustment is made to treat these items as investments, and therefore, added to the balance sheet. They are then written off over the period for which they are deemed to be generating revenue and, hopefully, profits. For example, a marketing campaign, particularly in the case of a new product, or indeed the research and new product development costs, may generate profits over a more extended period than one year. Therefore, it would seem logical that the associated costs should be written off over the same period to which they contribute to profits. EVA™ can be a difficult concept for nonfinance managers to understand the significance of the adjustments, therefore in practical terms, adjustments are made if:

- It is likely to have a material impact on EVA™
- Managers can influence the outcome
- The operating people can readily understand it
- The required information is relatively easy to track or derive

Example of EVA

Yana Pasclovichski, the financial director of Alarm Inc., is currently looking at the performance of the company and has been exploring Economic Value Added (EVA™) as proposed by the consulting firm, Stern Stewart, as a possible way of aiding strategic decision making as to which areas of the business to develop in the future. Alarm Inc. has three divisions that serve different customer groupings.

Yana has provided the figures and information shown in Table 10.4.

Table 10.4 Information extracted from financial accounts

	Industrial & Commerce	Public sector (State-owned)	Residential (including property developers)	Company Total
	$,000s	$,000s	$,000s	$,000s
Net operating profit before interest and taxation (per financial accounts)	2,300	1,800	400	4,500
Net interest payable	220	200	80	500
Taxation paid on ordinary activities	420	250	80	750
Net operating assets (Book value)	8,000	5,000	7,000	20,000
Costs already accounted for in arriving at the net operating profit above				
Depreciation	300	700	200	1,200
Research and Development	500			500
Marketing	1,000	600	400	2,000
Training	600	400	200	1,200

Notes:

- Assume the taxation shown represents tax paid
- Research and Development relates only to the Industrial & Commercial division
- Research and Developments costs are to be written off over 3 years
- Marketing expenditure should be written off over 2 years.
- Training costs will continue to be written off in the year in which it is incurred
- The weighted cost of capital has been estimated to be 10%

Using the information provided by Yana Pasclovichski, restate the results of Alarm Inc. to show the EVA of each division.

The results of the restatement are shown in Table 10.5

Table 10.5 EVA for the three divisions

EVA	Industrial & Commerce	Public sector (State-owned)	Residential (including property developers)	Company Total
Suggested solution	$,000s	$,000s	$,000s	$,000s
PBIT	2,300	1,800	400	4,500
Add back depreciation	300	700	200	1,200
R & D Add back this year	500			500
R & D write off 1/3 this year	(167)			(167)
Marketing Add back this year	1,000	600	400	2,000
Marketing Write off 1/2 this year	(500)	(300)	(200)	(1,000)
Training - no adjustment required				0
Adjusted profit	3,433	2,800	800	7,033
Taxation	(420)	(250)	(80)	(750)
NOPAT	3,013	2,550	720	6,283
Capital charge	(913)	(600)	(740)	(2,253)
EVA	**2,100**	**1,950**	**(20)**	**4,030**
EVA as percentage of adjusted net assets (capital employed)	23%	33%	0%	18%
Balance sheet elements				
Net Operating Assets	8,000	5,000	7,000	20,000
Add back depreciation	300	700	200	1,200
2/3rd R & D carried forward	333			333
1/2 marketing carried forward	500	300	200	1,000
Adjusted net operating assets	9,133	6,000	7,400	22,533
Capital charge at 10%	913	600	740	2,253
ROI for comparison (PBIT/cap employed)	29%	36%	6%	23%

The figures shown in Table 10.5 adopts the approach to the adjustments of first adding back the item as if it had not been deducted from profits, then writing off the appropriate element under the principle of EVA. The same effect can be achieved by showing the net impact of these adjustments.

The analysis indicates that residential customers are destroying value (which is a strong statement). In contrast, the public sector customers appear to be adding the highest value (in relative terms – 33%) to the business. This is a different picture to that shown by the traditional profit and loss statement. It should be noted that this is only one period, and ideally, previous periods should be restated before any firm conclusion can be drawn. Still, the analysis might redirect management's attention to different areas of the business when developing strategies.

10.7.1 Benefits and drawbacks of EVA™

Active reading: Note the reference to shareholder value. Think about whether this conforms to a stakeholder approach, or are the two approaches compatible?

EVA™ is said to have several uses that may be of interest to an organization. For example, it can be used to set organizational goals and, therefore, could feature as a performance measure and target on a balanced scorecard. It can be used to determine bonuses at a divisional and whole organizational level and maybe a way of motivating managers to increase economic value and hence shareholder value. It can also be used to value companies and determine equity investments by focusing on the value-added potential of the organization.

EVA™ also introduces an element of accountability to divisional managers for investment decisions that benefit the company in the long term. This approach encourages managers to think about long-term issues rather than attempting a short-term fix. It also makes managers think along the lines of shareholders in terms of adding value to the business.

However, as with most techniques, there are some issues that an organization needs to be aware of if thinking of using EVA™ as a performance measure. It is complex, and managers who do not have a financial background can also find it challenging to understand. Therefore there will be a requirement for training and support at all levels in the organization. As it is a single financial measure, it is best used as part of a multidimensional approach to performance management.

There is also a high degree of subjectivity in estimating the length of time that items such as research and development, marketing, and training continue to generate revenue streams and, therefore, the period over which they should be written off.

10.7.2 Key factors to consider when implementing EVA™

Active reading: Think about the role of the accountant if EVA is implemented.

Some key factors can be considered when implementing EVA™ as a key driver for performance management.

- It is essential to ensure that everyone in the organization understands the concept of economic value added and that there is an agreement on the definition of organizational success.
- The overall strategy may need reformulating to focus on adding value with a resultant review of strategic direction and priorities.

- The cost of capital needs to be calculated, and, in some instances, this can be a useful exercise for an organization. Often organizations are not aware of their cost of capital and, therefore, no real view as to the level of profit required to satisfy the capital providers who may be considered a significant stakeholder in many decisions.
- The use of external benchmarks is encouraged, which can benefit the organization by providing the incentive to improve.
- It can be used as targets for key employees, and indeed all employees, in viewing how they can add value. It can also be linked to a reward system.
- Introducing EVA™ may well involve a cultural change to focus employees on thinking about value-added, not just to shareholders but to stakeholders.
- There could be implications for the accounting system in that it will need to be adapted toward highlighting economic value added. It may, in some instances, require investment in information systems. To facilitate the use of EVA™ reporting, it is essential to avoid accounting complexity and keep it simple. There may also be a significant amount of training to undertake for managers to enable them to understand the concept fully.
- The value drivers need to be identified so that they become the focus of strategy and that the budgeting and strategic plans are fully integrated toward EVA™.

10.8 The issue of transfer pricing in divisional performance

Active reading: Note the different levels at which transfer prices can be established. Think about the implications for the motivation of managers and the perceived fairness of the system adopted.

The rationale behind transfer pricing is to identify where value is added within the internal value system, to aid the monitoring of divisional performance, and to assist managers with decision making that maximizes the economic benefit for the organization. Setting transfer prices that encourage efficient internal trading can be a crucial part of implementing a successful strategy and extracting the maximum value for the customer. It can have motivational implications for the managers of business units, particularly across international borders, and encourage goal congruency and the achievement of the overall strategy.

The need for transfer pricing typically occurs in situations where Division A manufactures a product that is used in a product or service offered by Division B. This can have an added dimension if there is an external market for the product manufactured by Division A. Figure 10.5 illustrates the dilemma of transfer pricing.

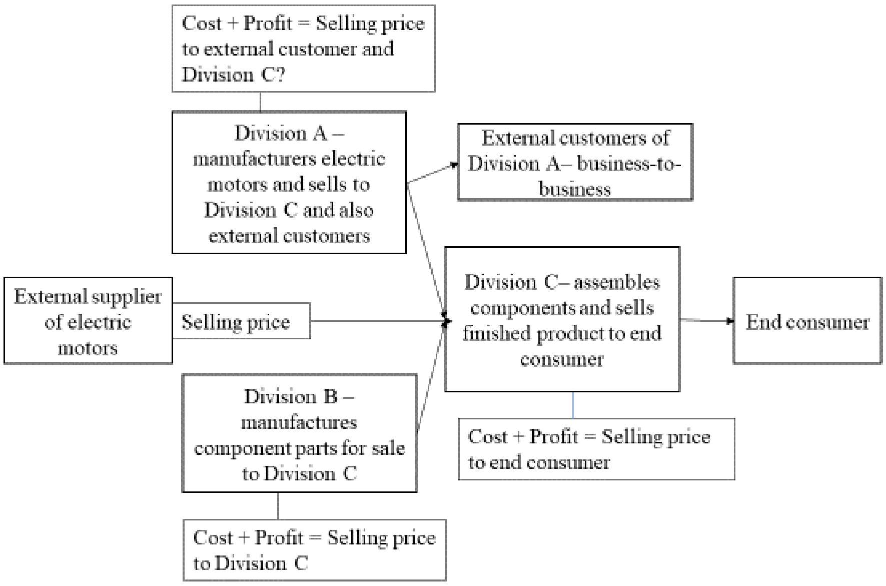

Figure 10.5 The transfer pricing dilemma

For example, an organization consists of three divisions. Division A produces an electric motor that it sells on the open market, but is also a component of the vacuum cleaner manufactured by Division C. There are also alternative motors on the open market that could be used by Division C. What price would encourage Division A to sell to Division C and motivate Division C to buy from Division A instead of buying from an external source? If Division A sells all its production to Division C, it loses the opportunity to sell to external markets. Should it charge the same price to Division C as it does to its external customers?

Division C also uses components that are manufactured by Division B. These components are only produced for internal use within the organization, and Division B does not sell to external customers. As this is purely an internal transfer within the company, should this be made a cost value, or should Division B be allowed to make a profit? As the transfer price from Division A and Division B represents a cost to Division C, the choice of transfer price could potentially affect the end price to the consumer and hence the profits of Division C. Transfer pricing can have a significant impact on divisional performance monitoring which is why managers often challenge and wish to negotiate the transfer price.

Figure 10.6 indicates the underlying cost structure and transfer price options for a product manufactured in Division A and transferred (sold) to Division C.

	$	$
Materials	X	
Labor	X	
Direct (marginal) cost		X
Add manufacturing overheads	X	
Full manufacturing cost		X
Add delivery costs	X	
Add sales & marketing costs	X	
Add administration costs	X	
Total cost		X
Profit margin		X
Sales price		X

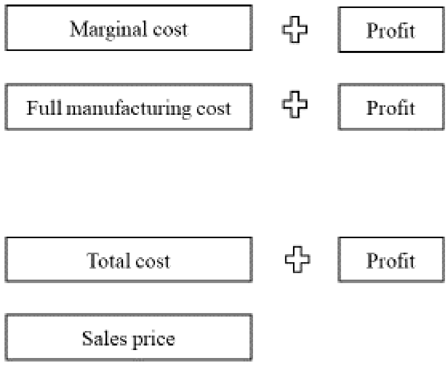

Figure 10.6 Basic cost structure and transfer price options

10.8.1 Options for transfer pricing

Marginal cost

In this instance, Division A recovers the direct (marginal) costs of manufacturing the product but is left with the manufacturing overhead. Division C would be more than happy to buy motors from Division A at this price.

Marginal cost plus

It could be argued that it is not fair on Division A just to receive the marginal cost, and leave it bearing all the fixed cost. Hence it could be decided to transfer the motors at marginal cost plus a percentage mark-up to provide an incentive and contribution toward the fixed cost. If this transfer price is less than the price of other motors available in the open market, Division C will be happy to buy from Division A.

Full manufacturing cost

Another method might be to transfer at full manufacturing cost. This enables Division A to recover the fixed costs of manufacturing. It is better to calculate the transfer price using a standard (or budgeted) cost as if actual costs are transferred; it does not encourage efficiency in Division A. Transferring the motor at actual cost means any inefficiency is transferred to Division C.

Full manufacturing cost plus

It is also possible to add a mark-up to the full manufacturing cost. Again, if this is less than the price of a competitor motor in the open market, it will still be beneficial to keep the business within the company and motivate Division C to buy from Division A.

Full market price

Another method is the use of market price. If, however, Division C could buy a product at a lower price on the open market, it might not be motivated to buy from Division A. Of course, the head office could insist that Division C uses Division A's motor and not allow it to buy on the open market. This policy, however, may demotivate Division C and create tension between divisions when, ideally, the divisions need to work together.

Adjusted market price

An argument could be made that if Division A sells to Division C, it saves on the direct selling costs; that is, it is an easy sale and could save on distribution costs. The market price could be adjusted, that is, reduced by the savings made on selling and distribution costs.

Negotiated prices

An alternative might be to allow divisional managers to negotiate a price between themselves. This process could, however, take time and be detrimental to the business if decisions are needed quickly, in which case, a policy that determines the price according to a prescribed basis is more beneficial.

All the above assume that Division A has spare capacity and can satisfy external customer demand and the requirement from Division C. However, as soon as Division A has limited capacity, and has a choice to make as to whether it sells to Division C or an external customer, the decision process changes. This is because in the situation of limited capacity, if a motor is sold to Division C, then Division A loses the opportunity to sell to an external customer. It raises the issue of a lost opportunity to sell at full market price to an external customer.

Opportunity cost

When Division A has spare capacity, the opportunity cost of producing one extra unit is the marginal cost, as this is the only additional cost to Division A of producing the extra unit. When, however, there is no spare capacity, Division A loses the contribution it would earn from selling to an external customer, on top of the marginal costs incurred. Therefore, the opportunity cost is the marginal cost plus the lost contribution. If Division A makes the transfer to Division C, the organization loses the contribution from the external customer, and therefore the preferred option is to sell externally. The only exception to this is where Division C can add more value to the motor as part of its product than Division A can generate in the open market for the motor on its own. The use of the opportunity cost enables the decision to be made based on the benefit to the organization.

Learning activity.

Division X manufactures and sells electric motors. The units can be sold in the open market for $150. They are also transferred to Division Y, which uses the units as a component in one of their products.

The following information has been extracted from the accounts of Division X.

	$000
Sales Revenue (100,000 units at $150.00 each)	**15,000**
Direct Manufacturing Costs	
Bought-in materials	4,500
Labor	2,875
Packaging	500
Indirect Manufacturing Costs	
Variable overheads	125
Line production managers	375
Depreciation	
Capital equipment	1,875
Capitalised development costs	750
Total manufacturing costs	**11,000**
Sales and Distribution Costs	
Salaries of sales force	625
Carriage	250
General Overhead	625
Total costs	12,500
Profit	**2,500**

Notes

1 The costs of the sales force and indirect production staff are not expected to increase up to the current production capacity.

2 Depreciation for all assets is charged on a straight line basis using a five year life and no residual value.

3 Carriage is provided by an outside contractor.

Activity requirement:

Calculate potential transfer prices for the electric motors if they are transferred at:

1. Variable production cost plus a mark-up of 10%
2. Full manufacturing costs plus a mark-up of 10%
3. Adjusted market price

Solution

Variable production cost plus a mark-up of 10%

$$\frac{(4{,}500 + 2{,}875 + 500 + 125)}{100} \; X \; 1.1 = \$88$$

Full manufacturing cost plus a mark-up of 10%

$$\frac{11{,}000}{100} x \; 1.1 = \$121$$

Adjusted market price

$$150 - \left(\frac{250}{100}\right) = 147.50$$

Note: it is assumed that carriage is variable, and the cost only incurred if an external sale is made.

10.8.2 Transfer pricing across international borders

Active reading. Note that when transferring across borders, there is a range of factors that need to be considered. It is often not as straightforward as it might seem.

When transferring products or services across international borders, other factors should also be considered, such as:

Tax regimes

Different tax regimes and the view of local tax authorities to cross-border transfers need to be considered, for example, rules on allowable costs to be transferred. Transfer prices should not be set to avoid tax as there is a legal and ethical argument that states organizations should pay their fair share of taxes if they are enjoying the benefits of local resources. There is, however, the opportunity to consider the configuration of global operations of an organization, that is, where different elements, such as production, are undertaken in overseas locations to reduce the overall tax charge incurred by a global organization.

Ethical considerations

The transfer price should be justifiable, and hence ethically calculated, and not just used to transfer profits between countries. However, there may well be an element of tax management within the decision.

Competitiveness

The degree of competitiveness of the overseas market needs to be considered; for example, the transfer price should not make the offshore unit uncompetitive by charging a high transfer price.

Motivation

The motivational aspect of transfer pricing also needs due consideration. Linked to the point above, local managers should feel that the price is fair and not just calculated for the benefit of a tax management policy by head office or political considerations.

Customers

The view of customers should be considered in that some may feel the organization inflates the price for no real reason, other than to make profits in an overseas location, that is, consumers are becoming suspicious. Customers in some markets are skeptical of foreign organizations charging higher prices in different markets. The recent tax avoidance scandals have heightened consumer awareness of transfer pricing issues, and therefore the likely response of consumers should be taken into consideration.

Local suppliers

The degree to which there are local suppliers of products that could supply the same product at a lower cost will affect the transfer pricing decision. In this instance, the differentiation and quality control aspects of the product could be a key factor in justifying a higher price than that available in the local market.

Currency risk

The currency in which the transfer is made, that is, who bears the foreign exchange risk. If the overseas receiving division carries the risk, this could make profits fluctuate for no controllable reason. The performance management of offshore locations needs to take account of economic and managerial performance. For example, in some markets, it may be that it is not management actions that are generating higher profits, but the economic conditions. Therefore, external benchmarks need to be made with other companies in the same sector in the same overseas market.

10.9 Benchmarking

Active reading: Note that benchmarking is a learning exercise, not a copying exercise.

Video link [Benchmarking](https://www.youtube.com/watch?v=1WklEK9zwyU)

[https://www.youtube.com/watch?v=1WklEK9zwyU]

Benchmarking is a means of comparing the performance of an organization (or individual or subgroup) with another with the aim of learning and making improvements. Whether following a strategy of cost leadership or differentiation, making continuous improvements to reduce costs or enhance the elements of differentiation can contribute to the sustainability of the competitive strategy, and hence the strategic management process. It is important to note that it is not just a copying exercise, as the context in which the improvements are being implemented needs to be considered. For example, if the management of an organization were to benchmark performance against a much larger competitor, the competitor may enjoy economies of scale that the organization will not be able to match. So, just copying the practices of others may not yield any benefit unless it is tailored to the organization's particular situation.

10.9.1 Uses and benefits of benchmarking

Active reading: Think of other techniques and models where benchmarking can contribute, such as generating initiatives in the balanced scorecard perspectives, lean accounting, improving the value creation systems, divisional performance, and so on.

Benchmarking can also be used as a means of developing new initiatives that can be implemented as part of a balanced scorecard approach to performance management. Also, concerning competitors, it can aid the determination of strengths and weaknesses as part of the corporate appraisal or SWOT analysis. Therefore, the process and outputs of benchmarking exercises can be used in conjunction with other techniques to aid the development of strategy and the achievement of objectives.

One of the key advantages of benchmarking is that it can aid in setting aspirational targets that are linked to strategy, particularly if used as part of the initiatives within the balanced scorecard. It could be important for organizations that are experiencing poor performance and need to improve. It can also encourage innovation, something that is becoming more important for most industries in the future. It can also help to motivate employees via the use of targets but also because benchmarking involves all employees. It is not a process that is undertaken in isolation but should be inclusive and engage employees at all levels.

10.9.2 Difficulties of Benchmarking

Active reading: Think about how difficulties can be overcome.

There are, however, difficulties that organizations need to be aware of when undertaking benchmarking exercises. If targets are set and continuously missed, it can have the opposite effect of motivating employees but can demotivate them. Under certain forms of benchmarking, for example, competitor benchmarking, there is a danger of disclosing confidential or commercially sensitive information to gain some benefit from the exercise, that is, there may be a temptation to reveal too much information. The danger of just copying what others do is also a temptation without taking the time to assess how best to implement an improvement in the organization's particular context; that is, management becomes focused on the benchmark itself rather than learning from what they have found. Benchmarking also carries the assumption that suitable partners can be found with which to benchmark.

10.9.3 Classification of benchmarking

Active reading: Note that there is a need to be clear about what it is that the benchmark is measuring and comparing rather than worrying about under which classification the exercise falls.

There are many general classifications under which benchmarking is considered. These include internal and external, formal and informal, as well as others. However, the typical types of benchmarking that might be appropriate for any organization are as follows:

Internal

Internal—comparing one operating unit or function with another in the same company, for example, one retail outlet against another, or one production unit against another. However, it is essential to be aware that outlets in different parts of the country may be affected by various factors within their local context, although the operations may be the same.

Functional/activity or best practice

Functional/activity or best practice—internal functions are compared with the best external practitioners regardless of industry. For example, inventory control with a supermarket, booking systems with a travel agent, hotel, theatre, or airline, or even comparing systems of crowd control movements between an airport and sports stadium when passengers disembark from the planes and the final whistle blows at a football match.

Competitor

Competitor—benchmarking against competitors. The best comparison is against the direct competitors, but we need to be careful that it is a meaningful comparison, so factors such as the size of organization, the geographic markets in which they operate, and so on, need to be considered. Also, this tends to be appropriate for aspects that can be benchmarked via publicly available data, for example, product ranges, prices, and so on.

Strategic

Strategic—aimed at strategic action and organizational change, for example, launching a new product, or product development. Even benchmarking against organizations that have successfully turned around a loss-making position to one of profitability could be a possibility for organizations that are performing poorly.

Industry

Industry—there may be industry standards that can be utilized; for example, many industries have trade bodies that collect and anonymize data to produce industry benchmarks that could be used for comparison. The university sector is an industry about which there is much information provided by various bodies about universities and colleges that can be used for comparison.

10.9.4 Stages of a benchmarking exercise

Active reading. Note that the accountant may be part of a benchmarking team that undertakes various projects. Think of the skill set that is required for a benchmarking exercise and how the accountant can contribute to the various stages.

There is no one definitive process for benchmarking, but a typical series of stages that an organization could follow are outlined below:

1. Establish benchmarking objectives—it is vital to have a clear idea of what it is that the management team wishes to achieve and what aspects of the business it is benchmarking.
2. Establish mixed-skills benchmarking team—benchmarking is inclusive and is not undertaken just by accountants. A team of people with a mix of skills and knowledge of the area is usually required. It also facilitates a sharing of knowledge and understanding within the company.
3. Develop relevant KPIs—the performance indicators must be developed before collecting data as this determines what data is required. It is also essential to recognize that the data must be available from both parties if benchmarking with another organization.
4. Choose an organization or business unit against which to benchmark—choosing an appropriate benchmarking partner is important as the benchmark must be meaningful and one from which the management team can learn. Also, if external, the partner will wish to learn from the exercise as well, that is, mutual benefit.
5. Measure its own and partner's performance—the stage of measuring the performance of both parties on a comparable basis.
6. Analyze data and discuss results—once collected, the data needs to be analyzed. It should also be recognized that the reason why there are differences in performance needs to be discussed as this may not always be apparent; that is, the management team needs to understand the "why" behind the difference.
7. Implement change—any improvements that could be made need to be implemented, which brings into play change management issues as employees need to be included in the process.

8. Monitor improvements—the impact of changes needs to be monitored, and often this is not immediately apparent as to why performance has or has not improved, particularly if several things have been changed as there may not be a direct link.
9. Publish success—an important step often overlooked is to publish the success of the exercise as this can act as a motivating factor for employees.

Learning activity. Think of an organization with which you are familiar and give an example of each type of benchmarking that could be undertaken.

10.10 Behavioral aspects of performance management

Active reading. Note the significance of considering the behavioral implications when establishing performance measurements.

An aspect of performance management that we should not forget is that organizations are made up of people, and performance measurement may be subject to behavioral implications, or behavioral displacement. For example, there can be a tendency to depress bad news and focus on the positive aspects of performance or manipulate performance measures to look good.

Behavioral aspects occur in setting, measuring, and interpreting performance targets. For example, creating slack resources within the budget or setting soft targets. In situations where it becomes known that senior management will ask for the expense budget to be reduced, there can be a tendency to inflate costs knowing that it will be cut later. It is essential, however, that the managers responsible are actively involved in the budget and target-setting process, in line with strategic objectives, as this will ensure their buy-in to the targets set.

Managers may undertake gaming activities; that is, focus on those areas they know are being monitored closely to the detriment of other areas. In some instances, this can lead to suboptimal behavior as managers pursue a narrow range of objectives. Sub-optimal behavior can occur in situations where managers' focus on local objectives, such as their divisional return on investment target, perhaps where this is linked to a personal bonus. Behavior such as this could be detrimental to the organization as a whole.

Presenting a biased message can occur in reporting performance or interpreting results, where information is presented in a positive light by filtering out bad news and focusing on the message the recipient wants to hear. Care must be taken in choosing the performance measures as this can also create sub-optimal behavior. For example, in health care, focusing on reducing bed occupancy rates may encourage hospitals to send patients home earlier than usual, which reduces the days a patient occupies a bed. However, if the patient is readmitted later due to becoming ill again, this is a new admittance, and the bed occupancy for the second admittance starts from zero. Therefore the occupancy rates can remain artificially lower, but the patient recovery takes longer.

Behavioral aspects can emerge throughout the whole performance management process, hence their significance in the design and operation of management control systems. The best type of performance measure is one that is understood by all involved, is seen to be fair, and is equitable and can be monitored cost-effectively. When performance is linked to reward systems, it can present problems if seen to be unfair. When linking reward and pay, there are several roles that the performance measurement system performs.

10.10.1 Roles of performance measurement in reward systems

Informational

Informational, that is, the performance measure used sends a signal to employees that management is focusing on an aspect of performance, and employees will direct their efforts toward ensuring that performance is excellent.

Motivational

Motivational, that is, the measure used acts as a motivator for employees. However, note that performance requires more than just motivation; for example, it also requires the resources to do the job. Pay is frequently linked to performance and is intended as a motivator. Not all employees, however, are motivated by money to the same extent, and motivation is not the only element of excellent performance. For example, an employee may be highly motivated, but if they do not have the resources to do the job, then any amount of motivation will not help.

Attracting personnel

Regards can be personnel-related in that the performance measures used can attract certain types of an employee to the organization. For example, if a sales force is paid a low salary but a high performance bonus it will attract people who are confident of their ability.

Non-control purposes

Rewards can be used for non-control purposes. For example, where pay is linked to organizational performance, perhaps via a “share-of-profits bonus scheme”, the amount of the bonus, and hence the amount of cash required, will be less in poor performing years and can smooth remuneration payments to match the earnings of the organization.

The key to performance management systems is to match the objectives of employees with those of the organization, which will aid in the implementation and achievement of the strategy.

10.11 Summary

Management accounting can support multidimensional performance management in the following ways:

Balanced scorecard

Aiding the development of a balanced scorecard or multidimensional approach to performance measurement, particularly in respect of crystallizing objectives into quantifiable performance measures.

Data collection

Ensuring that the accounting systems can collect the data required to monitor performance in a meaningful and comparative format that is understood by managers.

Interpretation

Providing support in interpreting the performance measures and their implications for the achievement of the strategy.

Evaluation

Assisting in the evaluation of divisional performance to ensure that divisions are motivated to achieve organizational performance and to avoid the incidence of dysfunctional behavior. This is significant in the establishment of transfer pricing regimes.

Transfer pricing

Advising on the transfer to be established between internal divisions or departments for the benefit of the organization. Providing training for managers and overseeing the transfer pricing system.

Benchmarking

Contributing to the process of benchmarking by providing financial input and expertise in performance measurement to benchmarking teams.

10.12 Review questions

(1) Why is it important to use a system of multidimensional performance management rather than just focusing on financial performance.
(2) Critically evaluate the balanced scorecard as a performance management system.
(3) Discuss the factors to be considered when comparing the performance of different divisions within a global organization.
(4) Critically evaluate the concept of economic value added (EVA^{TM}).
(5) Discuss the various forms of transfer pricing and their merits in relation to encouraging trade between divisions or departments within an organization.

(6) Discuss the considerations to be considered when establishing prices for transferring goods between divisions within an organization across international borders.
(7) Describe benchmarking as a means of making improvements to existing operations and the steps in undertaken a benchmarking exercise.
(8) Discuss why potential behavioral implications should be considered when establishing performance measures.
(9) Critically evaluate how management accounting can support performance management.

10.13 Case study activities 19 -24 – HW Inc.

The following activities refer to the HW Inc. case study in Appendix A of this learning resource.

Case study activity 19 – HW Inc. Balanced scorecard

Timothy Kinder (Non-executive director) has suggested that the balanced scorecard, as developed by Kaplan and Norton, would be an appropriate model with which to monitor the performance of the company in the future.

Activity requirement:

(a) Critically evaluate how the balanced scorecard model, developed by Kaplan and Norton, will assist the management team of HW Inc. in assessing the company's performance.

(b) Illustrate for each business unit described below suitable objectives, performance measures, and initiatives that could be used as part of a balanced scorecard approach to performance management. [Note that you do not need an initiative for every objective. Usually, one per perspective is appropriate to illustrate your understanding].

HW Inc Retail stores

The retail stores are mostly high street stores, although HW Inc. is planning on opening an out-of-town store in China where it has already been relatively successful with a small store in a 'shopping village'. A shopping village is an out-of-town location where retailers have small outlets that are often devoted to selling end of season goods and disposing of surplus inventories. These are normally sold at a discounted rate to the latest products available in their high street stores.

The retail stores have not been as profitable in recent years as the market has become extremely competitive, and customers are becoming more sophisticated and demanding in their expectations. One way in which HW Inc. has attempted to compete is always to offer the latest products. This makes inventory obsolescence an issue, as judging the amount of inventory to hold to satisfy customer demand, without having massive inventory write-offs, can be difficult.

This is a problem in the clothing market where products are seasonal, for example, summer range, winter range, and so on. This sector is also heavily influenced by the latest fashions. However, a new inventory management system is helping with the problem. The growth of the 'click and collect' service is working well and, along with online sales, is set to grow in the future in all product groups.

The use of concessions (companies that effectively rent space in the HW Inc. stores) also enables HW Inc. to provide a wide range of products to its customers. HW Inc. plans to try and increase the number of concessions in the next few years as it shares some of the risks between the partner companies. However, HW Inc. does not want to diminish the HW brand as they also plan to continue to develop and sell their own brand products. They also wish to retain their manufacturing capability as this provides a useful diversification from retailing and enables more control over the quality of certain product lines in which they have a manufacturing capability.

Clothing sales have been slowing in recent years, but the furniture sales are strong. The electrical goods market is highly competitive, particularly the audio-visual and kitchen aids ranges. The increased competition in the specialist electrical goods retailers has also hit the departmental stores such as HW Inc., along with the need always to offer the latest products highlighting the need for proper inventory management.

HW Inc. Interior Design

HW Inc. Interior Design has a range of corporate clients as well as retail customers. The design team copes with a variety of projects from single room design such as kitchen design for residential customers, to working with property developers and architects on both commercial and residential large-scale projects. They source products used in their designs from HW Inc. and several other companies. They have a large amount of autonomy over which products to recommend and are not necessarily tied to HW Inc. However, they always consider HW Inc. products and recommend them where they are suitable. This helps the HW Inc. research and development team, who look after the HW Inc. product range, as the Interior Design division can gather and feedback information about the products of other manufacturers, and also customer trends.

The Interior Design team are keen to expand their business and are looking to increase the number of corporate clients. In particular, they plan to target the state-owned and education sectors over the next few years. To do this, they will need to expand their design team and recruit additional staff with appropriate experience in those sectors.

HW Inc. Financial Services

The Financial Services division is seeking to increase the number of credit card customers over the next few years and is also planning to diversify into insurance products. The division already offers extended guarantees and insurance on products sold in the HW Inc. stores, particularly on electrical goods, such as fridges, washing machines, T.V.s, and computers. The management team is thinking of expanding into life insurance, travel insurance, car insurance, and home and contents insurance. This is a competitive market, but they believe that the volume necessary to breakeven on these products could be achieved if they can attract existing HW Inc. customers and build on the reputation of the HW brand. It will then provide a stable platform on which to expand the business in the future.

More recently, they have seen the administration costs increase, and the management team have highlighted this as an area where improvements could be made, perhaps via a benchmarking exercise. They also recognize that an increase in business will require an increase in qualified staff, and by adding a range of new products, it will create the need for additional training of the existing team.

HW Inc. Product development and manufacturing

This division has seen material costs increase in recent years, and they are looking at the supplier relations to see if any savings can be made on the cost of materials. The division does not see a significant increase in business over the next few years. Still, it is seeking to maintain volumes at existing levels to retain the manufacturing capability, and within this to keep the product range up to date. It means replacing existing product designs with more up to date designs rather than developing entirely new product ranges.

They see the next few years as being a consolidation of the division. Control of costs will be essential and reviewing manufacturing methods is seen as part of that process, but they do not intend to spend a lot of new capital investment in plant and equipment. They feel that there is scope to improve in areas such as waste management, energy costs, productivity, and inventory management.

Case study activity 20 – HW Inc. Critical success factors and performance management

HW U.K. is planning to expand its stores in the north of the country. The management team of the HW U.K. subsidiary believes that there is scope to increase its overall sales by tapping into some of the U.K. Government's initiatives to stimulate the northern economy and, as the regional politicians call it, create a northern powerhouse.

Currently, HW U.K. is well known in the south of the country, and, based on their experience, the management team realizes that finding the right strategic location is a vital part of success on the high street. Also, enjoying economies of scale from the size of operation can aid cost management, and having the backing of a large parent company, which can provide finance, also aids success.

Citigroup is a retail company that owns nine of the top 20 retail locations in the U.K. HW U.K. has a store in the Citigroup held shopping center in Eldon Square, Newcastle upon Tyne (see Figure 10.7) and in the Citigroup Braeland, Glasgow (Scotland) center. HW U.K. has been in talks with Citigroup and understands that Citigroup is also keen to expand its presence in the north, as well as increasing its overseas locations. Currently, Citigroup has locations in Spain.

Citigroup offers shopping amenities that generate high footfall (the numbers of shoppers that enter a particular store) and long dwell times, that is, encouraging potential customers to spend a long time in the shopping center due to the other amenities that are on offer, such as food, and leisure activities. Both footfall, as well as purchase conversion rates, (which is the number of shoppers that enter the store who purchase products), are crucial to retail success, particularly when competitor stores are also present in the retail centers. This is highly likely as the shopping centers occupy large sites with thousands of square feet of retail space.

Citigroup offers security, cleaning, environmental and technical services to their retail tenants and is proud of their occupancy rates; that is, they have a remarkably high percentage of retail units occupied in their shopping centers. It does not look good or inspire customers if the shopping center has many empty retail units. The centers are equipped with the latest CCTV technology that monitors people entering and leaving the centers, and movement around the centers. The CCTV also monitors people moving and into and out of stores. The statistics are available to retailers. Marketing research indicates that store layout is also a critical factor in selling goods, and Citigroup can help with advice to new retailers.

HW U.K. has commissioned some marketing research to identify critical factors that will help the success of a store. The marketing research company has provided a preliminary report which included some interesting measures that they had identified.

The marketing research company has looked in detail at one of the successful HW U.K. stores in the south of the country. The store in question is located in Bournemouth, a seaside town. This is because the marketing research company had done some research for the local authority in Bournemouth and already had some general data about the area. They also did a detailed study of the HW U.K. store in Newcastle and of a significant competitor of HW U.K., which has a strong presence in the North of the U.K.. The competitor does not have a store in Newcastle, so a store in Manchester was used as the comparison site (see Figure 10.7). The information in Table 10.6 shows data for the three stores.

Activity requirements:

(a) What are the critical success factors for new stores?

(b) Based on the information provided, comment critically on the comparisons provided by the marketing research company. [Points to consider include: How useful are the comparisons to the management of HW U.K. in deciding on the success criteria for a successful store in the North of the U.K.? Are there any reservations, concerns, or questions you have about the comparisons provided? What could HW U.K. do to improve the performance of its existing store in Newcastle? When undertaking this activity, do not be afraid to use your own experience of shopping centers or common-sense reasoning in thinking of ideas.]

Table 10.6 Performance data collected by the marketing research company.

Measure	HW Bournemouth Located in the High Street in a building owned by an independent property company	HW Newcastle Located within the Citigroup Newcastle shopping center	Typical major competitor store located in the Citigroup Trafford center Manchester
Customer satisfaction score out of 10	7.8	6.7	8.0
Passing trade – average number of people entering the shopping center per day	10,000	15,000	20,000
Footfall – average number of people entering the store per day	1,500	2,000	4,000
Point of purchase – average number of purchases made in-store per day	400	450	1,000
Annual sales from the store	£8.76m	£8.0m	£9.7m
Annual cost of goods sold from the store	£6.12m	£5.92m	£6.79m
Average value of click and collect sales per annum	£0.087m	£0.16m	£0.388m
Closing inventory value at the end of the last financial year	£1.04m	£1.776m	£1.058m
Number of employees in the store	292	316	275
Square foot of retail space in store	40,000 sq ft	45,000 sq ft	50,000 sq ft
Average number of product ranges stocked in store	25,000	26,000	15,000
Annual cost of wages for store staff	£4.38m	£4.538m	£3.947m
Opening hours of store	9:00 - 17:00 Mon – Sat 10:00 – 16:00 Sun	9:00 – 17:30 Mon - Sun	8:30 – 18:00 Mon – Sun

Annual rental cost of the property (includes all establishment costs such as security, cleaning, maintenance, energy costs)	£10m	£9m	£10.5m
Unemployment rate in the region	1.8%	8.1%	7.4%
Population growth in the region p.a.	1.6%	2%	3.2%
Percentage of population of working age in the town	62.6%	68.5%	66.0%
Average annual income of population in the region	£24,300	£20,862	£21,623
Average family household size	2.18	2.4	2.35

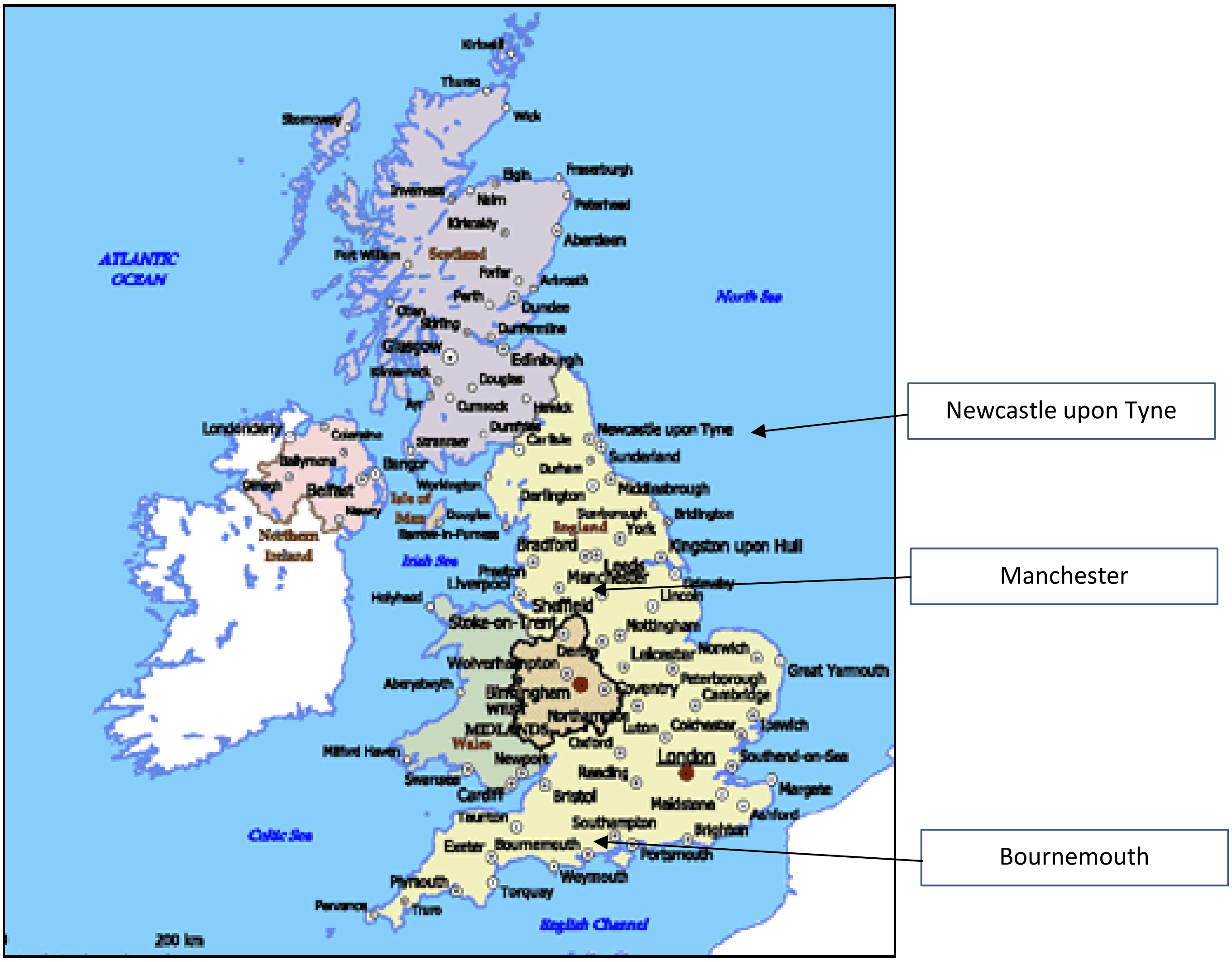

Figure 10.7 Map of U.K. – note location of Bournemouth, Newcastle upon Tyne, and Manchester.

Case study Activity 21 – HW Inc. Economic value added

The senior management team (C-suite) of HW Inc. are understandably concerned about the loss in 2020 and the potential continued loss in the 2021 financial year. Michael Holding, a non-executive independent member, has suggested that HW Inc. should adopt the method of performance reporting known as economic value added (EVA^{TM}). He explained that it was developed by a firm of consultants, Stern Stewart, primarily as a way of measuring and incentivizing senior executive performance, as well as benefiting the whole organization. The focus is on shareholder value added, which he explained becomes a core part of the company culture.

He has suggested that using EVA^{TM} could be beneficial for HW Inc. in identifying those parts of the business that add the most value. The Finance Director has asked you to investigate in more detail. Information is provided in Table 10.7.

Activity requirements:

(a) Critically evaluate the benefits and limitations of the Stern Stewart Consulting organization's EVA™ model.

(b) Illustrate how EVA is calculated by restating the results of the Products and Interior Design areas of business using the figures and information provided below.

(c) Comment upon your results and state any reservations you have about the analysis

Table 10.7 Extracts from profit and loss and balance sheet relevant to EVA calculation

	2018		2019		2020	
	Products	Interior Design	Products	Interior Design	Products	Interior Design
	$m	$m	$m	$m	$m	$m
Profit/(Loss) before interest and taxation	188.4	332.5	278.0	274.4	(91.5)	317.6
Taxation paid	45.0	79.4	67.6	66.7	5.4	67.4
The following costs have been extracted from the accounting information and were charged to the profit and loss account as an expense						
Depreciation	160.3	57.3	144.2	51.5	91.0	32.5
Research and Development	247.9	144.6	147.2	85.9	154.3	90.0
Marketing	322.8	271.8	234.8	177.7	222.3	158.8
Training	31.4	26.4	18.2	13.7	18.0	12.9

Balance Sheet information						
Net Assets	9,316.1	3,583.1	9,611.2	3,696.6	10,046.4	3,864.0

Notes:

Research and Development costs are to be written off over 3 years

Marketing costs are to be written off over 2 years

Training costs are to be written off in the year in which they are incurred.

The cost of capital of 6% is assumed.

Taxation is the actual taxation paid in each year.

Case study activity 22 – HW Inc. Transfer pricing

The Interior Design business of HW sells its services to customers of HW Inc. The division operates as a profit center and is free to recommend the best furniture, lighting, and kitchen units, etc., to suit the needs of the customer. The way it operates is to essentially purchase the units from the other divisions of HW Inc., either the factory or the stores, which it then sells to the customer, adding its own design fee to the total price. There is a type of extractor that the HW Interior Design division uses in its kitchen design. This device extract smells as well as steam.

The unit is manufactured by a small factory that HW Inc. acquired last year. Recently a dispute has arisen between the factory and the Interior Design management about the cost that the factory wants to charge the Interior Design division for the unit. The factory is confident that it can sell 100,000 units into the external market and has a capacity of 120,000 per year, so it can sell 20,000 units to the Interior Design business without affecting its own demand for external sales. However, the Interior Design business would like to buy 30,000 units. The factory believes that because of the superior quality of the product compared to its competitors, it will eventually be able to grow its external sales to the full capacity of 120,000 units within two years.

The factory division has offered to supply the Interior Design division 20,000 units at a transfer price equal to the normal selling price, less the variable selling and distribution costs that it would not incur on this internal order. The Interior Design division responded by offering an alternative transfer price of the standard variable manufacturing cost plus a 20 percent mark-up on cost. The two divisions have been unable to agree, so the operations director of HW Inc. has suggested a third transfer price equal to the standard full manufacturing cost plus a 15 percent mark-up. However, neither divisional managing director regards such a price as fair.

The information provided in Table 10.8 related to the factory forecast for next year.

Table 10.8 Factory forecast for next year.

	$,000
Sales Revenue (100,000 units at $240.00 each)	24,000
Direct Manufacturing Costs	
Bought-in materials	7,200
Labor	4,600
Packaging	800
Indirect Manufacturing Costs	
Variable overheads	200
Line production managers	600
Depreciation	
Capital equipment	3,000
Capitalized development costs	1,200
Total manufacturing costs	17,600
Sales and Distribution Costs	
Salaries of sales force	1,000
Carriage	400
General Overhead	1,000
Total costs	20,000
Profit	4,000

Notes

4. The costs of the sales force and indirect production staff are not expected to increase up to the current production capacity.
5. Depreciation for all assets is charged on a straight-line basis using a five-year life and no residual value.
6. An outside contractor provides carriage.
7. Note that the factory has the capacity to produce 120,000 units per year.

The information above relates to the factory. The product can be sold in the open market for $240. However, it is used within the Interior Design kitchen designs and therefore has an "internal market" within HW Inc. There is a similar product of inferior quality in the open market that sells at $180. At the moment the division has spare capacity but, as mentioned earlier, the management of the factory believe that they will be able to sell many more in the external market in future years and therefore may not be able to supply all of the Interior Design business needs in the future if capacity remains at the same level.

Activity requirements:

(a) Calculate the three alternative transfer prices suggested by the managers.

(b) Advise management on the transfer price to charge if there are no capacity constraints in the factory; that is, it can satisfy all demand from external customers and Interior Design.

(c) Assume that there is now a capacity constraint in the factory and that they can only manufacture enough to satisfy the external customers. What should be the transfer price to Interior Design that would be in the best interests of the company as a whole?

Case study activity 23 – HW Inc. Benchmarking

Activity requirements:

(a) Critically evaluate benchmarking as a technique for improving the profitability of HW Inc.
(b) Provide advice to the management of HW Inc. on the types of benchmarking that could be used. Illustrate your answer with examples of areas of the business or activities that could be benchmarked.
(c) Provide advice on the stages of conducting a benchmarking exercise in the context of HW Inc.
(d) What other models and frameworks have you studied where benchmarking could be used to aid the analysis.

Use the information provided on previous activities for performance management (activity 20) and the balanced scorecard (activity 19) to help think of appropriate examples of benchmarking for HW Inc.'s various business activities.

Case study activity 24 – HW Inc. Divisional performance RoI and R.I.

(This activity is based on an old professional body examination question)

HW Inc. Product Development and Manufacturing (PDM) subsidiary division is organized on business units that operate in different countries, that is, they primarily manufacture for the local retail stores in the country, but allows HW Inc. to source products globally, and to maintain a production capability in most of the continents in which it operates. Where possible, they try and supply locally.

The management of the division assesses the performance of its business units in different countries based on a target return on investment (ROI) of 10% (having set this target some time ago in the belief that it is a good estimate of the cost of capital in the division). Overall, the subsidiary division seldom achieved a 10% return, but one of its business units – the Indonesia PDM Business Unit – which is a small unit, has repeatedly surpassed target performance, as shown in Table 10.8.

Table 10.8 – Performance of PDM business unit

Year	ROI
2020	22%
2019	20%
2018	20%
2017	18%

Table 10.9 shows the most recent results for the Indonesia PDM Business Unit.

Table 10.9 Recent performance of PDM division

	Rp,m	Rp,m
Revenues		540,000
Cash operating expenses	400,000	
Depreciation	41,000	
		441,000
Direct Business Unit Profit		99,000
Business Unit Assets:		
Opening balance		450,000

Currency is in Indonesian Rupiah and is shown in millions

Early in 2020, the Research and Development Division of HW Inc. head office was asked by the Indonesia PDM Business Unit to evaluate the development of a new product range targeted at the Indonesian market. The product has incredibly good prospects and is now nearing the end of its development phase. As further development and introduction of the new product would cost Rp90,000m, the HW Research and Development head office team believes that Indonesia PDM should now take the project on board and reimburse the initial development costs amounting to Rp30,000m. However, Indonesia PDM Business Unit management is reluctant to pursue the project further because their forecasts and computations show that the project is unlikely to produce returns of greater than 20% per annum.

Indonesia PDM estimates confirm that the new product would require an additional investment of Rp90,000m and that this would generate additional revenue of up to Rp150,000m per annum over seven years. Operating expenses are estimated at Rp118,500m per annum and are exclusive of depreciation. HW Inc.'s internal group accounting practice is to depreciate total expenditure on projects (inclusive of development costs) over the life of the project using the straight-line method.

The senior management team (C-suite) at HW Inc. was surprised by Indonesia PDM's rejection of the project because of their belief in the market prospects of the new product. To advise the senior management team at HW Inc. head office, you are required to analyze the situation as follows:

1. Make calculations to confirm (or otherwise) whether the investment in the new product is desirable for HW Inc., that is, the company as a whole. Would the Indonesian division take a different view of the cash flows to be included, and what might their decision be? *(i.e., Calculate NPV using relevant cash flows, first from the viewpoint of the head office, and secondly from the perspective of the Indonesian division).*

2. Calculate Indonesia PDM Business Unit's Return on Investment (ROI) and Residual Income (R.I.) for (a) existing operations, (b) the new product, and (c) combined operations.
(Use a table for this purpose with (a), (b) and (c) as column headings, and ROI and R.I. as rows).

3. Make recommendations to the senior management team at HW Inc. head office and comment on the results of the two measures of divisional performance measurement. State which of the ROI or R.I. methods you would recommend.

10.14 References

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CHAPTER 11 - Sustainability and performance management

11.1 Introduction

Sustainability is becoming increasingly significant for all organizations and an essential aspect of strategy formulation and strategic choice, as well as a potential source of competitive advantage. There is pressure from a range of stakeholders for organizations to adopt a sustainable strategy, and accountants are well placed to assist organizations in achieving their sustainability objectives.

The International Federation of Accountants (IFAC, 2016: 4) states in its report on the 2030 agenda for sustainable development – a snapshot of the accounting professions contribution, that: “the specific professional skills of accountants – including in governance, risk management, and control, business analysis, and decision support, which involves measuring, reporting and providing assurance on financial and non-financial data – will become increasingly in demand as the Sustainable Development Goals gain traction.” The sustainable development goals are a reference to the 17 SDGs set out in the ‘2030 Agenda for Sustainable Development,’ adopted by all United Nations Member States in 2015 (https://www.ietm.org/en/EU-2030-Agenda), which provides a shared blueprint for peace and prosperity for people and the planet, now and into the future.

11.2 Learning outcomes

After studying this chapter, you will be able to:

- Understand and explain the concepts of sustainable development and sustainability
- Understand and explain the motivation for organizations adopting sustainable practices
- Critically evaluate the contribution of environmental management accounting to the achievement of sustainability objectives
- Appreciate how the qualities of accounting systems make it appropriate for accountants to coordinate monitoring and reporting of environmental data and information
- Critically evaluate the approaches to incorporating sustainability into a system of multidimensional performance measurement

11.3 What is sustainable development?

Active reading. Note that sustainable development is not a new concept. It has been a concern for several years. Also, note that the definition of sustainability is much broader than just being environmentally friendly.

Two definitions help us understand what is meant by sustainable development and sustainability.

- Sustainable development is defined by the United Nations World Commission on Environment and Development as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987).
- Sustainability refers to the long-term maintenance of systems according to environmental, economic, and social considerations (Elkington, 1994; Crane and Matten, 2004).

11.4 Why be sustainable?

Active reading. Note the key motivators for organizations adopting sustainable practices. Think about why the external motivators are still important?

Ideally, the motivation for being sustainable would come from inside the organization and be a part of its normal strategic planning. There are considerable pressures from a wide range of stakeholders that make sustainability an essential element of consideration in the products and services offered and the method of operations that make it difficult to ignore. More and more organizations realize the benefits of adopting sustainable practices, not just for the cost savings, such as reduced energy usage and wastage, but in satisfying a growing demand for a more sustainable lifestyle by the consumers.

There are, however, accusations of organizations adopting the practice of "greenwashing" where information is provided about products, services, and operations that make the organization appear to be more concerned and proactive about sustainability issues than it really is. This practice has prompted the emergence of organizations such as The Greenwashing Index, which was created by the University of Oregon in partnership with EnviroMedia Social Marketing and allows examples of greenwashing to be uploaded and rated by the public.

There is a considerable way to go before all organizations embrace sustainable development as a norm, and some would argue that many consumers, and society in general, still need to be convinced and encouraged to adopt a more sustainable lifestyle. Brand managers are, however, now finding that where they used to argue that although consumers say they want sustainable products, they don't actually buy them at the checkout, there has been a steady increase in the purchasing of sustainable products (Kronthal-Sacco et al., 2019). Also, over the past few years, there has been a growing amount of evidence that suggests that adopting sustainability as a vital part of the strategy can improve financial performance rather than just adding to cost (Whelan and Fink, 2016). Although this is helping to convince organizations of the benefits of sustainability, external motivations are still acting as the key driver for the adoption of sustainability practices.

External motivations for being sustainable come from organizations, such as regulatory bodies, governments, and public pressure groups (Rodrigue et al., 2013). Professional accounting bodies are included among those promoting the reporting of sustainable practices, and corporate governance codes are requiring an increasing amount of information to be published concerning sustainability issues. Consumer groups are actively promoting topics such as the use of sustainable materials, recycling, and products made from recycled materials. Governments in developed countries are prepared to legislate and levy taxes to discourage the use of materials and sale of products that are harmful to the environment. The need to be seen to be sustainable can be a significant influence on strategy development and strategic choices. Many organizations now produce an annual corporate social responsibility report demonstrating their commitment to sustainability and include sustainability objectives within the strategic plan. Indeed, in some instances, it is the source of competitive advantage or differentiating factors.

Learning activity. What significance do you personally give to the sustainability of the products you buy and the organizations from which you buy? Do you think that being sustainable will still be the basis of a differentiating factor in five years?

11.5 Environmental accounting

Active reading. Note the suggestion for an environmental management system and a databank of environmental performance data. Think about how this could be incorporated into a strategic accounting system descried by Brouthers and Roozen (1999) in Chapter 2 of this learning resource to support sustainability objectives. Also, note the range of accounting techniques covered in this learning resource that can be used to support sustainability.

Rather like strategic management accounting the term environmental accounting in not widely used in practice but has been described by Bartolomeo et al. (2000) as being concerned with providing reports for both internal use by generating information to aid management decision-making relating to pricing, controlling costs and capital budgeting, and external use, by disclosing environmental information of interest to the public and the financial community. It has been suggested by Lally (1997) that to support the monitoring and reporting of cost accounting relating to all environmental costs; it is useful to develop an environmental management system that provides a databank of environmental performance data. It is likely that most of the functions within the organization in which environmental costs occur will contribute to the database.

The monitoring, reporting, and control of environmental costs require collaboration between all functions. Ideally, the concept of corporate social responsibility and sustainable development would be part of the organization’s culture. It is endemic throughout the value creation system, and all departments from the design of products for the environment, reduction in emissions, waste, and energy usage throughout production and delivery operations would be involved and all continually looking for opportunities to enhance the positive environmental impacts.

Environmental accounting focuses on areas where accounting techniques can be applied, and the planning, monitoring, and reporting of costs for control purposes occur and include capital budgeting, expense budgeting, financial (and nonfinancial) performance indicators, budgetary control, and product costing (Yakhou and Dorweiler, 2004). These are all traditional techniques, and in theory, some of the data for highlighting the environmental impact of operations should be readily available. Rondinelli and Vastag (2000) suggest that environmental accounting can support life cycle analysis; development of environmental policy for the supply chain, for example, vendor selection and evaluation; the recycle, redesign and manufacture of products; monitoring and auditing environmental performance; and accounting for environmental costs and savings.

Other techniques where sustainable elements could be highlighted include target costing, activity-based costing, customer profitability analysis, real options in investment appraisal, and the development of key performance indicators. The cost of quality framework can also be applied successfully to environmental costs. The framework of *prevention*, such as the cost of environmental pollution prevention rather than clean-up after the event, *appraisal* to ensure wastage is reduced, and highlighting the *cost of failures*, both internal and external, can be used. By using appropriate techniques and drawing attention to the environmental and social aspects of the decisions being supported, accountants are also able to assist in enhancing regulatory compliance, driving cost savings, investing in innovation, and engaging with customers, staff and the wider community. It is, however, essential to remember that the accountant is only a member of the team, but being a proactive member can raise the significance of the financial impact of being environmentally and socially responsible.

Yakhou and Dorweiler (2004) suggest that possible motives for emphasizing environmental accounting include assuring compliance with regulations and increased efficiency, such as energy conservation. Also, reducing the impact of operations on the environment, for example, considering the costs of recycling via the use of life cycle costing, making continual improvements aided by total quality management, and encouraging innovation.

There is an argument that suggests that being, or being seen to be, environmentally friendly enhances the reputation of the organization. Being environmentally friendly was often seen as being costly due to changes in operations. It is only more recently that the real benefits have been seen in terms of improving financial performance. Sen et al. (2015) identified that there was a positive correlation between being environmentally proactive and financial performance. The link was much stronger in manufacturing-based than non-manufacturing based operational performance, which is possibly due to the opportunities for reduced wastage, energy conservation, and changes in working practices in a manufacturing environment.

Horváthová (2012), however, noted that there could be a lag between the implementation of environmental policies and practices and any improvement in financial performance. This agrees with the hypothesis of Porter (1991) in that any benefit from the implementation of improved environmental practices is seen in the long run. This is due in part to the initial investment required to implement environmentally friendly and socially responsible practices.

The implementation of such practices can also provide the organization with the opportunity to gain a competitive advantage in the market (Porter and Van Der Linde, 1995).

The management accounting department can assist in the scanning and monitoring of the changing environment in the context of the business (Wycherley, 1997). They can highlight the financial impact of any changes in the environment, where a change in operational practice is necessary and practical. The accountants are becoming more involved in validating and channeling the information to ensure compliance with regulatory mandates. For example, accountants are frequently involved in providing information for, and the audit of, CSR reports.

So far, we have focused on the environmental aspects and, via discussion of the financial performance, the economic element. The social element is equally important. Porter and Kramer (2011) talked of a 'shared value', of creating economic value in a way that also creates value for the society by addressing its needs and challenges. Indeed, they suggest that good business contributes to sustainability. Moon (2007) indicates that the CSR strategy is fundamentally concerned with embedding socially and environmentally responsible actions throughout the organization [and the more extensive value creation system] to enhance long term value. There is increasing legislation relating to CSR, and shareholders are demanding more information and holding senior management to account concerning the CSR policies and practices adopted by organizations in which they invest. Arjaliès and Mundy (2013) strongly advise that the CSR strategy be integrated into the overall strategy; that is, it is not something to be added on later or treated separately.

Learning activity. It is not just the product development and operations functions that can contribute to the sustainability objectives of an organization. Think about the numerous opportunities for accountants to become proactive in developing and maintaining sustainable practices (in the broadest sense of the term) within an organization.

11.6 Integrated management control systems

Active reading. Note how the qualities of an accounting system can be beneficial in the collection and reporting of environmental performance indicators and how the ISO standard includes the extent to which a management system exists and the measurement of the quality of the environment.

Whereas Lally (1997) suggested that environmental cost accounting draws on information from and is part of an environmental management system (EMS), the EMS could be viewed as being a subset of the more general management control system (MCS). Malmi and Brown (2008) define the MCS as including the systems, rules and practices, values, and other activities management put in place to direct employee behavior. Now that the requirements for CSR and sustainable development are also becoming more enshrined in legislation and the U.S. GAAP (generally accepted accounting principles), and the U.K. GAAP, there is a requirement for the management control system to encompass sustainable development controls as well. It requires cooperation across disciplines and functions within the organization as some of the information is not obtained easily from the accounting systems, for example, carbon emissions. The regular collection of certain data, such as the carbon emissions mentioned, may require additional investment in monitoring equipment or the estimation of emissions by operating departments.

Bartolomeo et al. (2000), however, noted that the accounting systems do provide a degree of integrity via the checks and controls applied to data collection and information reporting. Due to these qualities, the information contained in CSR reports, and reported internally and externally, is often collated and coordinated by the accountants. Still, cost savings are often driven by operational management. This emphasizes the cooperation and collaboration required between functions.

Performance indicators

Chapter 10 (section 10.5) of this learning resource included Simons' levers of control: diagnostic, interactive, belief, and boundary systems, all of which are appropriate to sustainable development objectives. The balanced scorecard was also discussed (section 10.3), which aids the development of a multidimensional approach to performance management, which could include measures relevant to sustainability. The International Standards Organization environmental standard ISO 14031 contains three types of performance indicators that provide a multidimensional platform for monitoring sustainability. The operational performance indicators include the elements that are probably most often thought of as part of monitoring sustainability and relate to the inputs and outputs of an organization.

- Operational performance indicators (OPIs):—inputs, the supply of inputs, the design, installation, operation and maintenance of the physical facilities and equipment, outputs, and their delivery
- Management performance indicators (MPIs):—policy, people, planning activities, practice, procedures, decisions, and actions in the organization
- Environmental condition indicators (ECIs):—information about the local, regional, national, or global condition of the environment

The standard includes a review of the extent to which the organization has an environmental management system in place to protect the environment. Activities such as the number of environmental audits undertaken, staff training, supplier evaluations, reported cases of non-compliance, corrective action reports issued, and actions taken would be typical of this type of control. They do not, however, in themselves measure the impact of the controls on the environment but provide some assurance of the policies and procedures in place.

The environmental condition indicators provide an assessment of the impact of the organization on the quality of the environment. Regional may refer to a state, a province, a group of states within a country, or even a group of countries such as the European Union depending on the scale of operations that the organization chooses to consider.

The environmental condition indicators are often measured by the regulatory authorities in the area and encompass factors such as air quality, water quality, soil quality, and noise levels. In cases where a single organization is the main contributor to the environmental impact in a region, the regulatory authorities may require the organization to monitor the quality of certain aspects of the environment. For example, an organization that uses high levels of water that is recycled to the natural sources monitors the water quality, or a local airport monitors noise levels, or a local factory monitors air quality. Organizations with high sustainability aspirations may undertake these activities voluntarily.

A key function of the ISO indicators and any environmental management system is to provide an early warning system of environmental changes that prompt correction action. The comparison with other external benchmarks, such as industry or competitor benchmarks, offers opportunities for making improvements to performance that benefit the organization, the environment, the economy, and society.

11.7 Sustainable balanced scorecard

Active reading. Note the different approaches to incorporating sustainability into the balanced scorecard.

The balanced scorecard was discussed in Chapter 10, section 10.3 of this learning resource as a mechanism for considering performance from a range of perspectives. One aspect to consider is whether organizations should adopt a separate scorecard for sustainability or incorporate suitable measures within the overall organization's scorecard (Figge et al., 2002). The overall scorecard could include an extra perspective of sustainability, or appropriate measures could be included within existing suggested perspectives of financial, customer, business processes, and learning and growth. A danger of keeping a separate scorecard is that sustainability becomes marginalized. Therefore, a high degree of integration into an overriding scorecard is said, by some authors, to be a preferable approach (see, for example, Figge et al., 2002; Moon et al., 2011; Gond et al., 2012).

Ideally, the objective is to enable the organization to address within its strategy and performance monitoring the economic, environmental, and social elements simultaneously (Schaltegger and Burritt, 2000). Moon et al. (2011) and Gond et al. (2012) looked more specifically at the types of control used by organizations. Both sets of authors used Simons' (1994) levers of control as the benchmark, and although the organizations used all four levers under investigation, the focus was on the use of diagnostic and integrative controls.

Diagnostic controls are used more to monitor and control the achievement of the objective, such as the reporting between actual and planned performance. Many of the standard accounting reports fall into this category. Integrative controls involve frequent communication between supervisors and subordinates, for example, via meetings and constant feedback and dialogue, and enable senior managers to gain a richer understanding of potential opportunities and challenges while simultaneously signaling to junior managers the organization's strategic position (Simons, 1995). The interactive controls also provide input to strategy development, guide emergent strategies, encourage novel strategic responses, and trigger organizational learning (Gond et al., 2012).

Moon et al. (2011) highlighted the difference between the MCS (management control system) and SCS (sustainability control system). They suggest that the SCS captures environmental and social issues more systematically and broadly than a conventional MCS. They also indicate that the SCS is usually operated by groups other than the finance/accounting team within the organization. This refers to the fact that much of the data concerned with environmental and social aspects are contained within nonfinancial data collection systems and, in many cases, such as social impacts, are difficult to value in financial terms. They do, however, argue strongly that the MCS and SCS, should one exist, be integrated.

Technological systems such as the increasing adoption of ERP (Enterprise Resource Planning) systems and integrated software is making this more possible but relies on organizations to invest in such systems in the first place. Lueg and Radlach (2016) noted, based on a literature review, that organizations may prefer to manage specific aspects of sustainable development rather than develop an all-encompassing SCS covering environmental, social, and economic factors. This takes account of the practicalities facing many organizations in collecting the necessary data and is an area where accountants can assist in evaluating the potential costs and benefits of implementing the elements that have high relevance to the operation and success of the organization.

There can be barriers to the implementation of an SCS. These include the degree of uncertainty about the accuracy of the data collection or even that the data is available to be collected. It is connected to the senior management often not being convinced of supporting the benefit of investing in the development of such a system. And, as already noted, the difficulties of establishing appropriate metrics and collecting the data on a regular and cost-efficient basis (see Moon et al., 2011). Of course, all of these can be overcome, but it may take time. Meanwhile, the pressure from end consumers, customers, suppliers, and commercial partners, and the need for compliance, external evaluation, and the potentially enhanced reputation, all add to the need to adopt a sustainability agenda within its overall strategy.

Learning activity. Think of an organization with which you are familiar and discuss which approach to incorporating sustainability measures within the performance management system you think would be the most effective?

Under the ISO, the environmental condition indicators require external data to be collected. Should the whole of the SCS (sustainability control system) be incorporated into the overall MCS, or is the impact on the external environment better dealt with as a separate reporting element? In other words, is it better for an organization to concentrate on internal control measures to reduce emissions so that the impact on the local environment will automatically be reduced?

11.8 Enabling the accountant's role in the strategic management process

Active reading. Note that some of the factors that enable the management accountant to become involved in the strategic management process are in the control of the accountant, but that a high degree of proactiveness can influence the organizational and practical aspects.

As IFAC (2016) suggested in its report on sustainable development and the contribution of the accounting profession, the skills of the accountant will be invaluable to an organization in achieving the sustainability goals. If sustainability is to be embedded within the strategy of every organization, the accountant also needs to be involved in the whole strategic management process. They must not be confined to the evaluation and control of strategy but allowed to contribute to the analysis, development, and implementation. Unfortunately, this is not always the case.

Several elements need to be present for the accountant to become involved in the strategic management process. These are shown in Figure 11.1 and can be grouped under the three headings of accountant-led factors, organizational-led factors, and practical factors.

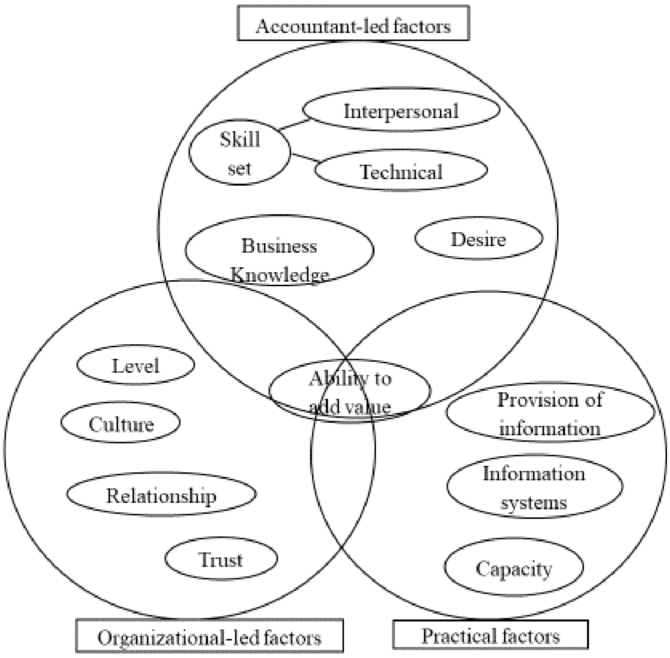

Figure 11.1 Factors determining the ability of accountants to be involved in the strategic management process (Pitcher, 2015).

The accountant-led factors include the skill set of the accountant. It is not just the technical skills that are required but, more importantly, the soft skills, such as communications, team working, ability to persuade and influence, and so on, that are needed. A good understanding of how a business works and a high degree of commercial acumen is desirable, as well as a desire to become involved in the process. It is often easy for the accountant working in industry or the commercial world to sit in the office in front of the computer screen producing spreadsheets, but the real value added is when the accountant is away from the desk working with managers.

The accountant-led factors lead into the organizational-led factors in that the structure and culture of the organization can assist the accountant in being able to build relationships with the business unit and functional managers. It is influenced by the level at which the accountant works within the organization and the level at which strategy is set, which is part of the culture. However, if the accountant can access managers and build a relationship, it requires trust. Trust is built up over a period. As the accountant begins to work more closely with managers, the managers start to trust the accountant's input and, therefore, actively seek out the help of the accountant. Thus, the accountant becomes more involved in the strategic management process.

A significant factor can be the practicalities, such as how much time the accountant has available to become involved. If the resources available to the accountant are such that most of the time is spent in gathering the information required for monitoring and reporting, there is often little time left to become involved in the strategic management process. It emphasizes the importance of ensuring that the accounting system is adequate for business needs. The easier it is to produce the numbers, the more time can be spent on analysis, interpretation, and determining the potential future implications.

In a study of management accounting in practice (Pitcher, 2015), a finance director said that he did not want his management accounting team to sit behind their desks in the office. "They should be out there in the business with the managers — that's when they are adding value." If the management accountant is to add value to the business, they need to understand how the business works. The toolbox available to the management accountant does not just contain the accounting techniques but also includes the strategy models and frameworks described in this learning resource. Armed with this array of tools, the management accountant is well placed to add significant value to the business. The management accountants should not be afraid to market their skills within the business. Managers are the customers of the management accountant and, once managers gain confidence in the abilities and advice received, the demand increases until the management accountant is part of the decision-making team.

There has been much written and talked about business partnering in which accountants work closely with the functional and business managers within the organization. Accounting firms and consultants actively promote the concept. Organizations have run internal programs titled "From Bookkeeping to Business Partnering" to develop better relationships with the business managers (Pitcher, 2015). However, these are doomed to fail unless the accountant possesses the business knowledge as well as accounting skills. McLellan (2014), in a study in the U.S., noted the gap between the theory of management accounting and practice. Other studies have also indicated that many practicing accountants tend to prefer and rely on the old tried and tested conventional techniques. Indeed, these can be effective in supporting the strategic management process. It is important, however, that accounting bodies and education providers continue to develop the syllabus to ensure that the skill set is up to date and relevant to today's business environment.

The recognition that accountants can make a valuable contribution to the strategic management process is being encapsulated in the definitions of management accounting by the professional bodies. The Institute of Management Accountants (IMA, 2008:1) definition includes the following phrases: "partnering in management decision making," and "to assist management in the formulation and implementation of an organization's strategy." The CIMA definition on their website in 2019 (www.cimaglobal.com) talks about providing information to generate and preserve value for organizations and using a range of information to lead and inform business strategy and drive sustainable success.

As demonstrated in this learning resource, the management accountant can contribute to every phase of the strategic management process. Armed with the techniques described and with the development of interpersonal skills, the management accountant will be able to provide influential insight, relevant information, and analysis that have an impact, while building trust in relationships with managers to ensure high caliber decision making to drive sustainable performance.

11.9 Summary

Management accounting can support sustainability in the following ways:

Corporate social responsibility (CSR) report input

Accountants are often involved in preparing the annual CSR report, which many organizations now produce to demonstrate and report on sustainable activities. It has increased the degree of accountability and transparency in managing and reporting organizational performance, which is an area in which accountants are always involved by way of the stewardship and governance roles within an organization.

Performance management

The balanced scorecard approach to performance management can be a useful way of capturing aspects of sustainability. The accountant can play a vital role in the development of suitable performance measures derived from the strategic objectives. The interpretation of performance measures and expressing the implications for the future in financial terms are key areas where accountants can contribute.

Monitoring aspects of the environment

The accountant will be monitoring the environment for economic indicators, interest rates, inflation, and so on that could impact the organization’s ability to achieve its strategic objectives. In doing so, information might be identified concerning changes in industry standards or government policy that might require a more sustainable approach by industry members. In this way, the accountant contributes to the data collection system feeding into the environmental analysis discussed in Chapter three of this learning resource.

Development of controls

An obvious area where accountants can contribute is in the development of controls, particularly the diagnostic controls. Also, by encouraging the use of interactive controls, whereby employees are empowered to take control action for themselves, to exchange information and discuss performance and actions to take and taken, can create a culture of learning within the organization. Benchmarking exercises also aid this perspective and the use of initiatives on the balanced scorecard, so that employees are encouraged to challenge the way things are done. Accountants can contribute to training programs by increasing the financial awareness of all employees and thus contribute to the development of staff, not just as an employee but also in broader terms to develop as a person, which contributes to social sustainability.

Cost monitoring and reporting

Specific costs can be monitored and reported, which benefits the company in achieving economic sustainability by enabling better management of costs. For example, energy costs, wastage, and cost of quality all contribute to environmental sustainability if systems are in place to facilitate their effective management.

Accounting and management techniques

The accountant can contribute expertise and knowledge of specific techniques that can be used to improve sustainability practices within the organization. Benchmarking exercises can be useful as a means of identifying the sustainable practice of other companies that could enhance an organization's practice, and the accountant can be a valuable member of a benchmarking project team. Life cycle costing can improve the sustainability of new product design and manufacture. The use of the value system analysis linked to ABC can aid the improvement of manufacturing processes by highlighting areas of inefficiency, thus improving profitability, which aids the economic sustainability of the organization, and hence employment and the broader economy.

Cost-benefit analysis within investment appraisal

Whenever organizations make strategic investment decisions, accountants are in an excellent position to contribute to the evaluation by way of a cost-benefit analysis, including the tangible and intangible costs and benefits, which should also include the sustainability aspects of the decision.

Sustainable profitability

The accountant can contribute to the overall sustainability of the organization by undertaking the usual role of helping to improve performance and inform decision making. Even contributing to halting the decline in profits of an ailing organization is contributing to economic sustainability. After all, if an organization is not profitable, it will not be around long enough to contribute to the sustainability of the planet.

Being proactive and marketing their skill set

Accountants need to be proactive in supporting the whole of the strategic management process. They need to ensure that they acquire and develop the appropriate personal skill set, persuade, and encourage the organization to use their skill set, and facilitate the practical application of these within the organization.

11.10 Review questions

(1) Explain what you understand by the term's sustainable development and sustainability.
(2) Critically evaluate the contribution that environmental management accounting can make to the achievement of an organization's sustainability objectives.
(3) Discuss how performance measurements associated with the sustainability objectives of an organization can be incorporated into a balanced scorecard.
(4) Discuss why the performance measurement system must not just focus on the operational (inputs and outputs) aspect of the organization.
(5) Critically evaluate the contribution that management accounting can make to the strategic management process with an emphasis on sustainability.

11.11 Case study activities 25 – 26 - HW Inc.

Case study activity 25 – HW Inc. Sustainability

The following activities refer to the case study HW Inc. in Appendix A of this learning resource.

Read the following description of a sustainable framework in operation.

[Note: The narrative has been adapted from a statement by Walgreens Boots Alliance, which is the largest retail pharmacy, health and daily living destination across the U.S. and Europe, and therefore the activities mentioned actually exist within a real organization].

Activity requirement:
Identify the aspects of the CSR framework described below that illustrate that HW Inc. takes CSR seriously and note how the finance department is involved in the process of producing the CSR report.

EXTRACT FROM CSR REPORT 2020

Our flexible framework

The Group's CSR framework of priorities covers four key areas: community, environment, marketplace, and workplace. We call this framework "the HW Inc. scorecard," and it is used across our businesses. Each of our businesses' CSR plans is created based on local stakeholder engagement, an analysis of key issues, and meeting the Group's overall priorities. These are presented to the social responsibilities committee for approval and progress against these plans, and the scorecard is monitored centrally.

Community

We strive to support the communities in which we work. We provide our people with opportunities to devote their time, energy, and talent to support the causes that matter through volunteering and fundraising.

Environment

At HW Inc., we are determined to be a leader and an example to others in addressing the threat of climate change. We pursue many practical activities which contribute to the overall reduction of our carbon footprint.

Marketplace

Our mission to make people's lives easier by providing quality products that help with everyday life at reasonable prices comes alive through the relationships with or stakeholders in the business ecosystem.

Workplace

As a Group whose purpose is to deliver products and services that help make people's lives easier and more comfortable, it is second nature to make the wellbeing of our employees a priority. We continue to support our people through training and development so that they can both grow professionally and meet the evolving challenges of our industry.

The HW Inc. scorecard

Every year, after consultation with our stakeholders, we review the Group's priorities and, where appropriate, set new revised priorities within which targets can be set for the year ahead.

Our priorities focus on developing links with the community (community), reducing our carbon footprint (environment), sustainable products (marketplace), and healthy workplaces (workplace).

All our businesses have their own scorecard based on these four key areas and, consistent with the Group's priorities, set their own programs and targets as appropriate. There is a range of different strands of activity across each of the four key areas, and it is within this framework that plans are made by each business. These priorities are further divided into areas of focus and are apportioned around our 'wheel' structure (Figure 11.2), which is submitted to the HW Inc. social responsibilities committee for review.

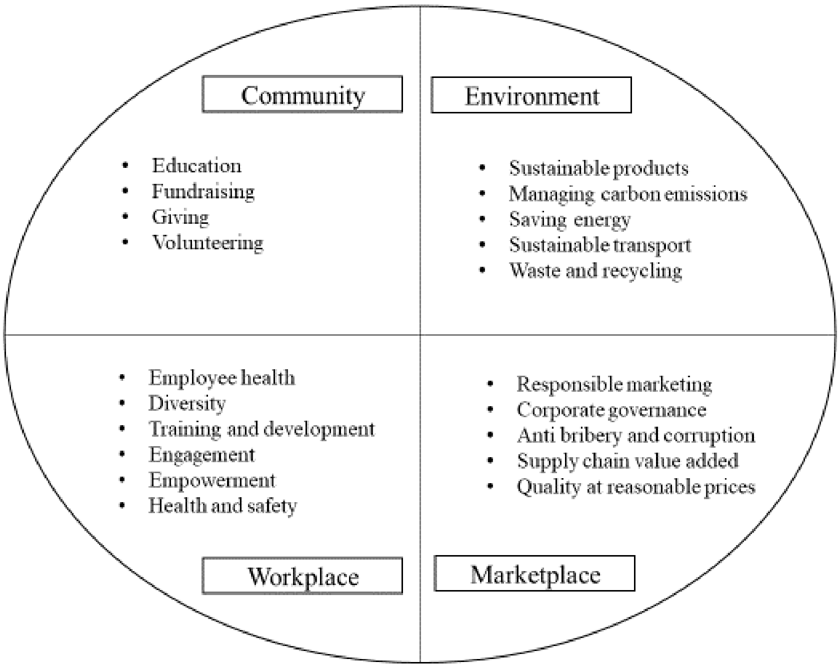

Figure 11.2 HW Inc.'s Sustainability wheel

We work across a range of retail product ranges, including furniture, garden equipment, electrical goods, clothing, and financial services and interior design, as well as embracing elements of manufacturing and distribution. Our businesses are of varying sizes and work in different countries with different economic and social circumstances. As such, we have ensured that our CSR framework is robust enough to provide leadership and direction, yet flexible enough to consider differences in approach for each business working within the context of their local communities and markets. It is necessary to have a support structure that helps each business to develop and take ownership of a CSR agenda that is appropriate to local circumstances while remaining within the overall HW Inc. framework.

Our corporate social responsibility management

As part of our CSR program, we have a "champion" in each business (country) with responsibility for defining and delivering local CSR priorities and targets in line with the Group's overall objectives. These objectives provide a framework for our businesses to establish their own priorities and targets that reflect the local business environment. Progress against these targets is monitored quarterly by the Group, and a senior business leader is accountable for each target.

Each "champion" works with an "action group" (which includes senior representatives of relevant business functions) for his or her individual business, and the "champions" hold teleconferences to share initiatives and internally report on their activity. They meet once a year to share their skills, experiences, and ideas with their peers and members of the social responsibilities committee. Formal and informal collaboration between "champions" helps us to share best practices and ensures that our businesses can benefit from progress made across the Group. For example, HW in the U.S. has worked in close partnership with HW in the U.K. on an energy-saving campaign for all its sites, including warehouses and support offices.

All "champions" across HW Inc. are supported by the Group's CSR Director and coordinator, who provide guidance and additional expertise on working within the Group's CSR framework. In addition, each "champion" is supported by colleagues from their respective business and a number of Group functions, including human resources, communications, and finance.

In March 2017, we launched an innovative learning and development program to support our corporate social responsibility "champions" with training on CSR theory and its practical implementation, developed in conjunction with Birkbeck University, London. It aims to ensure that each "champion" across the Group has a consistent knowledge and understanding of the CSR agenda, combined with the confidence to manage and collaborate with internal and external stakeholders. The program continues to thrive within the company with new "champions" completing the program each year.

Data management process

We have a Group-wide approach to recording, measuring, and reporting on our CSR performance. We have a set of reporting criteria and a set of CSR measures and performance indicators that are applicable across the Group. The CSR data captured is used to inform and assist in the development of each business's individual CSR program.

The data presented within this report reflects the continuing operations of the Group. Data collected locally are first reviewed by our CSR "champions" and finance teams at a local level. The data is then signed off by the local country Finance Director. The Continent finance teams then review this before being submitted to the finance team at head office, New York, and our central CSR team for final review. Finally, the data is independently assured by our auditors, KPMG, before publication in our annual CSR report.

Case study activity 26 – HW Inc. Sustainability and the accountant

Sustainability has become a 'buzz' word of recent years. Discuss how the management accountant can contribute to HW Inc. developing and maintaining a more sustainable approach to business.

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Appendix A - Case Study - HW Inc.

[Note: the company in this case study is fictitious but is loosely based on ideas drawn from real companies that operate in the consumer services and general retailers' market – known as homeware]

A1 Brief introduction to HW Inc.

The HW company was established in the U.K. by the Crabtree family in 1867. It is now a global company operating in 28 countries and listed on several stock exchanges. Although the company has its origins in London, the head office relocated to New York in the early 1990s to reflect the growing global nature of the business. The business began by importing cloth from various countries to London, which was then sold via wholesale markets. In the early 1900s, HW ventured into manufacturing clothes, and later diversified, via both horizontal and vertical integration, into household goods. The company is categorized as selling 'homeware', which is a label that loosely describes the wide range of products found in the home.

It is a highly competitive market, and HW Inc. would consider its competitors to include companies such as the U.K.-based John Lewis, H & M, Supergroup Inc.; U.S.-based JC Penney and Sears; Olgivy in Canada; Zalando SE and IKEA in Europe; Cuccina and Fei Space in China; Weylandts in South Africa; Papaya in Australia; and many others around the world. HW Inc. sells goods through its retail stores and online. The company has a variety of different brands under which it manufactures and sells its products, but the company also stocks and sells well-known brands from other manufacturers.

The company sells products and services under the headings of Home and Garden, Interior Design, Clothing, Electricals, and Financial Services. HW Inc. operates across six continents: Europe, Africa, North America, South America, Asia, and Australia.

A senior management team (the C-suite) manages the group company, consisting of an independent chairperson, nine executive members, and seven non-executive or independent directors (see Exhibit D). In the U.K., this is known as the Board of Directors or in the U.S., the Supervisory Board. Underneath the parent company, HW Inc., there are six subsidiary companies, each representing a continent (for example, HW Africa) and each having a separate senior management team (see Exhibit C). Also, within each continent subsidiary, an independent country subsidiary company is established (for example, HW Kenya) with its local senior management team, which is responsible for managing the business within each country.

This structure creates a cascading hierarchy of companies representing every country in which HW operates. The overall strategy and policy are set by the parent company head office in New York, but each 'local' [country] management team has a reasonable amount of autonomy to operate within specific guidelines. This autonomy allows for a speedy local response to be made to market conditions and competitor actions but ensures that the overall strategy is controlled. HW Inc.'s C-suite view this as a form of parental control.

A2 Vision and mission statement

Vision

Our vision is that every home is filled with products that make life easier, enable people to enjoy life, and by having a happy home life to realize their dreams and make the world a happier place.

Mission

Our mission is to offer a wide range of quality products that can be used in creating the perfect home, at affordable and competitive prices, backed up with exceptional customer service. We use sustainable materials wherever possible, engage in staff development activities to help all of our staff become ambassadors for clean and healthy living, encourage and facilitate our people to become involved in the local community activities while providing a reasonable return for our investors.

A3 Business Environment

The business environment and market conditions that HW Inc. operates in are highly competitive and incredibly challenging. The sector is dominated by large players in all the major markets around the world, many of them operating globally, or at least having a presence in most major markets. This globalization means that large companies enjoy economies of scale and can gain a competitive advantage from offering breadth and depth within their product range. It is a very diverse marketplace and, due to the broad range of the products provided, HW Inc. finds itself competing not just against similar companies, but also more specialist companies. These specialist companies include clothing retailers, as well as furniture and furnishings retailers, electrical goods retailers, and financial services providers.

One way in which HW Inc. has attempted to reduce the impact of the competition is to focus on a clear strategy of convenience and customer value. HW Inc. provides good quality products for reasonable and competitive prices. The reliability of the products is reinforced by offering a five-year guarantee on most product ranges. HW Inc. is also cautious about its supply chain management and imposes strict quality checks on its suppliers.

As part of its supply chain management strategy, HW Inc. operates a form of "open book" accounting in which suppliers are guaranteed an agreed share of the margin on the products sold through HW Inc. This openness is in line with its ethical trading policy in that smaller and more vulnerable suppliers are protected from the buying power that can be exerted by larger retailers. This practice might seem to be a mistake by HW Inc., in that it does not seek to exploit or take advantage of potential buyer power to increase profits or keep prices artificially low. The policy does, however, have benefits as small companies, who often have a high-quality brand image, are willing to supply HW Inc. with their product range – in some cases with product lines made exclusively for HW Inc. Selling high-quality brands from a variety of suppliers benefits HW Inc.'s brand. It does, however, also present some logistical, strategic challenges when operating globally over a diverse product portfolio.

In recent years, following the financial crisis, the senior managers have battled with rising costs of production in its manufacturing units, and services and utility costs more generally, in both manufacturing units and retail stores. In a competitive consumer market, it is becoming more difficult to pass these costs on to customers, and careful negotiations with suppliers have had to take place to contain cost increases.

One of the biggest threats to the growth of HW Inc. is competitor activity. Attempting to maintain a competitive edge in all six continents is extremely difficult, especially when competitors in some parts of the world are operating in a less than ethical manner. The protection of brand image and copyright issues has been an issue in some markets, not to mention the problems of bribery and corruption.

The political stability in some regions has also affected parts of the business from time to time. In some instances, the company has had to suspend supply arrangements of certain product lines due to the disruption of the supply chain.

Managing foreign exchange fluctuations presents the usual issues of financial management. The company uses financial instruments such as forward contracts, options, and futures in the foreign exchange money market to manage the foreign exchange risk. The finance department is strictly forbidden to speculate on the markets and is only permitted to use financial instruments for risk management.

HW Inc. has been severely affected by the covid-19 lockdown in nearly all the countries in which it operates. Online sales have provided some relief, but the company has seen a considerable drop in sales revenue. The policies of various governments have also affected the company in different ways. The U.S. is currently adopting a slightly more protectionist policy, and the issue of BREXIT in Europe (the U.K. leaving the European Union) has created uncertainty in the European market.

Employment policies such as the minimum wage and labor laws differ around the world, which creates issues for the fair and equitable management of human resources within the company. The company has been very conscious of human rights. It has a stated policy of not working with companies that are suspected of exploiting labor, but aspiring to be a global company makes it difficult to refuse to trade in countries with a poor human rights record.

The head office authorized over 100 ethical audits during the year on its suppliers around the world. The website sets out its stance on ethical and sustainable trading practices. It promotes these values through its products but recognizes that it would be equally wrong to deny citizens of all countries the opportunity to enjoy its products and services in the knowledge that they are produced and provided based on ethical and sustainable principles — or at least that's what the website states. Maintaining ethical standards while growing global trade is typical of the dilemma facing many companies today.

The company takes the issue of sustainable development very seriously. It produces a CSR (Corporate Social Responsibility) report annually, as well as setting specific targets for sustainability issues, for example, setting targets around the area of waste management, waste reduction, carbon emissions, and energy usage.

Some of the product ranges that are sold can be subject to seasonal fluctuation and subject to sudden changes in the weather. For example, clothing ranges are subject to seasonal variations, and a hot and sunny spell in the summer months can create a short-term increase in demand for garden furniture in developed countries. Added to this is the changing demographics in different countries, particularly as HW Inc. trades in emerging markets as well as developed countries. This changing demographic can mean that the populations in some of its markets are what could be described as aging populations, while others are more vibrant and growing fast.

Differing levels of income between the developed and emerging economies also poses a problem. In some markets, for example, the stores are serving a more aspirational population. They are operating at breakeven in the hope that when the average income levels rise, the sales will increase as the brand name establishes itself on the high street. Many markets in which HW Inc. operates have a high proportion of millennials. This generation has grown up with new technologies and therefore expects to do most of their shopping online and pay via mobile technology, even if buying in a retail store.

HW Inc. is committed to developing its technology platforms to create a genuinely multi-channel marketplace that takes account of the developing technologies for shopping and payment. Nearly all stores in all locations operate a "click and collect" service. All countries operate an online store, albeit that this is used to different levels by consumers in different countries, that is, high usage in developed countries, less so in emerging economies. The increased use of technology applications, however, has opened the threat of cyber-crime, and the company recently announced increased investment in its ability to protect its customers from this threat.

Apart from having to comply with a range of local government legislation within its various markets, such as local tax laws, trading law, and building regulations, and so on, the issue of consumer protection is becoming even more prevalent in all markets. This prevalence is particularly true of the consumer credit and regulations governing financial transactions since the financial crisis of 2008–2009, which has impacted on the financial services business. HW Inc. offers a store card that can also act as a credit card, as well as providing financial assistance to purchase more expensive items via a personal loan or 'hire purchase' agreement. In most markets, this area is subject to increasing regulation, for example, in the U.K. from the Financial Conduct Authority, or the Equal Credit Opportunity Act in the U.S., the State Administration for Industry and Commerce (SAIC) in China, and India, the Reserve Bank of India (RBI), through the provisions of the Banking Regulation Act, 1949.

A4 The industry

The industry is made up of several types of companies. **Department** stores sell a wide range of products; **discount** stores tend to stock a smaller range of products but compete on price, and **specialty** stores focus on a specific class of product, for example, clothing stores, or home furniture stores. A typical department store might be Sears, Bloomingdale's, Macy's, Primark, Ackermans, Jiuguang Department Store, and John Lewis. These are also typically chain stores; that is, they are large organizations that have a chain of stores carrying the company name. These companies have well-developed supply/distribution chains, highly sophisticated inventory management systems, and wide-scale marketing. Many have financial services companies that operate store/credit cards targeted at their customers to build brand loyalty. The credit cards are also offered more widely as a tool to attract new customers to the store or just to increase the sales of the financial services products.

HW Inc. sells own-label brands, that is, products that carry the brand of the store and are sold under an HW brand name. They also sell a wide range of branded products from other manufacturers, such as Bang & Olufsen, Lenovo, Ted Baker, Abercrombie & Fitch, Hoover, Bernhardt furniture, Nike, and so on. In recent years, the market has tended to become dominated by chain stores, and there has been a marked decline in the number of independent stores in the high street. The independent stores find it increasingly difficult to compete against the economies of scale that are enjoyed by the chain stores. These independent stores tend to be either family-run stores or smaller groups that are regionally targeted, and therefore struggle to finance expansion and to compete on price and brand recognition. They also find it challenging to establish supply contracts on the same terms as the chain stores. These smaller stores have also been hit much harder by the covid-19 crisis.

The more significant players tend to sell “hard” and “soft” products. “Hard” products are appliances, electrical goods, furniture, and sporting goods, whereas the term “soft” is used with clothing and apparel. Independent stores tend to focus on one classification of goods, whereas chain stores will stock a broad range. This variety of product offering provides them with a significant advantage as there are few substitutes available to consumers that offer the same level of convenience, quality, and price. For example, a substitute for furniture could be to build it yourself by purchasing the materials from a D.I.Y (Do It Yourself) store, use a contract manufacturer, or go to a specialist store. These outlets may not be able to match the same combination of convenience, quality, and price as the department store.

Another significant factor in the industry is the speed with which the chain stores can open new stores. Typically, within a country, the chain stores are opening an average of one new store per week, although this will not be the case following the covid-19 pandemic. Indeed, many department stores may not open all of their stores again following the lockdown. However, despite the high street and shopping Malls being dominated by chain stores, the market is still highly fragmented; that is, there are many different players in the marketplace. Therefore, part of the competitive advantage is the visual appeal of the stores themselves. Great attention is paid to store layout and selling techniques to encourage the consumer, not just to purchase, but also to browse for ideas that might either create an impulse purchase or something to save up for and purchase later, hence the importance of customer retention and repeat visits.

In some emerging economies, the idea of encouraging shoppers to browse and spend time in retail stores is seen as helping to generate future business. The big brands engage in aspirational marketing in the hope that, once general incomes rise as the country’s economy grows, customers will aspire to shop at their store. HW Inc. pays special attention to its brand image by ensuring that its stores are bright and give the appearance of space, creating a relaxing environment in which to shop. A recent customer survey conducted in several countries indicated that customers liked the shopping environment at HW Inc. stores. However, in some countries, the stores needed refurbishment, and the company is keen to address this issue.

The large chain stores develop strong relationships with their suppliers. Indeed, some of the larger chains have been accused of bullying smaller suppliers. It is interesting, however, that suppliers of goods that have a strong brand image, such as Louis Vuitton and Burberry, can resist the tactics of the larger chain stores. This ability is due to the number of competitors through which they could sell their products. In some instances, the major brand names prefer to sell products through their own branded outlets. This practice has the effect of mitigating some of the potential bargaining power that the larger chain stores may be able to exert over smaller, less well-known suppliers.

A few larger chain stores also have manufacturing facilities (as does HW Inc.). Most chain stores, however, tend to focus on the core competencies associated with retailing, as being an excellent retailer does not necessarily mean you can be an outstanding manufacturer, and vice versa. The margins are also different between manufacturing and retailing.

In retailing, the margins are often lower, due to the high level of competition in the marketplace. Also, the low switching costs for consumers, that is, the ease with which they can shop at another store, makes it difficult to pass on cost increases that arise, for example, through inflation and leasing costs of a property. Much of management’s time can be spent negotiating with suppliers of products and the landlords of property to keep costs in check.

Another area where the chain stores have an advantage over the independent stores is in achieving economies of scale, and the benefits of centralization can give them an edge in times of economic uncertainty. In some respects, there are more opportunities for cost reduction and rationalization of product ranges in an economic downturn. On the reverse side, however, it enables larger stores to be more responsive to fluctuations in personal and disposable income when economies are growing. The larger stores are also able to cater to a broader demographic than independent stores. For example, they can stock their own-label products, which may have a broad appeal, but also stock more exclusive brands that appeal to a smaller segment of the population. The more popular brands effectively subsidize exclusive brands.

In-store concessions also achieve the stocking of numerous, smaller branded ranges. A section of the store’s retail space is given over to a branded product in which the owner of the branded product pays a fee to the retailer but keeps the profits from the sale. On continents such as North America, a concession is a bit like a mini-store within a store. It enables a department store to benefit from offering a wide range of products which could entice customers into the store, without necessarily taking the risk of stocking the products themselves. In a sense, they are renting retail space within their store to other companies.

In some cases, the concessions granted may be selling products that compete directly with the store’s own brands, so the strategy is not without risks. The concessions approach is often used by brands such as Burberry, Gucci, Prada, and Dior. There are advantages to be gained by the concession company, such as access to the market – the company gains access to the market within a retail atmosphere that is less expensive than operating a single shop. Also, if other concessions are present, it can create the feeling of being surrounded by luxury items and encourage customers to buy.

In the past few years, there has been an increase in merger and acquisition activity in the sector. Not just within the retail firms, but also the supply sectors. Suppliers are seeking to increase their market share by expanding, via merger and acquisition, and gain access to global markets. The senior managers have noticed more recently that an increasing number of its suppliers are becoming global, whereas, a few years ago, many would have been considered as local suppliers. Indeed, many of the brands that are stocked by HW Inc. stores and sold via online sales would now be regarded as global brands, or at least brands that were recognized internationally.

A5 The company

HW was established in England, UK, in 1867 by Reginald and Abigail Crabtree. A brother and sister partnership in which Reginald handled the acquisition of materials via the shipping channels into the capital city, London, and later Abigail developed a clothing manufacturing and retail business. The company quickly established a reputation for being able to supply a range of products that had widespread appeal. Reginald had many contacts in the city, and the company diversified successfully via acquisition with the help of private finance, until it became known as a homeware company, selling both hard and soft product ranges. The company sells products and services under the headings of Home and Garden, Interior Design, Clothing, Electricals, and Financial Services. More recently, to support its online business, HW acquired a European logistics company so that it can more directly control the delivery to its online customers in Europe. The main sales proposition is convenience, quality, and reasonable prices. It has often run a marketing campaign with the tag line ‘Never knowingly beaten on price’.

In 1917 the company achieved a listing on the London Stock exchange and embarked on a further expansion program. The company flourished, and in the 1950s, the overseas expansion began to take shape. In 1992 the head office relocated to New York, and the company made the New York stock exchange its primary listing, and HW Inc. became its preferred title. Today the company sources products from around the world and has a physical presence in 28 countries across six continents - Europe, Africa, North America, South America, Asia, and Australia.

HW has managed to continue to grow through two world wars, various economic depressions, and countless world events, but since the late 1990s has struggled to sustain the high levels of growth that had been achieved in its history up to that point. The chairman of HW Inc. puts this down to the increased competition; changing dynamics of the global economy brought about not least by the internet; the growing significance of emerging economies for established businesses; changing demographics in many economies; and more recently, economic uncertainty in many economies around the world.

One factor affecting trade that has been noticed, particularly in the western economies, is the lower consumer confidence. Despite low interest rates, consumer spending generally in the homeware market has been slightly depressed, resulting in increasing competition in the high street and reducing margins. More recently, the covid-19 pandemic is expected to have a significant impact on the company’s performance.

The strategic focus of the last few years has been to target cost reduction activities without compromising quality or customer service, so effectively looking to seek out areas of inefficiency and target better ways of doing things. Also, store development has been high on the list. Despite receiving some good customer reviews in some parts of the world, a high proportion of the stores need refurbishing, and, due to increased competition and challenging trading conditions, a rationalization of retail space in all locations has been instigated.

The “space race” of many retailers in the 1990s early 2000s, where the expansion of retail presence in strategic locations on the high street was seen as the best way to increase sales in developed markets (virtually a saturation strategy) has given way to a more focused approach. There is now more emphasis on the online business and the development of sales techniques such as “click and collect”, fast track collection, home delivery, and the development of the hub and spoke distribution networks to facilitate these.

Significant investment in real-time inventory visibility and inventory picking systems has been made in the past two years. This strategy has facilitated an overall reduction in inventory holding costs and helped to maintain margins on significant product lines. There were, however, a few instances during the last year in which marketing campaigns had championed specific product ranges only for the supplier to let them down, which resulted in adverse publicity. This situation has prompted a review of supply chain management and supplier relationships. Another recent incident occurred in the African continent in which the company has been implicated in bribery charges – a charge which the company vehemently denies, but which has received significant publicity in some parts of the world.

The company still retains elements of manufacturing, particularly in clothing and furniture, but has noted the declining profit margins due to rising labor costs, and the head office management team is considering reviewing this part of the business. Historically the manufacturing part of the business was centered in Europe (including the U.K.), but during recent years manufacturing units were established in the emerging economies. This move was made to take advantage of lower labor costs, but also to be nearer their international markets, which made logistical sense in supplying these markets more effectively. In some respects, however, this move created other issues, such as increasing the exposure to fluctuations in the currency markets. The U.K. had been hit by the reduction and subsequent partial recovery of the pound sterling due to the uncertainty surrounding the exit from the E.U. – BREXIT.

The company employs more than 1m people and is proud of its staff recruitment and development in which it actively promotes diversity in the workplace and equal opportunities. There has been recent media coverage of incidents of bias in not promoting local staff in several developing and emerging economies in which senior management positions were held by either U.K. or U.S. citizens, seconded to the countries to manage the businesses. The company claims that this is to ensure consistency of operations. Still, media commentators argued that if the company was serious about ethical behavior and diversity, this could be achieved by staff development with staff drawn from the local community.

The main difficulty facing the company at the start of the year was that the shareholders were expecting the results to show an improvement over last year, as promised by the chairman at the recent annual shareholders meeting. The problem is that even before taking into account the covid-19 crisis, it looks as though there will be a significant reduction in profits this year, and the majority shareholders, who are institutional investors, will be pushing for some action to be taken. This situation has promoted a “future potential review” ahead of formulating a plan to take the company forward.

The head office management team noted before the covid-19 crisis hit, that there were countries where business could expand. An article in the U.K.’s Financial Times suggested that the TICKs (Taiwan, India, China, Korea) are replacing the BRICS (Brazil, Russia, India, China, now including South Africa (added in 2010)) as the deepening recessions in Brazil and

Russia had been putting off fund managers. Other countries designated as having potential include Mexico, Indonesia, Nigeria, Turkey (MINT), also the Philippines, Pakistan, Vietnam, and Bangladesh, all of which have the potential to become among the world's largest economies this century.

A significant factor concerning the senior managers about the emerging economies is that existing local competitors may seek to increase their global reach by expanding into markets where HW Inc. currently has a market presence. There are a few members of the head office management team who feel that market development into these countries, post-covid-19 is the best strategy for the future growth of HW Inc., and to counter the threat from the local companies becoming more global competitors. However, other members of the team feel that focusing on the most profitable sectors and product ranges would be more appropriate.

Product innovation and a definite differentiation factor were put forward as being the key to success in the sector, while others considered further diversification would spread the economic risk. One suggestion is to develop the financial services element of the business to create a retail bank. Currently, HW manages the credit facilities and the store credit card. Expanding this to a full-scale retail bank would be one way to achieve additional profits, taking advantage of the deregulation in financial markets. It was clear that there were varying opinions within the head office management team and that conducting a "future potential review" was probably the best way to evaluate the options.

A6 Operations

HW Inc. has developed a multi-channel operation in that it operates retail shops, mostly in the high street; has an online service that can be accessed via PC, tablet, and mobile device; and provides a click and collect from store, as well as a home delivery service. A large proportion of the home and garden ranges, such as furniture is shipped (transported and delivered) in flat-pack form, but delivery staff will assemble it in the customer's home if requested. Large electrical goods, such as washing machines and cookers, can also be installed by a suitably qualified technician arranged by the store.

HW Inc. provides a five-year guarantee on all large electrical goods and a three-year guarantee on smaller products such as kettles and toasters. Extensions to the maintenance contracts can also be purchased at the end of the standard manufacturer's warranty. These extensions are provided by the financial services division of HW Inc. The financial services division also provides credit facilities. Credit can be via a personal loan arrangement, hire purchase, or by using the HW Inc. sponsored credit card.

In the early 1980s, the manager of the flagship store in New York began to stock and sell sports equipment and apparel, mainly tapping into the running boom of the 1970s and 1980s. This policy proved to be remarkably successful, and the senior management team (C-suite) picked up on the idea and encouraged all stores to stock sports equipment and apparel. Sports apparel is included within the clothing category of the product range.

HW Inc. works very closely with suppliers to try and ensure that they are meeting customer expectations as regards the products. More recently, HW Inc. has been working on ensuring that as much and as many of the products are made from sustainable materials, with a strong focus on the recyclability of the components. To aid this process, HW Inc. has established a team of technical specialists at their head office, whose role is to work with suppliers on product development. This specialist team is part of the product design team that works with the HW Inc. manufacturing units to develop new HW branded and manufactured products. In the case of the larger independent suppliers, this means that the HW team works closely with the suppliers' research and development teams.

The delivery system is based on a hub and spoke model where large central warehouses supply smaller regional depots that supply retail stores in their area. While this has obvious benefits, it could mean that overall inventory levels are higher than might be the case if HW Inc. operated central warehouses only. Still, the critical advantage is that local demand can be satisfied more effectively if warehouses are closer to the retail stores. The commercial operations director (Vice President operations) believes that this increases customer satisfaction ratings. Companies that operate concessions within the stores are required to use the HW Inc. warehousing system, and the concessions staff working the various stores re-order inventory through HW Inc. For this to happen seamlessly concession companies are required to use the extensive IT network and inventory systems of HW Inc. This arrangement gives HW Inc. some control over ensuring that the logistics and customer experience are similar across all stores and product ranges.

Front of house staff, that is, those available to customers in-store, are trained in customer service techniques and trained in specific product ranges. This practice means that staff are allocated to particular sections where they tend to work almost exclusively on a given product range, for example, audiovisual equipment, or the clothing section. This allocation of staff effectively creates a series of mini specialist shops within a larger store.

Concessions staff, those working for companies who operate a concession within the store, also receive some general training from HW Inc., and, as with the inventory management, gives HW Inc. some control over the customer experience. Indeed, the concession companies usually treat this as a benefit to operating a concession within HW Inc., as this has a positive effect on their sales. The concession arrangement allows HW Inc. to provide facilities such as an in-store restaurant and play area for children, both of which are run by concession companies.

The layout of the stores is carefully designed to enhance the overall customer experience and the aesthetic appeal of shopping. The marketing director (VP marketing) believes that the stores are one of their most important marketing tools. Brand recognition and product placement, that is, the HW brand for retailing being associated with good quality product brands, is a vital element of the marketing. HW Inc. also uses TV advertising and web adverts. They have avoided celebrity endorsement, preferring to build on HW's reputation for quality products at reasonable prices.

A7 The manufacturing unit

HW Inc. still retains factories that manufacture HW's range of furniture sold under the HW brand. The design teams with the manufacturing units work closely with the specialist team at the head office to create products that meet quality standards and are designed to be manufactured with sustainability as the key element of the design concept.

Materials are sourced from selected suppliers. HW Inc. operates a strict quality regime with its suppliers. Indeed, suppliers need to agree to work within specific standards before HW Inc. adds them to their approved supplier list. HW Inc. has a good reputation with suppliers, and due to their insistence on high-quality standards, suppliers who are on the approved list gain a degree of credibility because they supply HW Inc. Suppliers often report that they acquire additional business from other companies because they are on the HW Inc. approved supplier list. The open book accounting policy also works in their favor as suppliers know that although quality standards are high, they will always be treated fairly by HW Inc.

The inventory is managed via a JIT (Just-in-Time) system, and the factory operates on a demand-pull basis; that is, products are produced to order from the retail stores. The demand-pull policy requires a flexible manufacturing system able to manufacture small production runs but also emphasizes inventory management within the retail business to ensure that they are not short of products. Rapid replenishment via the hub and spoke logistics system is imperative.

Stores will keep specific items in inventory so that there is some slack in the system, which means that the factory keeps very low levels of finished goods inventory, as this is held by the stores or in the warehouse system. Customer orders for the special items sold as "made to order" are sent to the factory via the electronic ordering system and then scheduled into the production process as required. The customer requirements would have been taken by a skilled member of staff attached to the Interior Design division. A member of the Interior Design team will visit the customers' premises to advise and make sure that measurements are correct. Customers are then able to track the order through the HW Inc. system using their customer number and a password that the customer selects. Once the order has been manufactured, it is delivered to the customer using HW Inc. transport on the date agreed with the customer.

The Interior Design part of the business grew from one of HW's manufacturing units developing a relationship with a local building company that consistently placed orders for custom-built kitchen units. The manager of the manufacturing unit became aware of anecdotal evidence that incorrect measurements taken by the builder's staff created problems with the fitting of the units. HW offered to provide a small team of staff to take the measurements and help with the design. This practice gradually developed into a sizable department, and the Interior Design business was born, which is now offered from all HW stores.

A8 Financial performance

The company has struggled in recent years to maintain the profit levels; however, due to relatively good financial management over an extended period, the head office has been able to maintain high dividend levels for a considerable number of years. The regular dividend attracts the institutional shareholders to invest in the company due to its reliable performance. However, in 2017 the head office team decided to rationalize the company and sold some of the less profitable businesses in Europe.

This rationalization process continued into 2018 when the head office team began a strategy of reducing what they considered to be an over-sized estate by closing some of the less profitable stores. The reduced reliance on stores was due to the growing trend towards online sales and a move away from the high street in some of its more developed markets. This move backfired a little. The overall sales level dropped along with the operating profit, although the company still recorded a profit.

The institutional shareholders indicated their concern, also noting the reduction in margins, which the management team explained was due to challenging trading conditions. The cash generated from the sales was used to reduce the borrowings and, consequently, the gearing level. The head office management team has historically been conservative in their decision making and has tended to rely on equity finance rather than loan capital.

The biggest concern now is that shareholders did not react very positively to the news that the profits for the year ended March 2020 showed that the company recorded the first loss in over 100 years. Coupled with covid-19, this situation will potentially continue into the next financial year unless the management team acts promptly.

The abridged forecast income statement for 2021 is shown in Table A.1, together with the reported results for 2020, 2019, and 2018. The chief executive stated in his report in the annual accounts that the continuing poor results are mainly due to the effect of inconsistent store operations across the group; issues with stock availability; an estate of physical stores that is still too large to support the level of sales currently being generated; the increasing trend towards online shopping; and product pricing on some ranges not being competitive in the current marketplace. The main effect of covid-19 will be felt in the financial year 2021. Some members of the head office team believe that the forecast for 2021 is optimistic and much relies on how long the lockdown in different countries affects operations.

Table A1 HW Inc. Summary Group Income statement for the year ended 31 March

	Forecast 2021 $m	**Actual 2020 $m**	**Actual 2019 $m**	**Actual 2018 $m**
Revenue	17,400.0	21,010.0	21,173.5	21,155.5
Cost of sales	(12,800.0)	(15,810.0)	(15,769.5)	(15,666.0)
Gross profit	**4,600**	**5,200.0**	**5,404.0**	**5,489.5**
Net operating expenses	(5,600)	(5,409.0)	(5,143.0)	(4,907.5)
Operating profit/(loss)	**(1,000)**	**(209.0)**	**261.0**	**582.0**

A further breakdown of performance is provided in Exhibits A and B

Exhibit A – Income statement and balance sheet

HW Inc. Group Income statement for the year ended 31 March

	2020	2019	2018	2017	2016	2015	2014
	$m	$m	$m	$m	$m	$m	$m
Revenue	21,010.0	21,173.5	21,155.5	28,315.0	27,377.0	27,914.0	29,259.5
Cost of sales	(15,810.0)	(15,769.5)	(15,666.0)	(19,496.0)	(18,716.5)	(18,970.0)	(19,853.5)
Gross profit	**5,200.0**	**5,404.0**	**5,489.5**	**8,819.0**	**8,660.5**	**8,944.0**	**9,406.0**
Net operating expenses	(5,409.0)	(5,143.0)	(4,907.5)	(8,262.0)	(8,140.5)	(8,349.0)	(8,116.0)
Operating profit/(loss)	**(209)**	**261.0**	**582.0**	**557.0**	**520.0**	**595.0**	**1,290.0**
Finance income	8.0	9.5	17.0	52.5	15.5	26.5	36.5
Finance expense	(11.5)	(14.5)	(13.5)	(46.5)	(57.5)	(24.0)	(26.0)
Net Financing (expense)/income	(3.5)	(5.0)	3.5	6.0	(42.0)	2.5	10.5
Profit/(Loss) before tax	**(212.5)**	**256.0**	**585.5**	**563.0**	**478.0**	**597.5**	**1,300.5**
Taxation	(30.0)	(81.5)	(141.5)	(133.0)	(132.5)	(173.0)	(371.5)
Profit/(Loss) for the year after tax from continuing operations	**(242.5)**	**174.5**	**444.0**	**430.0**	**345.5**	**424.5**	**929.0**
Discontinued operations							
Profit/(Loss) for the year after tax from discontinued operations	75.0	137.5	56.0	0.0	0.0	0.0	0.0
Total Profit/(Loss) for the year attributable to equity holders of the Company	**(167.5)**	**312.0**	**500.0**	**430.0**	**345.5**	**424.5**	**929.0**

HW Inc. Group Balance Sheet as at 31 March

	2020	2019	2018	2017	2016	2015	2014
Assets	$m	$m	$m	$m	$m	$m	$m
Non-current assets							
Goodwill	7,719.5	7,719.5	7,719.5	7,719.5	7,719.5	7,719.5	7,705.0
Other intangible assets	1,120.0	1,144.5	1,177.5	968.0	646.0	685.5	539.0
Property, plant, and equipment	1,700.0	1,299.5	2,064.5	2,283.5	2,374.5	2,623.0	2,657.0
Deferred tax assets	140.0	130.0	223.0	206.5	203.5	253.0	197.0
Trade and other receivables	0.0	0.0	7.0	9.0	13.5	19.0	21.5
Other financial assets	45.0	51.5	53.0	49.5	122.0	87.0	76.0
Total non-current assets	**10,724.5**	**10,345.0**	**11,244.5**	**11,236.0**	**11,079.0**	**11,387.0**	**11,195.5**
Current assets							
Inventories	4,727.5	3,779.0	4,815.0	4,512.0	4,709.0	4,666.0	5,084.0
Trade and other receivables	4,401.5	4,151.5	3,950.0	3,560.5	3,184.0	2,973.0	3,051.5
Current tax assets	0.0	24.5	66.0	52.0	41.5	4.0	54.5
Other financial assets	150.0	260.5	150.0	5.0	184.5	41.5	7.0
Cash and cash equivalents	1,570.5	3,114.5	1,546.5	1,655.0	1,980.0	971.5	1,296.5
Total current assets	**10,849.5**	**11,330.0**	**10,527.5**	**9,784.5**	**10,099.0**	**8,656.0**	**9,493.5**
Non-current assets classified as held for sale	0.0	0.0	91.5	0.0	48.0	0.0	0.0
Total assets	**21,574.0**	**21,675.0**	**21,863.5**	**21,020.5**	**21,226.0**	**20,043.0**	**20,689.0**

Liabilities							
Non-current liabilities							
Long term borrowings	(100.5)	(104.5)	(631.0)	(950.0)	(897.5)	(937.5)	(937.0)
Provisions	(105.0)	(84.0)	(232.0)	(237.0)	(263.0)	(279.0)	(293.5)
Deferred tax liabilities	(40.0)	(70.0)	(121.5)	(64.5)	(133.0)	(109.5)	(122.5)
Past employment benefits	(402.5)	(472.5)	(572.0)	(383.0)	(425.5)	(576.5)	(377.5)
Total non-current liabilities	**(648.0)**	**(731.0)**	**(1,556.5)**	**(1,634.5)**	**(1,719.0)**	**(1,902.5)**	**(1,730.5)**
Current liabilities							
Trade and other payables	(5,400.0)	(5,257.0)	(4,993.5)	(4,611.5)	(4,919.5)	(3,990.0)	(5,237.5)
Provisions	(207.0)	(190.5)	(478.5)	(230.5)	(191.5)	(239.0)	(102.0)
Other financial liabilities	(11.0)	(13.0)	(14.5)	(182.5)	(14.0)	(26.0)	(147.0)
Current tax liabilities	(20.5)	(27.5)	(34.0)	(29.0)	(58.5)	(24.0)	(106.0)
Total current liabilities	**(5,638.5)**	**(5,488.0)**	**(5,520.5)**	**(5,053.5)**	**(5,183.5)**	**(4,279.0)**	**(5,592.5)**
Total liabilities	**(6,285.5)**	**(6,219.0)**	**(7,077.0)**	**(6,688.0)**	**(6,902.5)**	**(6,181.5)**	**(7,323.0)**
Net Assets	**15,288.5**	**15,456.0**	**14,786.5**	**14,332.5**	**14,323.5**	**13,861.5**	**13,366.0**
Equity							
Share capital	406.5	406.5	406.5	406.5	406.5	406.5	406.5
Share Premium Account	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Other reserves	50.0	50.0	(307.5)	(261.5)	159.5	43.0	(28.0)
Retained earnings	14,800.0	14,967.5	14,655.5	14,155.5	13,725.5	13,380.0	12,955.5
Total equity	**15,288.5**	**15,456.0**	**14,786.5**	**14,332.5**	**14,323.5**	**13,861.5**	**13,366.0**

Exhibit B – HW Inc. Group - Analysis of revenue and operating profit

(Note: the manufacturing costs where relevant are included within the cost of sales of products)

Forecast outturn for the year ended 31 March 2021

	Home & Garden $m	Clothing $m	Electricals $m	Total of Products $m	Interior Design $m	Financial Services $m	Total $m
Revenue	5,500.0	2,800.0	5,300.0	13,600.0	2,700.0	1,100.0	17,400.0
Cost of sales	(4,675.0)	(2,184.0)	(3,535.0)	(10,394.0)	(1,620.0)	(786.0)	(12,800.0)
Gross profit	825.0	616.0	1,765.0	3,206.0	1,080.0	314.0	4,600.0
Net operating expenses	(1,450.0)	(952.0)	(1,973.0)	(4,375.0)	(1,050.0)	(175.0)	(5,600.0)
Operating profit	**(625.0)**	**(336.0)**	**208.0**	**(1,169.0)**	**30.0**	**139.0**	**(1,000.0)**
Gross profit %	15.0%	22.0%	33.3%	23.6%	40.0%	28.5%	26.4%
Operating profit %	-11.4%	-12.0%	-3.9%	-8.6%	1.1%	12.6%	-5.7%

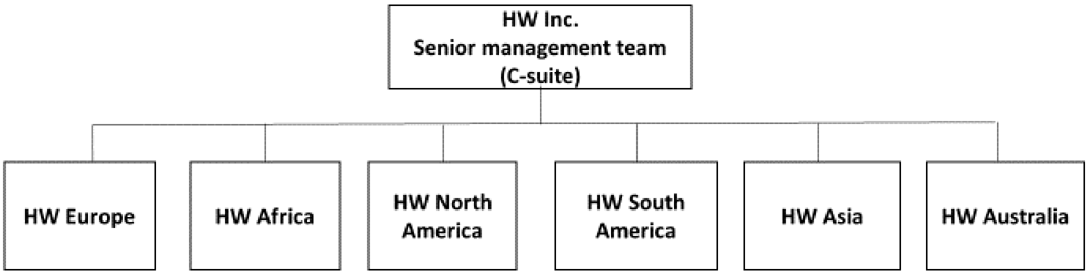
Actual performance for the year ended 31 March 2020

	Home & Garden $m	Clothing $m	Electricals $m	Total of Products $m	Interior Design $m	Financial Services $m	Total $m
Revenue	6,000.0	4,000.0	7,000.0	17,000.0	3,000.0	1,010.0	21,010.0
Cost of sales	(5,220.0)	(3,120.0)	(4,920.0)	(13,260.0)	(1,740.0)	(810.0)	(15,810.0)
Gross profit	**780.0**	**880.0**	**2,080.0**	**3,740.0**	**1,260.0**	**200.0**	**5,200.0**
Net operating expenses	(1,509.0)	(1,000.0)	(1,800.0)	(4,309.0)	(950.0)	(150.0)	(5,409.0)
Operating profit	**(729.0)**	**(120.0)**	**280.0**	**(569.0)**	**310.0**	**50.0**	**(209.0)**
Gross profit %	13.0%	22.0%	29.7%	22.0%	42.0%	19.8%	24.8%
Operating profit %	-12.2%	-3.0%	4.0%	-3.3%	10.3%	5.0%	-1.0%

Actual performance for the year ended 31 March 2019

	Home and Garden $m	Clothing $m	Electricals $m	Total of Products $m	Interior Design $m	Financial Services $m	Total $m
Revenue	6,055.3	4,325.2	6,920.4	17,300.9	3,175.6	697.0	21,173.5
Cost of sales	(5,157.5)	(3,326.6)	(4,822.4)	(13,306.5)	(1,905.4)	(557.6)	(15,769.5)
Gross profit	**897.8**	**998.6**	**2,098.0**	**3,994.4**	**1,270.2**	**139.4**	**5,404.0**
Net operating expenses	(1,430.1)	(1,021.5)	(1,634.4)	(4,086.0)	(952.6)	(104.4)	(5,143.0)
Operating profit	**(532.3)**	**(22.9)**	**463.6**	**(91.6)**	**317.6**	**35.0**	**261.0**
Gross profit %	14.8%	23.1%	30.3%	23.1%	40.0%	20.0%	25.5%
Operating profit %	-8.8%	-0.5%	6.7%	-0.5%	10.0%	5.0%	1.2%

Exhibit C – HW Inc. Organization Structure



Each of the companies established in the continents has its own senior management team – they report to the HW Inc. Head Office C-suite.

Within each continent a company has been established in each country, for example, HW Spain, HW Nairobi, HW China. Each of these country companies has its own senior management team which reports to the managers of the continent company. There are 28 country subsidiary companies spread across the 6 continents.

Each subsidiary company has a divisional structure which represents the main business activities in which it is engaged

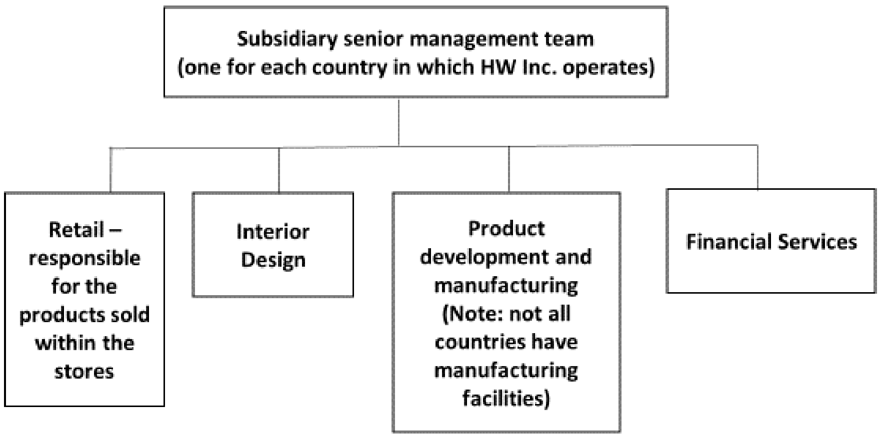


Exhibit D – HW Inc. Senior management team (C-suite)

The main supervisory board

Chairman	Sir Fred Bloggs (70) has a wealth of experience in the retail trade
Chief Executive	John Smith (55) – has worked for HW Inc. since leaving school when he began working as a retail assistant
Finance Director (VP)	Shirley Valentine (45) - qualified with the accounting firm now known as PricewaterhouseCoopers (PwC) and moved into the retail sector shortly afterward – has previous experience of the FMCG industry sector (Fast Moving Consumer Goods) – has been with HW Inc. for five years
Human Resource Director (VP)	Gloria Aleluya (50) – worked in the public sector in various HR roles until joining HW Inc. 10 years ago
Commercial Operations Director (VP)	John T.B. Snow (47) – joined HW Inc. from a significant competitor 15 years ago.
Marketing Director (VP)	Caroline Quinn (35) – has been with HW Inc. since graduating with a degree in Retail Marketing and has been a Director for the last five years
International Development Director (VP)	Huang Zu (46) – joined HW Inc. 10 years ago – holds an MBA from Harvard University and has previous retail experience.
Customer and Financial Services Director (VP)	Seema Patel (36) – joined HW Inc. six years ago and has previous experience of the financial services industry
Information Systems Director (VP)	James Onyewuchi (52) – joined HW Inc. three years ago with a remit to develop the online sales business
Group CSR Director (VP)	Angela Schapiro (35) – joined from a public sector company four years ago and has been working to increase HW Inc.'s sustainability reputation as part of its competitive advantage.
Non-executive Director (Independent member)	Major Charles de Whit (57) – Retired Army Major where he specialized in logistics

Non-Executive Director (Independent member)	Sandra Chu (49) – Works for a non-governmental organization promoting sustainable practices
Non-Executive Director (Independent member)	Abeer Al-Hajri (57) – has experience of retail in the Middle East now living in London
Non-Executive Director (Independent member)	Michael Holding (63) – has experience in the furniture business and ran his own interior design business, which he sold two years ago for $30m.
Non-Executive Director (Independent member)	Abraham Heights (67) – has retail experience
Non-Executive Director (Independent member)	Reece Jones (53) – has retail experience
Non-executive Director (Independent member)	Timothy Kinder (56) – has retail experience in international markets
Company Secretary (note the Company Secretary is not classed as a Director)	James Croydon (55) – has worked for HW Inc. since leaving school.

Appendix B - Management accounting fundamentals

B.1 Introduction

This section covers some of the fundamental techniques that underpin the management accounting support provided to managers. The purpose is to provide some background knowledge for those readers who are new to management accounting to enhance their understanding of the techniques described in the main sections of this learning resource.

B.2 Learning objectives

After studying the techniques in this appendix, you will be able to:

- Understand the different types of cost behavior and perform cost-volume-profit analysis for a single product
- Understand how the profit contribution can be used in product mix decisions
- Calculate a contribution per limiting factor to ascertain a preferred product mix of production
- Understand the principle of a flexed budget and the variances that can be used to understand the reasons for variations from plan
- Understand the importance of managing cash and the principle of preparing a cash budget
- Understand and calculate common financial ratios and interpret financial performance

B.3 Breakeven point – cost-volume-profit analysis (CVP)

One of the critical factors to consider when starting a new business is answering the question, how many products does the organization need to sell, or what level of service provision does the organization need to achieve, to breakeven? That is the volume at which it covers its costs so that neither a profit nor a loss is made. The breakeven point can have implications for pricing, methods of operations, geographic coverage, and many more business decisions.

The breakeven point can be calculated with three pieces of financial information: the price, the variable costs of providing the product or service, and the level of fixed costs.

Variable costs do precisely that – they vary with the level of output, and in many cases, they will vary directly with the volume of production. The costs of producing one unit of production are also referred to as direct costs. The typical direct costs of manufacture are materials and labor. The basic analysis, however, assumes that manufacturing labor is paid on a piece-rate basis where employees are paid a fixed rate for every unit they produce. It means that the labor cost for each unit would be the same.

Over the last 50 years, however, there has been a shift towards manufacturing labor being rewarded on a time rate basis; that is, they are paid a fixed rate per hour or even a fixed salary. This change was driven by advances in technological manufacturing systems and trade union bargaining. A study of U.S. manufacturing organizations was undertaken by Helper et al. (2010). They identified that 30% of employees were paid piece rates in the 1930s, 14% in the 1980s, and less than 5% in 2003. The trend does not appear to be reversing. This means that for today's costing methods, labor is becoming more of a fixed cost. It is, however, still possible in many cases to calculate the labor cost of producing one unit of a product by multiplying the pay rate per hour by the time it takes (which may be an average time) to create one unit.

A logical place to begin the CVP analysis is by looking at cost behavior.

B.3.1 Cost behavior

The behavior pattern of variable costs is illustrated in Figure B.1.

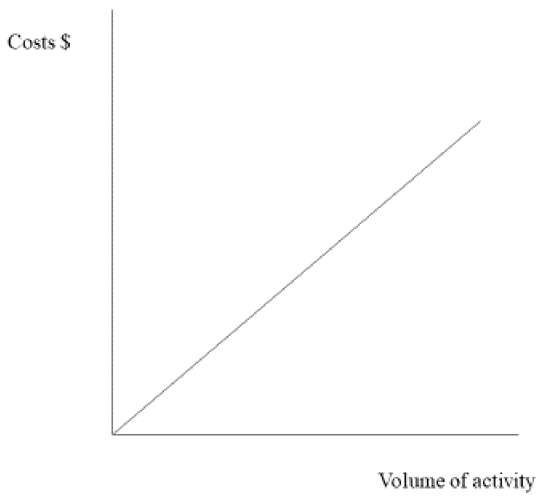


Figure B.1 Variable cost behavior as output increases

Figure B.1 illustrates that as each unit produced costs the same, the cost rises directly in proportion to output. Therefore, variable costs are often referred to as direct costs.

Besides the materials and labor, there are always other costs to consider, such as the establishment costs, for example, rent, energy, and so on. For illustrative purposes, we will assume that these are all fixed; that is, they do not vary with the level of output. Figure B.2 illustrates this graphically.

Figure B.2 Fixed cost behavior as output increases

As Figure B.2 illustrates, the fixed costs remain the same at every level of output.

In some cases, a stepped fixed cost may occur. As a simple example, assume that an organization rents premises in which components are assembled into finished products. As volume increases, more space is required, and so a second building is rented. There is a rise in the fixed costs at a given level of output, as illustrates in Figure B.3.

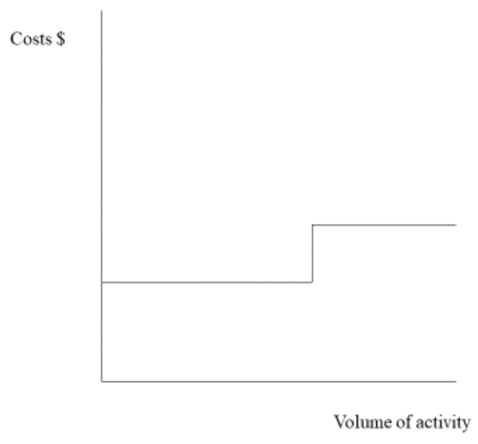


Figure B.3 Stepped fixed costs

Some costs may have a fixed element and a variable element. The classic example is a landline telephone, where the rental for the landline is fixed, but then a variable charge is made for the calls. In a factory setting, there may be a few costs that have this kind of behavior. For example, there is always some level of energy usage within a factory unit, and as production increases, energy usage may increase but not in a direct relationship to output. Using historical data, however, we could plot the energy costs incurred at various levels of production and, using regression analysis, estimate the fixed and variable element. This is illustrated in Figure B.4.

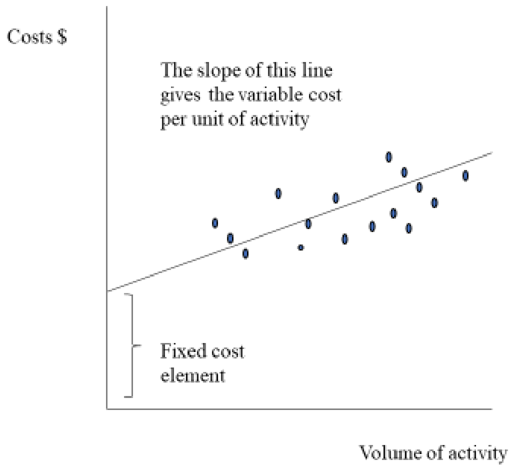


Figure B.4 Using regression analysis to ascertain the fixed element of a cost.

B.3.2 Calculation of the breakeven point.

The distinction between fixed and variable costs can be used to calculate the breakeven point. Figure B.5 shows the total cost curve, that is, fixed costs to which the variable costs are added on top.

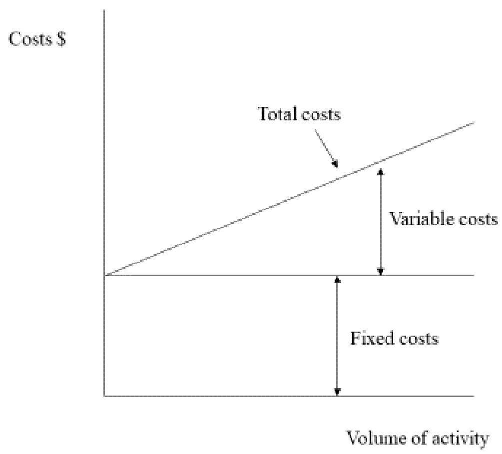


Figure B.5 Total costs – fixed costs plus variable costs.

A line can now be introduced to represent the sales value. If the selling price remains the same, then as volume sales increase, the sales value will be illustrated by a straight line, as shown in Figure B.6.

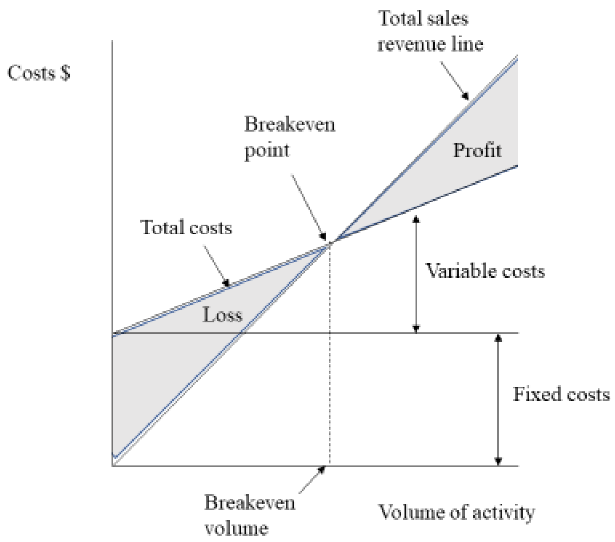


Figure B.6 The breakeven point

The sale value begins at zero when a loss is being made. A specific volume needs to be sold before the variable, and the fixed costs are covered. This occurs at the point where the sale line cuts the total cost line, and neither a profit nor a loss is being made. The breakeven volume is where the vertical line from the breakeven point cuts the volume axis. The organization can make a judgment as to whether it believes enough units can be sold to make the product a viable proposition.

The breakeven point can be calculated using a simple formula.

$$\frac{Fixed\ costs}{Contribution\ per\ unit} = Breakeven\ volume$$

The contribution per unit, illustrated in Table B.1, is the difference between the sales price and direct costs and represents the contribution made towards the fixed costs and profit.

Table B.1 Contribution per product

	$
Sales price	10
Less direct variable costs	(5)
Contribution per unit	5

Every time a product is sold, a contribution of \$5 is made towards the fixed costs and profit.

If the fixed costs are \$5,000. The number of products the organization needs to sell to breakeven is:

$$\frac{\$5{,}000}{\$5} = 1{,}000\ products$$

A short profit and loss statement can be prepared, as shown in Table B.2, to illustrate how this works.

Table B.2 Profit and loss statement for the sale of 1,000 products

		$
Sales	1,000 x \$10	10,000
Less direct variable costs	1,000 x \$5	(5,000)
Contribution		5,000
Less fixed costs		(5,000)
Profit/(Loss)		0

The B/E calculation is quite a powerful formula as it could be used to calculate the level of output that needs to be sold to make a required level of profit.

Suppose that Eleanor is thinking of starting a business and has estimated that to cover her living expenses without any luxuries, a profit of \$1,000 per month is required. Eleanor is planning to sell a product for \$12 per unit. The components can be purchased for \$5 per unit, and labor can be employed to assemble them for which Eleanor intends to pay a piece-rate of \$2 per unit. A small, fully serviced business unit can be rented for \$500 per month. Based on this information, Eleanor can calculate the level of sales that she needs to achieve each month.

Remembering that the contribution is the contribution towards fixed costs and profit, and the contribution is selling price less all direct variable costs. Using the following formula:

$$\frac{(Fixed\ costs + Profit\ required)}{Contribution\ per\ unit} = volume\ sales$$

$$\frac{(\$500 + \$1{,}000)}{(\$12 - \$5 - \$2)} = 300\ units$$

As a quick check, Table B.3 illustrates the monthly profit and loss report for Eleanor.

Table B.3 Profit and loss statement for Eleanor

		$
Sales	300 x $12	3,600
Direct variable costs:		
Components	300 x $5	(1,500)
Labor	300 x $2	(600)
Contribution		1,500
Fixed costs		(500)
Profit		1,000

B.3.3 Margin of safety

When starting a business or launching a new product, part of assessing the viability of the idea is to estimate the likely market demand. In the case of a new business, this is important to ensure that the volume will grow enough to cover the fixed costs, that is, to reach the breakeven point. But if the business is to grow, it will need to invest, and therefore demand needs to exceed the breakeven point. The degree to which the estimated likely demand exceeds the breakeven point is known as the margin of safety. This can be thought of as the degree to which the expected demand can be wrong before a loss is made.

For example, Catrina has persuaded a local garden center to allow her to set up a business making fully arranged hanging baskets to order for customers during the summer. Catrina will rent a section of the garden center floor space for which they will charge her $500 per month. Catrina can buy the baskets for a wholesale price of $2 each. The selection of plants from which customers can choose will come from the garden center stock for which Catrina has negotiated a cost of $18 per basket. Catrina believes that she will be able to sell 150 baskets per month for $30 per basket.

Catrina can calculate the breakeven point and the margin of safety.
Contribution per unit is $30 - $2 - $18 = $10 per basket.
Breakeven point is $500 / $10 = 50 baskets.

The margin of safety is calculated by taking the estimated demand and deducting the breakeven volume.

In this case, the margin of safety is 150 – 50 = 100 baskets. Therefore, Catrina could be 100 baskets wrong in her estimate before she loses money.

As an absolute number is not that useful, for example, is it 100 out of 150 or 100 of 15,000, which would not be so good. It is, therefore, normal to express the margin of safety as a percentage of the estimated demand.

$$\frac{(150-50)}{150}\ x\ 100 = 66.66\%$$

Therefore, Catrina can be relatively confident about making some profit from the venture.

B.3.4 Limitations of breakeven analysis

Although breakeven analysis is a useful tool, some limitations should be noted.

- It assumes that the split between variable costs and fixed costs is relatively easy to ascertain. Some costs have fixed and variable elements, and therefore it is not always possible to put a high degree of accuracy on the fixed costs but to apply the best estimate.
- The analysis assumes that fixed costs remain constant over the volume range considered. If there is a rise in fixed costs at a given output due to stepped fixed costs, there may a loss incurred until the second level of production is reached that covers the additional fixed costs.
- Breakeven charts in their pure form only deal with one product at a time.

B.4 Product mix decisions

The contribution per product is a useful tool in decision making. In most businesses, there will be several product lines being made and sold. Not all products will make the same contribution as there will be differences in market prices and direct variable costs. In situations such as this and wherever possible, the organization will want to maximize the total contribution being generated by the sale of products. Given the market demand, the organizations will want to focus on the products with the highest contribution first. There are, however, situations where it might be beneficial to market products that do not make the highest margin, for example, in the case of loss-leader products or complementary products where a higher margin product is attractive due to the presence of other products. In this situation, both the loss-leader and higher margin complementary products would be produced.

B.4.1 Contribution per limiting factor

In cases where there is a short term shortage of inputs such as labor or materials, it is useful to calculate the contribution per limiting factor. For example, suppose that an organization produces three products A, B, and C. Table B.4 contains data relevant to the next accounting period.

Table B.4 Basic data for the next accounting period

	A	B	C	
Selling price	\$30	\$40	\$50	
Materials \$2 per kg	2 kg	4 kg	4 kg	
Labor \$10 per hour	2 hrs	2 hrs	3 hrs	
Anticipated sales volumes	1,500	1,000	500	
Total hours required	3,000 hrs	2,000 hrs	1,500 hrs	6,500 hrs

Materials are in abundant supply due to stocks held, but due to lockdown restrictions imposed because of the covid-19 virus, the labor hours available during the period are only 4,000 hours. The contribution of each product is shown in Table B.5.

Table B.5 Contribution for products A, B, and C

	A	B	C
	$	$	$
Selling price	30	40	50
Materials	4	8	8
Labor	20	20	30
Contribution	6	12	12

As labor is the limiting factor, the contribution per limiting factor (shown in Table B.6) is calculated as follows:

$$\frac{Contribution}{Labor\ hours} = contribution\ per\ labor\ hour$$

Table B.6 Contribution per labor hour (limiting factor)

	A	B	C
Contribution per labor hour (limiting factor)	$3	$6	$4

Product B provides the highest contribution per limiting factor so the organization should use the available labor to produce the products it believes it can sell of product B, followed by product C and any hours left can be used to produce product A. It should allocate labor as shown in Table B.7 and produce the products in the preferred order of B, C, and A.

Table B.7 Preferred production volumes

	A	B	C	
Production labor hours required	500 Remaining hours	2,000 Allocated 1st	1,500 Allocated 2nd	4,000
Production	250	1,000	500	

There are, of course, other factors at play, such as would it be possible to increase the price of product A to improve the contribution for those it can produce? Also, how accurate is the estimate of demand? The limiting factor approach does, however, provide some guidance as to the sort term decision facing the organization.

B.5 Budgets

A budget is a detailed plan which sets out, in volumes and monetary value, the plans for the level of activity, resources, and income and expenditure, in respect of a future period. It is prepared and agreed in advance of the period concerned together with the strategy to achieve the objectives.

The starting point is the key strategic objectives and assumptions that have been made in the strategic plan. The detailed functional budgets can then be established based on achieving the predicted level of sales activity. The actual sales budget will be based on the sales forecast but also considers the resources available and any limiting factors to the actual level of sales that can be achieved.

B.5.1 Flexible budgets

When the budget is set at the beginning of the period, it is set for a given level of expected sales and hence a given level of production. Changes in the environment, however, will inevitably mean that the actual levels of activity are not always the same as the planned levels. In this instance, it would not make sense to compare the original budget with the actual performance but to flex the budget for the variable costs to take account of the different levels of activity.

Consider the results of XYZ Inc for the first month of the budget shown in Table B.8.

Table B.8 Basic data and results for XYZ Inc. for month 1.

Basic data related to month 1					
		Original budget		Actual for month	Variance
Sales units		20,000		16,000	
	Usage	$	Usage	$	
Sales price		20.00 per unit		21.00 per unit	
Direct materials kgs Standard usage is 0.6 kg per unit	12,000	5.00 per kg	10,000	6.00 per kg	
Direct labor hrs Standard is 1 hr per unit	20,000	10.00 per hr	17,000	11.00per hr	
Variable overhead		3.00 per labor hr		2.50 per labor hr	
Fixed overhead		14,000.00		15,000.00	

Income statement (Profit and loss account) for Month 1					
		$		$	$
Sales		400,000		336,000	(64,000)
Direct materials		60,000		60,000	0
Direct labor		200,000		187,000	13,000
Variable overheads		60,000		42,500	17,500
Fixed overheads		14,000		15,000	(1,000)
Profit		66,000		31,500	(34,500)

The comparison of the original budget with the actual performance indicates an adverse variance (negative) of $34,500. If, however, the budget is flexed to take account of the level of activity, the actual can be compared to what it should have cost to sell and produce 16,000 units. This is because only the variable costs to produce 16,000 units would have been incurred, and therefore it is more meaningful to compare the budgeted costs for a level of output of 16,000. Note that this ignores any inventory and assumes that production and sales are the same. Also, the variable overheads are charged to products based on a rate per labor hour. The flexed budget compared with the actual is shown in Table B.9.

Table B.9 Flexed budget compared to actual for month 1

	Budget for 16,000 units	Flexed budget		Actual	
Flexed budget		$		$	$
Sales	16,000 * $20	320,000		336,000	16,000
Direct materials	16,000 x 0.6 kg x $5	48,000		60,000	(12,000)
Direct labor	16,000 x 1 hr x $10	160,000		187,000	(27,000)
Variable overheads	16,000 x 1 hr x $3	48,000		42,500	5,500
Fixed overheads		14,000		15,000	(1,000)
Profit		50,000		31,500	(18,500)

The comparison of actual performance with the flexed budget still shows an adverse variance, but it is not as high.

The variances shown can be analyzed into a volume-related elements and price or cost rate related elements. The calculations and variances are shown in Table B.10.

Table B.10 Analysis of variances from budget for XYZ Inc. month 1.

	Planned			Actual			
	Level of activity	Price/rate $	Should be $	Activity	Price/rate $	Was $	Variance $
Sales volume	20,000	20.00	400,000	16,000		320,000	(80,000)
Sales price		20.00	320,000	16,000	21.00	336,000	16,000
Total sales variance							**(64,000)**
Direct materials usage	9,600	5.00	48,000	10,000		50,000	(2,000)
Direct materials rate		5.00	50,000	10,000	6.00	60,000	(10,000)
Total materials variance							**(12,000)**
Direct labor efficiency	16,000	10.00	160,000	17,000		170,000	(10,000)
Direct labor rate		10.00	170,000	17,000	11.00	187,000	(17,000)
Total labor variance							**(27,000)**
Variable overhead efficiency	16,000	3.00	48,000	17,000		51,000	(3,000)
Variable overhead expenditure		3.00	51,000	17,000	2.50	42,500	8,500
Total variable overhead variance							**5,500**
Fixed costs			**14,000**			**15,000**	**(1,000)**

The sales volume variance is effectively eliminated when the budget is flexed, but the remaining sales variance is then due to the sale price. The direct materials and direct labor variances can be analyzed between those relating to usage and the rate. As the variable overhead is allocated to products based on labor hours, an efficiency variance and expenditure variance can be calculated. The fixed costs by their nature are fixed, so only the total variance is shown. In an absorption costing system, however, where fixed overheads are absorbed based on a rate per material usage, labor hour, or other bases per unit, it is possible to calculate a fixed overhead volume and expenditure variance.

The variance analysis helps managers to understand why variances have occurred and inform decision making about any corrective action required.

B.6 Cash budgets

Cash budgets are used by organizations to identify their future cash requirements. Organizations are then able to ensure that finance is available when required or to make changes to their operating plans to manage the cash resources more effectively.

Cash budgets can be prepared for normal business operations or specific projects. They are frequently prepared on an annual basis and updated regularly. Typically, the budget will be prepared, showing the cash receipts, cash payments, and closing cash balance for each month.

A typical format is shown in Table B.11.

Table B.11 Typical layout of cash budget

	Feb	**Mar**	**Apr**	**May**	**Jun**	**Jul**
Cash Inflow	$	$	$	$	$	$
Cash received from sales						
40% 1 month from sale	104,000	100,000	84,000	108,000	120,000	124,000
60% 2 months from sale	40,000	156,000	150,000	126,000	162,000	180,000
Total cash inflows	144,000	256,000	234,000	234,000	282,000	304,000
Cash outflows						
Purchases	175,000	120,000	120,000	150,000	200,000	180,000
Dividend					30,000	
Tax						25,000
Admin and finances	16,875	21,875	21,875	21,875	21,875	21,875
Selling and Distribution	35,000	40,000	40,000	40,000	40,000	40,000
Total cash outflows	226,875	181,875	181,875	211,875	291,875	266,875
Net Cash flows	(82,875)	74,125	52,125	22,125	(9,875)	37,125
Opening balance	(200,000)	(282,875)	(208,750)	(156,625)	(134,500)	(144,375)
Closing balance	(282,875)	(208,750)	(156,625)	(134,500)	(144,375)	(107,250)

The technique for producing a cash budget is to allocate the receipts in the month in which the cash is received and payments in the month in which the payment is made.

For sales made on credit, that is, the customer pays in the month following the sale, then the cash is entered in the cash budget when the customer pays and not when the sale is made. So for example, if in January sales were made of $10,000, but the customer did not pay the money to you until February, the sale is shown in the Profit and Loss Account (Income Statement) in January, but the cash is entered into the Cash Budget in the month of February.

Similarly, payments are made when the cash is paid. So, for example, if you buy goods from a supplier in January, but pay for them in February, although under an accruals system, the profit and loss account would record the transaction in January, the Cash Budget records the transaction in February.

The complication arises with the timing of cash receipts and payments when you calculate that only some of your customers pay when they are supposed to pay, while others take a little longer. Typically, you may find that 60% of the customers pay in the next month following a sale, but that 40% take two months to pay.

This situation can be accounted for in the cash budget by taking the sales and planning for the receipts spread over the following two months.

For example, suppose ABC Inc. makes the following sales, shown in Table B.12.

Table B.12 Sales by month for ABC Inc.

	January	February	March	April	May	June
	$10,000	$12,000	$14,000	$16,000		

All sales are made on credit terms where customers are required to pay in the month following, that is, the next month.

So, the cash would be received, as shown in Table B.13.

Table B.13 Cash receipts from sales for ABC Inc.

	January	February	March	April	May	June
		$10,000	$12,000	$14,000	$16,000	

However, suppose that only 60% pay in the next month, and that the remaining 40% pay in two months.

The cash receipts would be, as shown in Table B.14.

Table B.14 Cash receipts for ABC when 60% pay in one month, 40% in two months

	January	February	March	April	May	June
60%		$6,000	$7,200	$8,400	$9,600	
40%			$4,000	$4,800	$5,600	$6,400

B.6.1 A simple example

1. On January 1, Entrepreneur Inc. was started by the introduction of $25,000 capital. The capital was placed in the bank account on January 1.
2. Sales are expected to be $40,000 per month
3. Purchases are planned of $30,000 per month

4. Sales will all be made on credit terms of payment within one month of sale, and the cash is usually received in the month following the sale.
5. Suppliers will be paid one month following the purchase being made.
6. Selling and distribution costs are expected to be $5,000 per month and paid in the month in which they are incurred.
7. Tax liability is expected to be paid in April of $2,000
8. Noncurrent assets are purchased on January 2 for $20,000.

Calculate the anticipated cash budget for the period of January 1 – June 30.

The resultant cash budget from the data given above is shown in Table B.15.

Table B.15 Cash budget for Entrepreneur Inc.

Description	January	February	March	April	May	June	Total
	$	$	$	$	$	$	$
Capital	25,000						25,000
Sales		40,000	40,000	40,000	40,000	40,000	200,000
Purchases		(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(150,000)
Selling and distribution	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(30,000)
Taxation				(2,000)			(2,000)
Non current assets	(20,000)						(20,000)
Net cash flow	0	5,000	5,000	3,000	5,000	5,000	23,000
Opening balance	0	0	5,000	10,000	13,000	18,000	
Closing balance	0	5,000	10,000	13,000	18,000	23,000	

The example in table B.15 illustrates the impact on cash flows of customers paying a month later. This is one of the reasons why it is so important to keep control of the length of time it takes to customers to pay. It not only illustrates the level of working capital required to start a business but impacts on the length of the working capital cycle.

The working capital cycle can be calculated as the number of days that need to be financed. For example, raw materials are purchased and can be used immediately on delivery to produce the product, which takes 30 days to manufacture. The purchases must be paid for 30 days from the date of receipt. The items are on average held in inventory for 15 days before a sale is made, and customers take, on average, 45 days to pay.

The working capital cycle is the number of days to manufacture (during which labor and production expenses need to be paid), plus the days in inventory, plus the credit period taken by customers before the organization gets reimbursed with the money, but we can deduct the credit received from suppliers. So, 30 +15 + 45 – 30 days = 60 days. The level of working capital required must enable the organization to operate for 60 days.

The following example is the same as the previous example in Table B.15 with the one difference that customers do not all pay within the standard credit terms.

Note how this affects the closing balance in the early months and the ending balance after six months, shown in Table B.16.

It illustrates the need for good credit control and working capital management.

1. On January 1, Entrepreneur Inc. was started by the introduction of $25,000 capital.
2. Sales are expected to be $40,000 per month
3. Purchases are planned of $30,000 per month
4. Sales will all be made on credit terms of payment within one month of sale. 60% of the customers are expected to pay in the month following the sale and 40% two months from the date of sale.
5. Suppliers will be paid one month in arrears (following the month of purchase).
6. Selling and distribution costs are expected to be $5,000 per month and paid in the month in which they are incurred.
7. Tax liability is expected to be paid in April of $2,000
8. Noncurrent assets are purchased on January 1 for $20,000.
9. Calculate the anticipated cash budget for the period of January 1 – June 30.

Table B.16 Cash budget for Entrepreneur Inc. when customers pay 60% in month following and 40% two months from date of sale.

Description	January	February	March	April	May	June	Total
	$	$	$	$	$	$	$
Capital	25,000						25,000
Sales – 60%		24,000	24,000	24,000	24,000	24,000	120,000
Sales 40%			16,000	16,000	16,000	16,000	64,000
Purchases		(30,000)	(30,000)	(30,000)	(30,000)	(30,000)	(150,000)
Selling and distribution	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(5,000)	(30,000)
Taxation				(2,000)			(2,000)
Non current assets	(20,000)						(20,000)
Net cash flow	0	(11,000)	5,000	3,000	5,000	5,000	7,000
Opening balance	0	0	(11,000)	(6,000)	(3,000)	2,000	
Closing balance	0	(11,000)	(6,000)	(3,000)	2,000	7,000	

B.7 Financial analysis

Financial analysis is undertaken as part of the routine reporting within management accounts. The ratios also provide a means of comparison between various business units within a business, and with other organizations. It is, therefore, useful for competitor analysis and can be used as part of benchmarking financial performance against industry standards. The financial ratios are used by investors to assess the performance of the organization and are of interest to other stakeholders in understanding the performance. Strengths and weaknesses that are due to the financial performance and the balance sheet situation can also be ascertained.

The following ratios are not comprehensive coverage of all the ratios that can be calculated concerning management accounts but include the most common ratios.

Gross Profit Percentage

$$\frac{Gross\ profit}{Sales\ revenue}\ x\ 100 = x\%$$

Gross profit is the difference between the sales value and the cost of goods sold. In a manufacturing environment, the cost of goods sold would include the cost of manufacturing, the individual elements of which would be monitored closely via cost control measures. In an organization that purchases products for onward sale, this can be used as a measure of purchasing effectiveness and can indicate the potential emergence of supplier power or buyer power in the industry. For example, if costs are rising and the organization is unable to pass on cost increases to customers, the margin will reduce. Similarly, if there is downward pressure on prices from customers, and increasing levels of competition on price, the margin will reduce. Ideally, the organization is seeking to maintain the margin from year to year, at least. Reductions in margins can be an early warning sign of problems to come later.

Operating Profit Percentage

$$\frac{Operating\ profit}{Sales\ revenue}\ x\ 100 = x\%$$

By deducting the operating costs from the gross margin, the operating profit is obtained. Further analysis can be undertaken to ascertain trends within the operating costs that require attention. A reduction in operating profit could result from a gross margin reduction but can also indicate that the operating costs need careful investigation. The operating profit is also taken before interest and tax. This is significant when using this ratio for competitor analysis, as this makes the comparison more meaningful.

Interest payments are affected by the way an organization has chosen to finance itself. Therefore this could affect profit levels taken after interest payments, and tax reflects the tax regimes where the organization does business. However, it is a valid assumption that organizations in the same sector face similar operating costs, and therefore a difference in operating profit (before interest and tax) could be due to different operational decisions and efficiencies.

Return on Capital Employed (ROCE)

$$\frac{Operating\ profit}{Capital\ employed}\ x\ 100 = x\%$$

The return on capital employed provides a means of measuring how effectively the organization is using the capital employed within the business. Capital employed can be analyzed into share capital and loan capital. The mix of this is known as the capital structure and can be monitored via the gearing ratio. The definition of capital employed can be slightly different in that some definitions will include total equity (shareholders' funds) and all the noncurrent liabilities. In contrast, other definitions will consist of total equity and only long-term borrowings. So long as the ratio is calculated consistently, a valid comparison between years and with competitors can be made. This is true of any ratio—the inclusion of items on a consistent basis provides a valid comparison.

Asset Turnover

$$\frac{Sales\ revenue}{Capital\ employed} = number\ of\ times$$

The asset turnover is another ratio where various formats can be used. It is also possible to use the total assets, or net assets, or noncurrent assets to produce a ratio. The ratio shown here uses the capital employed as this creates a relationship between the operating profit and the return on capital employed. It provides a means of monitoring how well the organization is using the capital within the business.

The asset turnover, as shown, indicates the revenue that is generated from every dollar of capital invested. The higher this figure becomes, the more effective the organization is at generated income from the capital invested. It can be used in divisional performance management to set targets for both operating profit and asset turnover. An increase in either will result in an increase in return on capital employed. This is illustrated below.

$$\frac{Operating\ profit}{Sales\ revenue}\ x\ \frac{Sales\ revenue}{Capital\ employed} = \frac{Operating\ profit}{Capital\ employed}$$

The sales revenues in the equation will cancel each other out to leave the formula for return on capital employed.

Gearing Ratio

$$\frac{Long\ term\ borrowings}{Equity + Long\ term\ borrowings}\ x\ 100 = x\%$$

The gearing ratio indicates the proportion of total capital that is represented by borrowings. The significance is that loans require contractual interest payments, so they must be paid whether the organization makes a profit or not. High levels of gearing become problematic when economic conditions make trading difficult, thus putting downward pressure on the gross profit and operating profit. As the interest must still be paid, it could put the organization into financial difficulties. The mix of capital will have an impact on how easy it is for an organization to raise funds to finance new strategic initiatives. It also affects the cost of capital, which is often used as a discount factor in investment appraisals (see section 8.5), and therefore the management accountant has an interest in the capital structure of the organization.

Return on Shareholders' Funds or Equity

$$\frac{Profit\ after\ interest\ and\ tax}{Total\ equity\ (also\ known\ as\ shareholders\ funds)}\ x\ 100 = x\%$$

The return on shareholders' funds provides an indicator of performance from the shareholder perspective. The profit here is after interest and tax so that the profit is what is left for shareholders. Like the gearing ratio, this can also have an impact on an organization's ability to raise finance for future strategies.

Working Capital Management

An organization requires a certain amount of capital to manage the operations. For example, staff and suppliers may need to be paid before the organization receives money from the customers, especially if credit periods apply. This is called working capital, and a series of ratios can be used to monitor this aspect of the business. This links to the cash budget as the management of working capital can have a significant impact on the cash levels available.

Working Capital Ratio—Current Ratio

$$\frac{Current\ assets}{Current\ liabilities} = number\ of\ times$$

An organization needs to know that it can pay its current liabilities when required. As a rule, to have some comfort, this ratio needs to indicate that current assets exceed current liabilities, but it is dependent on the industry sector. For example, in some businesses where customers usually pay in cash or via credit card such as retailing, organizations can survive quite happily on a ratio of less than 1:1. Supermarkets typically operate on a current ratio of 0.6.

Quick Ratio

$$\frac{Current\ assets - inventory}{Current\ liabilities} = number\ of\ times$$

As it takes time to convert inventory into cash, if it is sold on credit, the quick ratio tests whether an organization can fulfill its current liability obligations at short notice from more liquid sources. The receivables element of current assets can be turned into cash quite quickly by using the services of a collection agency that provides the cash to the organization (usually less a fee) and then recoups the cash from the organization's customers. The impact this may have on customer relationships needs to be considered if an organization chooses this as a collection strategy, as customers may resent being approached by a third party. It highlights the need to consider the broader implications of decisions and not to make decisions based on numerical analysis only.

Receivables Days

$$\frac{Trade\ receivables}{Sales\ revenue\ from\ credit\ sales}\ x\ 365 = number\ of\ days$$

The receivables days measures how long it takes customers to pay for the goods. It is more appropriate to use credit sales as the divider to this equation as these are the sales that generate the receivables on the balance sheet. When calculating the ratio for competitors from published accounts, however, it is often not possible to distinguish the credit sales from cash sales. This is where experience can help as if an organization typically makes very few cash sales, then it is a fair assumption that competitors have the same spit of cash and credit sales.

Payables Days

$$\frac{Trade\ payables}{Purchases}\ x\ 365 = number\ of\ days$$

The payables days measures how long it takes the organization to pay its suppliers. Trade payables should be paid within the agreed credit terms, but this does not always happen. Ideally, organizations do not want to pay their suppliers faster than they receive cash from their customers. Hence, the balance between the receivables days and payables days is significant for cash flow. When calculating the ratio for competitors, the purchases figure is not always available. Therefore the use of the cost of goods sold can be used as a substitute for purchases.

Inventory Days

$$\frac{((Opening + Closing\ inventory)/2)}{Cost\ of\ goods\ sold}\ x\ 365 = number\ of\ days\ goods\ held\ in\ inventory$$

The inventory days measure the average time that the organization holds goods in inventory before the sale. In inventory management, this would be calculated for most product lines or groups to identify the presence of slow-moving items. However, the overall number of days is useful as a measure from year to year to ensure that the amount of capital tied up in inventory is not excessive. When calculating the ratio for competitors, it may be necessary to use the closing inventory figure rather than calculating the average inventory.

Interest Cover

$$\frac{Profit\ before\ interest\ and\ tax}{Interest\ charges} = number\ of\ times$$

The interest cover indicates how easily the organization can meet its obligations to debt providers and pay the interest when due. This links closely to the level of gearing as high gearing can mean high interest charges and could put the organization in financial difficulties if, during the process of environmental scanning (section 3.6), it is noticed that interest rates may be increased in the future.

Earnings Per Share

$$\frac{Profit\ for\ the\ year\ (after\ interest\ and\ tax)}{Number\ of\ shares\ in\ issue} = value\ of\ earnings\ per\ share$$

The earnings per share (EPS) is an investment indicator and can determine how easily an organization can attract additional funds from equity markets. The higher the EPS, the more attractive the organization's share may be.

B.7.1 An example of ratio analysis

Suppose that both X Inc. and Y Inc. sell electrical goods to retailers, that is, they are in the same industry sector, but are based in different geographical areas of the same country. The income statements and balance sheets for one year are shown in Table B.17, and the resultant ratios are shown in Table B.18.

Table B.17 Income statement and Balance Sheets for X Inc. and Y Inc.

Income statement for the year ended January 31, 20xx.

		X Inc.		Y Inc.
	$000	$000	$000	$000
Revenue		4,000		6,000
Cost of sales				
Opening stock	200		800	
Purchases	3,200		4,800	
	3,400		5,600	
Less: closing stock	400		800	
		3,000		4,800
Gross profit		1,000		1,200
Expenses				
Distribution costs	200		150	
Administration expenses	290		250	
Total expense		490		400
Operating profit		510		800
Interest paid		10		400
Profit before tax		500		400
Taxation		120		90
Net profit for the period		380		310

Balance sheets as on January 31, 20xx

		X Inc.		Y Inc.
	$000	$000	$000	$000
Noncurrent assets				
Warehouse and office buildings	1,200		5,000	
Equipment and vehicles	600		1,000	
		1,800		6,000
Current assets				
Inventory	400		800	
Trade receivables	800		900	
Other receivables	150		80	
Cash and cash equivalents	0		100	
	1,350		1,880	
Less current liabilities				
Trade payables	800		800	
Other payables	80		100	
Short-term borrowing (overdraft)	200		0	
Current tax payable	120		90	
	1,200		990	

Net current assets	150	890
	1,950	6,890
Less long-term loan (10% p.a.)	0	4,000
Net assets	1,950	2,890

	$000	$000
Equity		
Share capital	1,000	1,600
Revaluation reserve	0	500
Retained profits	950	790
	1,950	2,890

Table B.18 Financial ratios for X Inc. and Y Inc.

	X Inc.	Y Inc.
Gross profit percentage	25.0	20.0
Operating profit percentage	12.75	13.3
Return on capital employed	26.15%	11.6%
Return on equity	19.5%	10.7%
Asset turnover	2.05	0.87
Current ratio	1.1	1.9
Quick ratio/acid test	0.79	1.09
Gearing	N/A	58%
Interest cover	N/A	2
Inventory days	48.7	61
Receivables days	73	55
Payables days	91	61

The best approach would be to analyze the performance over a number of years. Still, for the purposes of illustration, we could make the following observations based on the financial statements for one year.

X Inc. has a higher gross profit percentage than Y Inc. This could be due to differences in the pricing strategy as well as sales volumes and product mix. It might also be due to the supplier relationship that X or Y has developed and their ability to negotiate costs with suppliers. For example, if X were able to purchase goods at lower prices, the company would be able to keep costs lower and increase its margin. Another explanation may be that as the companies operate in different parts of the country, the economic conditions in the different parts of the country may impact on the prices that can be charged.

The operating profit percentage is about the same level for both companies. This indicates that X has higher operating costs, for example, distribution, selling, and administration costs, than Y. Following through the fact that they operate in different parts of the country, this may also contribute to the difference in operating costs, for example, establishment costs such as rent, distribution costs, salary levels, and so on. However, this would need investigating further.

X achieves a higher ROCE than Y, which is due to better asset utilization (asset turnover). This means that X utilizes the capital employed much more effectively than Y. It is also followed through into the return on equity, where X achieves a better return for the shareholders.

Concerning liquidity, Y has a higher current ratio than X and therefore is slightly more liquid, which means it is in a better position to pay its current liabilities as they fall due. X should not be too worried as its current ratio is 1.1 and therefore is in a position to pay its obligations. When looking at the quick ratio, however, X falls below 1, whereas Y is at 1.09:1, leaving Y in a better position.

Y, however, has gearing of 58 percent, which is relatively high, creating a high interest charge, but it can cover this twice, so is managing to pay its interest from profit. X, on the other hand, has no gearing, using long-term finance entirely from equity sources.

Y has inventory days of 61 and X of 48.7. It would be useful to identify what level of inventory is typical for this business. Still, both companies could probably benefit from reducing this level and releasing the cash tied up in inventory. In terms of receivable days and payable days, X has 73 and 91 days, respectively, whereas Y has 55 and 61 days, respectively. Both companies could benefit from managing their receivables and payables at lower levels. X, with creditor days of 91, is probably becoming unethical in its treatment of suppliers unless it has negotiated longer credit terms as part of the supplier agreement.

B.8 Review questions

(See section B.10 for solutions to these review questions).

Question 1 – Breakeven analysis

John sells product X for $10 each. During the year he can sell 40,000 products.
John buys product X for $5 each.
His operating fixed costs for the year are $150,000.
How much profit does John make in the year?
What is the breakeven point for John?
What is his margin of safety?

Question 2 – Breakeven analysis

John sells product X for $12 each. During the year he can sell 35,000 products.
John buys product X for $8 each.
His operating fixed costs for the year are$100,000
How much profit does John make in the year?
What is the breakeven point for John?
What is his margin of safety?

Question 3 – Limiting factor

In cases where there is a short term shortage on inputs such as labor or materials, it is useful to calculate the contribution per limiting factor. For example, suppose that an organization produces three products A, B, and C. The following data is available for the next accounting period.

	A	B	C
Selling price	$40	$50	$60
Materials $3 per kg	2 kg	4 kg	5 kg
Labour $10 per hour	2 hr	2 hr	3 hr
Anticipated sales volumes	2,000	1,500	1,000

Materials are in abundant supply due to stocks held, but due to lockdown restrictions imposed due to the covid-19 virus, the labor hours available during the period are only 8,000 hours.

Required:

Calculate the contribution per limiting factor (labor hour) and the preferred level of output for each of the products A, B, and C.

Question 4 – Flexed budgets

Consider the results of XYZ Inc for the first month of the budget.

		Original budget		Actual for month
Sales units		30,000		28,000
	Usage	$	Usage	$
Sales price		20.00		21.00
Direct materials kgs	15,000	5.00	13,500	6.00
Direct labor hrs	30,000	10.00	27,000	11.00
Variable overhead per labor hr		3.00		3.10
Fixed overhead		100,000.00		102,000.00

Required

(a) Calculate the original budgeted profit and actual profit and the variance for XYZ.
(b) Flex the budget for the actual volume sold and calculate the following variances.

Sales volume
Sales price
Total sales variance
Direct materials usage
Direct materials rate
Total materials variance
Direct labor efficiency
Direct labor rate
Total labor variance
Variable overhead efficiency
Variable overhead expenditure
Total variable overhead variance
Fixed costs

Question 5 – Cash budgets

1. On January 1, Entrepreneur Limited was started by the introduction of $100,000 of capital.
2. Sales are expected to be $250,000 per month
3. Purchases are planned of $175,000 per month
4. Sales will all be made on credit terms of payment within one month of sale. 60% of the customers are expected to pay in the month following the sale and 40% two months from the date of sale, i.e., 60% of the money for the sales made in January is received in February, and the remaining 40% is received in March.
5. Suppliers will be paid one month in arrears (following the month of purchase), i.e., the purchases made in January will be paid for in full in February.
6. Selling and distribution costs are expected to be $10,000 per month and paid in the month in which they are incurred.
7. A legal liability of $5,000 is expected to be paid in February.
8. Noncurrent assets in the form of equipment are purchased on January 1 for $150,000. A payment schedule has been agreed with the supplier of the machine to pay for this as follows: January $100,000, with $25,000 payable in March and the balancing $25,000 is payable in June.

Required:

(a) Calculate the net cash flow for each month and the closing bank account balance at the end of each month for the period January to June.

(b) Discuss ways in which Entrepreneur Limited could manage the cash shortage in the early months.

(c) Briefly discuss the importance of proper cash management for an organization.

Question 6 – Ratios

The following are the financial statements of MNO Inc. for 2019 and 2020. MNO Inc. manufactures electrical goods which it supplies to high street retailers.

Income Statement for the year ended December 31

	2019	2020
	$000	$000
Sales revenue	499	602
Cost of sales	(335)	(423)
Gross profit	164	179
Operating expenses	(127)	(148)
Operating profit (before interest and taxation)	37	31
Interest payable	(13)	(22)
Profit before taxation	24	9
Taxation	(8)	(3)
Profit after taxation	16	6

Balance Sheet as at December 31

		2019		2020
	$000	$000	$000	$000
Noncurrent assets		110		134
Current assets				
Inventory	68		83	
Trade receivables (Debtors)	80		96	
Cash	6		2	
	154		181	
Current Liabilities				
Trade payables (Creditors)	(71)		(116)	
Taxation	(8)		(3)	
	(79)		(119)	
Net Current Assets		75		62
		185		196
Noncurrent liabilities				
Borrowings (long-term debt)		(55)		(60)
Net Assets		130		136

Equity		
Ordinary shares of $0.50 each	13	13
Capital reserves	33	33
Retained profit	84	90
Total equity (Shareholders funds)	130	136

The Financial Director has extracted comparative figures from an industry report and has calculated the following ratios showing the industry average.

The industry average for electrical goods manufacturers.

	2019	2020
Return on capital employed	20%	15%
Return on equity (Shareholders funds)	15%	10%
Gross profit margin	30%	25%
Operating profit margin	10%	5%
Current ratio	1.5:1	1.5:1
Quick assets ratio	1.0:1	1.1:1
Gearing ratio	25%	25%
Trade receivables collection period (days)	45 days	50 days
Trade payables collection period (days)	35 days	45 days

Required:

(a) For MNO Inc. calculate the following ratios for both 2019 and 2020

(i) Return on capital employed
(ii) Return on equity (Shareholders funds)
(iii) Gross profit margin
(iv) Operating profit margin
(v) Current ratio
(vi) Quick assets ratio
(vii) Gearing ratio
(viii) Trade receivables collection period
(ix) Trade payables collection period

(b) Comment on the performance of MNO Inc. by comparing the performance in 2020 with the performance in 2019, **AND**, also, in relation to the industry average.

B.9 References

Helper, S., Kleiner, M. and Wang, Y. (2010) *Analyzing Compensation Methods in Manufacturing: Piece Rates, Time Rates, or Gain-Sharing?* Cambridge, MA: National Bureau of Economic Research.

B.10 Solutions to review questions

Question 1 – Breakeven analysis

Sales	$10 x 40,000 =	$400,000
Cost of sales	$5 x 40,000 =	$200,000
Contribution		$100,000
Fixed costs		$150,000
Profit		$ 50,000

It is also possible to arrive at the contribution by multiplying the contribution per unit by the volume of sales. Then deducting the fixed costs provides the profit.

Contribution per unit

Sales	$10
Less direct cost	$5
Contribution	$5

Breakeven point.

Fixed costs / contribution per unit = B/E point

$150,000 / $5 = 30,000 units

Margin of safety = sales – B/E sales

Margin of safety is 40,000 – 30,000 = 10,000

25%

Question 2 – Breakeven analysis

Sales	$12 x 35,000 =	$420,000
Cost of sales	$8 x 35,000 =	$280,000
Contribution		$140,000
Fixed costs		$100,000
Profit		$ 40,000

Contribution per unit

Sales	$12
Less direct cost	<u>$8</u>
Contribution	$4

Breakeven point

Fixed costs / contribution per unit = B/E point

$100,000 / $4 = 25,000 units

Margin of safety = sales – B/E sales

Margin of safety is 35,000 – 25,000 = 10,000

28.57%

Question 3 – Contribution per limiting factor

The contribution of each product is:

	A	B	C
	$	$	$
Selling price	40	50	60
Materials	6	12	15
Labor	20	20	30
Contribution	14	18	15

As labor is the limiting factor, the contribution per limiting factor is calculated as follows: Contribution / labor hours

	A	B	C
Contribution per limiting factor hr	7	9	5

Product B provides the highest contribution per limiting factor so the organization should use the labor to produce the products it believes it can sell of product B, followed by product A and any hours left can be used to produce product C. It should allocate labor as shown:

	A	B	C	Total
Production hrs	4,000	3,000	1,000	8000
Production	2,000	1,000	333	

Question 4 - Flexed budgets

		Original budget		Actual for month	Variance		
Sales units		30,000		28,000			
	Usage	$	Usage	$			
Sales price		20.00		21.00			
Direct materials kgs	15,000	5.00	13,500	6.00			
Direct labor hrs	30,000	10.00	27,000	11.00			
Variable overhead		3.00		3.10			
Fixed overhead		100,000.00		102,000.00			
		$		$	$		
Sales		600,000		588,000	(12,000)		
Direct materials		75,000		81,000	(6,000)		
Direct labor		300,000		297,000	3,000		
Variable overheads		90,000		83,700	6,300		
Fixed overheads		100,000		102,000	(2,000)		
Profit		35,000		24,300	(10,700)		
	Budget for 28,000 units						
Flexed budget		$		$	$		
Sales	28,000 * $20	560,000		588,000	28,000		
Direct materials	28,000 x 0.5 kg x $5	70,000		81,000	(11,000)		
Direct labor	28,000 x 1 hr x $10	280,000		297,000	(17,000)		
Variable overheads	28,000 x $3	84,000		83,700	300		
Fixed overheads		100,000		102,000	(2,000)		
Profit		26,000		24,300	(1,700)		
	Planned			Actual			
	Level of activity	Price/rate	Should be	Activity	Price/rate	Was	Variance
Sales volume	30,000	20.00	600,000	28,000		560,000	(40,000)
Sales price		20.00	560,000	28,000	21.00	588,000	28,000
Total sales variance							(12,000)
Direct materials usage	14,000	5.00	70,000	13,500		67,500	2,500
Direct materials rate		5.00	67,500	13,500	6.00	81,000	(13,500)
Total materials variance							(11,000)
Direct labor usage	28,000	10.00	280,000	27,000		270,000	10,000
Direct labor rate		10.00	270,000	27,000	11.00	297,000	(27,000)
Total labor variance							(17,000)
Variable overhead efficency	28,000	3.00	84,000	27,000		81,000	3,000
Variable overhead expenditure		3.00	81,000	27,000	3.10	83,700	(2,700)
Total variable overhead variance							300
Fixed costs			100,000			102,000	(2,000)

Question 5 - Cash budget

Part (a)

Description	January	February	March	April	May	June	Total
Capital	100,000						100,000
Sales – 60%		150,000	150,000	150,000	150,000	150,000	750,000
Sales 40%			100,000	100,000	100,000	100,000	400,000
Purchases		(175,000)	(175,000)	(175,000)	(175,000)	(175,000)	(875,000)
Selling and distribution	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(10,000)	(60,000)
Legal fees		(5,000)					(5,000)
Noncurrent assets	(100,000)		(25,000)			(25,000)	(150,000)
Net cash flow	(10,000)	(40,000)	40,000	65,000	65,000	40,000	160,000
Opening balance	0	(10,000)	(50,000)	(10,000)	55,000	120,000	
Closing balance	(10,000)	(50,000)	(10,000)	55,000	120,000	160,000	

Part (b)

When starting a business, it is a good idea to calculate the working capital cycle and to inject enough cash to see the business through the first few months. The initial capital injection could be increased, and then once the business is established, if desirable by the owner, some cash could be paid in the form of a dividend. It is also possible to consider making part of the initial injection of cash in the form of a loan.

If good credit control is used, the customers could be encouraged to pay earlier, which would increase the cash received each month and would reduce the deficit in the first month of trading. Ethically it is not good to delay payment to creditors, but this could be considered via negotiating with the suppliers. The same could be done with the legal expenses, but this already appears to be two months after the service is provided.

Delaying the additional expenditure in noncurrent assets would also relieve the early months. A delay by one month would improve the positive cash flow in March.

Part (c)

Many businesses fail while making a profit due to running out of cash and credit facilities. Proper cash management is essential for a business start-up. Planning the expenditure on noncurrent assets and making sure that the working capital cycle can be adequately covered in the early months is important. Cash is required to grow a business, and if sufficient resources are not available, it will stifle any future growth, and the business will be more likely to fail.

Question 6 - Financial ratios and interpretation

Part (a) calculation of ratios.

	2019	2020
Return on capital employed	20%	15.8%
Return on equity (Shareholders funds)	12.3%	4.4%
Gross profit margin	32.9%	29.7%
Operating profit margin	7.4%	5.1%
Current ratio	1.9:1	1.6:1
Quick assets ratio	1.1:1	0.8:1
Gearing ratio	29.7%	30.6%
Trade receivables collection period (days)	58.5 days	58.2 days
Trade payables collection period (days)	77.4 days	100.1 days

Part (b)

The gross margin of MNO Inc. has reduced in 2020 by 3.2%. This is not a big concern as the industry average has decreased by 5%, so there may be some environmental factors causing an increase in the costs of the industry members, or competition is forcing prices down. MNO Inc. has fared slightly better than the industry average.

When considering the operating margin together with the drop in the gross margin, however, there is cause for concern as the difference between the two, being the operating costs is 24.6% in 2020 for MNO Inc. compared to 20% for the industry. This implies that MNO Inc. does not have as much control over its operating costs as some of the other industry members. If this trend continues, MNO Inc. will be operating at a lower level of profit than the industry, which may begin to cause discontent amongst the shareholders.

Currently, the return on capital employed is at about the same level of the industry, but the shareholder return is much lower, 4.4% for MNO Inc. in 2020 compared to 10% for the industry. Both of which have seen a reduction from 2019 levels.

The gearing level of MNO Inc. is higher than the industry standard; in fact, it as increased by a small amount since 2019. Although MNO Inc. would not be considered as highly geared, the low return on investment means that any future finance might be difficult to raise on equity markets which would mean loan capital may be the best option. This could be problematic as the interest charge has increased in 2020, and if additional loan capital is raised, this will put pressure on the net profit, which will impact shareholders' returns. MNO Inc. needs to address its operating costs to ensure that the operating profit does not continue to fall until it reaches a non-sustainable level.

The current ratio of MNO Inc. is slightly higher than that of the industry average. The level in 2019 could be said to be too high. The level of inventory held by MNO Inc. is higher than that of the industry as the quick asset ratio falls by more than the industry average, so that it is below the industry. Neither the current ratio nor the quick asset ratio of MNO Inc. is cause for concern. In fact, they have improved to more comparable levels in 2020, but the management team will need to manage the working capital at acceptable levels.

The debtor days are higher than the industry average and ideally could do with more credit control to reduce the length of time customers are taking to pay. The payables, however, are a cause for concern as part of the movement in the current ratio is due to an increase in payables days. MNO Inc. is in danger of unethical behavior as they are taking more than three months to pay their suppliers. A plan for reducing this and managing the cash levels, possibly by gradually reducing inventory and getting control of the receivables would assist this. It would not be advisable to inject loan capital to address this issue as long-term finance should only be used for long term projects.

Overall, MNO Inc. is not in any worse shape than the industry average, except for the poor return to shareholders. As a strategy, MNO Inc. should put measures in place to control the operating costs ensuring that they do not rise anymore and increase the monitoring and control of working capital.

Appendix C - HW Inc. case study – Draft ideas and solutions for activities

A note on the suggested solutions

There is often not just one correct answer to many of the activities related to HW Inc. Strategy can be entirely subjective, and therefore what follows as suggested solutions are just that. They are suggestions. The purpose and key to these activities are to apply your knowledge and judgment to the questions using the evidence placed before you and to justify your viewpoint. Your view and opinion are probably just as valid as anyone else's, so long as you can explain it.

Chapter 1, Activity 1 – HW Inc. Approach to strategy

Rational approach

There are several areas in the case study information that supports a rational approach to strategy. In section A.1, it notes that HW Inc. grew by diversification and that the overall structure is such that the strategy and operations can be controlled by the C-suite senior management team, who view it as a form of parental control.

In section A.5, examples of a rational approach that could be used to support the argument include the acquisition of the European logistics company so that HW Inc. may more directly control online deliveries to customers; the cost reduction exercise; the references to supply chain management; moving manufacturing to emerging economies for strategic reasons; the reference to a "future potential review"; actively seeking areas for international business expansion; and discussing options such as creating a bank. These examples would support a rational, planned approach to strategy.

The rationalization of stores in section A.6 supports this viewpoint. Section A.7 also refers to working closely with suppliers on sustainability, the hub and spoke logistics which has good strategic reasons for its adoption, and the control exercised over the concessions. All of these decisions support a rational approach.

Emergent strategies

There are, however, two significant events that suggest emergent strategies. The introduction of the sports equipment and apparel and the instigation of the interior design business could be described as emergent strategies. Both began by one manager trying out the idea, we can assume without full head office knowledge until after the event. The scenario suggests that these ideas were picked up later by the C-suite senior management team and the initiatives 'crafted' into the overall strategy for HW Inc.

Outside-in or inside-out

Deciding whether the approach is outside-in or inside-out is hugely subjective, especially as we have little information about the thought process behind the strategies adopted by HW Inc. One argument might be that the strategy appears to be an outside-in approach. There are numerous references to customers and the customer experience, which implies that rather than working on core competencies as a competitive advantage, HW Inc.'s strategy has customer needs and experience as the primary focus. The activities adopted are done for the benefit of the customer need, potentially indicating an outside-in approach.

The vision and mission are customer-focused; even the cost reduction exercise was undertaken without compromising quality and customer service. In section A.7, it specifically mentioned that the hub and spoke, and inventory management has an impact on customer satisfaction ratings. Also, the store layout is designed with customer experience in mind. The whole focus of HW Inc.'s strategy appears to be looking externally at the customer and the market and developing the core competencies to satisfy the customer, rather than developing core competencies which it then hopes will give it a competitive advantage. The emergent strategies also appear to have been a response to an external stimulus rather than internal competencies, which strengthens the case for the outside-in approach.

There is, however, an alternative view in that the expertise in inventory management, supply chain management, logistics, store layout, and the design of sustainable products are competencies that HW Inc. has perfected. By concentrating on these core competencies, it has turned some into distinctive competencies to give it a competitive advantage. These aspects might be said to be taking an inside-out approach.

In practice, there are likely to be elements of both outside-in and inside-out, as there are examples of emergent strategies within the overall rational, planned approach to strategy development. A good management team will be alive to the possibility of opportunities arising from outside and inside the organization.

The key is to have the courage of your conviction to argue your viewpoint.

Chapter 2, Activity 2 – HW Inc. Vision and mission

Evaluate the vision and mission statement.

Campbell, Devine, and Young (1990) suggested that a good mission statement should include elements of purpose, strategy, behavior standards, and values. Lynch (2003) suggesting that a good mission statement is one that:

- Communicates the nature of the business
- Considers the customer
- Sets out the values and beliefs
- Encompasses a sustainable competitive advantage
- Is flexible to allow for changes in the environment
- Is realistic and attainable

The mission of HW Inc. clearly communicates what the organization does in terms of offering a range of quality products that can be used in creating the perfect home. The vision tends to use phrases that are subjective such as "make life easier," "realize their dreams," and "make the world a happier place." These are more visionary and more difficult to quantify in terms of objectives. Elements of the mission statement, however, in referring to "affordable and competitive prices, backed up with exceptional customer service," lend themselves well to the setting of strategic objectives.

The mission includes elements of strategy. It could be argued that the mission sets out how HW Inc. intends to compete, its target markets, and the use of resources to achieve its strategy. It is perhaps more difficult to determine from the statement whether the reference to "affordable prices" is a cost-led strategy or the "exceptional service" is a differentiated strategy. We would need more information about the competitors to understand precisely where in the market for homeware HW Inc. intends to position itself. Quality products can refer to more expensive products targeted at the discerning customer, as opposed to low-cost products aimed at a high-volume market. The statement does appear to consider the customer, but precisely what demographic is targeted is less clear.

The statements concerning the use of "sustainable materials wherever possible, engage in staff development activities to help all of our staff become ambassadors for clean and healthy living, encourage and facilitate our staff to become involved in the local community activities, while providing a reasonable return for our investors" all relate to behavior standards, as do many of the core value statements, which also set out the values and beliefs of HW Inc.

We can see how the company intends to compete, but as to whether this is sustainable depends on how well the company is managed. This point links to being flexible for change.

HW Inc. includes within the values: "We take sustainability seriously and always try our best to act responsibly towards our future environment. We value our employees and seek ways to help all to develop as individuals. The wellbeing of our customers and their families is at the forefront of our development." These statements could infer that they are willing to change in response to a changing environment, but the aspects of the development of employees and wellbeing are entirely subjective. We would need to see how these are interpreted in the strategic objectives to judge how flexible the organization could be.

It is interesting that investors are considered as it could be argued that if investors are not happy, the organization would not be in business long enough to be sustainable and engage with local communities in the future.

Implications for management information

The implications for the management information are that the traditional/conventional accounting techniques such as budgeting, cost control, and so on would be useful. But the reference to competitive prices and sustainable materials indicates the requirements for external information. There would also need to be qualitative objectives such as customer satisfaction and employee morale to understand the achievement of exceptional customer services and employee development.

Without noting specific techniques, we could assume that HW Inc. would benefit from a more strategic approach to management accounting with the inclusion of quantitative and qualitative, internal and external, and historical and future-oriented information. We could also say that all of Simon's levers for control would be relevant to some extent within HW Inc.'s management control system. The inclusion of diagnostic and interactive controls would almost certainly be useful within the management accounting system.

Chapter 3, Activity 3 – HW Inc. Environmental analysis

Part (a) HW Inc. environmental analysis

The environmental analysis for HW Inc. will be undertaken using two analytical frameworks - PESTEL and Porter's Five Forces. The PESTEL framework (political, economic, sociocultural, technological, environmental (sustainability), and legal factors) is a useful tool for analyzing the general (macro) business environment and its potential impact on HW Inc., whereas Porter's Five Forces is a helpful framework for analyzing the forces that influence the profitability and attractiveness of the industry sector in which HW operates.

Political

HW Inc. is a global company in that the company operates across six continents. This global aspect exposes the company to issues of political stability in different parts of the world and the policies of different political regimes. For example, some countries may adopt a protectionist approach to foreign companies doing business in their country, which could make it more difficult for HW Inc. to trade on a competitive basis and to expand its overseas business.

The issue of BREXIT and the future of European trading regulations is creating uncertainty and making it difficult for companies to plan, not least, the impact that the issue has had on the U.K. currency (pound sterling). Until there is more certainty about how BREXIT will be achieved, it is difficult for HW Inc.'s board of directors to plan effectively for the impact that it will have on the company.

Also, the economic risk associated with trading in different economies cannot be overlooked, as not all economies behave in the same way. In fact, not all economies were affected to the same degree by the financial crisis, and indeed, the emerging economies behave differently to the more developed economies. The senior management team of HW Inc., therefore, need to develop regional strategies that fit within the overall strategy of HW Inc. In some respects being diversified geographically helps to mitigate the economic risk, as when some parts of the world are not growing, other trading groups may be doing quite well, for example, the recently named TICKs and MINT countries (Taiwan, India, China, Korea and Mexico, Indonesia, Nigeria, Turkey).

Economic

The economic cycle can be at different stages in different countries, which, for a company operating in six continents, can be a positive or a negative aspect depending on how well the senior management team manages the situation. HW Inc. should be able to cope with this situation as it has established subsidiary companies that have a more "local" responsibility. Therefore, it should be possible to develop regional strategies that fit within the overall corporate strategy.

Foreign exchange issues will also influence trade within a global company, particularly where products are sourced from global suppliers and suppliers operating locally in different parts of the world. There is an overlap with the political issues as government policies will affect the local economies and trading conditions in local markets. Therefore, the senior management team needs to be able to build in some flexibility to their strategic planning to cope with any differences in political or economic impacts.

Sociocultural

The fact that HW Inc. trades in six continents also opens significant cultural aspects, such as the product ranges and working practices, which need to be culturally acceptable and adapted to the local consumers and employees. HW Inc. will not be able to assume a standard product mix across the whole global company but must tailor it to local preferences taking into account the demographics and culture of each country.

Trends in shopping, such as online shopping, maybe more developed in some countries than others, and therefore, not only the product ranges but also the mode of operation will need to be adapted. HW Inc.'s senior management team will also need to be aware of the changes within the local demographics and shopping trends to ensure that it's offering remains current and up to date. This has implications for marketing research and highlights the importance of taking account of consumer feedback in its local markets.

Technology

Technology affects HW Inc. in several ways. The product ranges include electrical goods which are continually being developed by the manufacturers and it is essential that HW Inc. is aware of the current trends, and that it is offering an up to date product range. This has implications for supplier relations and inventory management in that while it is crucial to provide the latest models, HW Inc. does not want to hold an excessive inventory of items that are changing at a rapid pace.

The technology used in the marketing and sales channels also needs to be up to date and take account of trends in the sector, for example, the use of social media advertising, and online and mobile shopping. This requires HW Inc. to continually monitor trends in the use of technology by its customer base and to invest in new technology to support and promote those trends that are favored by its customers. The development of technology and its increased availability of information flows to, and from, the customer opens the possibility of using data mining techniques to discover trends and previously unknown relationships. This ability comes with the added responsibility of protecting its customers from cyber-crime. Therefore HW Inc. needs to invest in the security systems that safeguard both its own and customers' data.

Environmental

It is logical to include sustainability within the environmental heading as this is a topic that is very current and has implications for manufacturing, product development, retailing and general operations of companies. As HW Inc. trades in six continents, it is vital that they operate a robust ethical code and adopt a corporate code of practice that provides a framework for all decisions, wherever they are taken within the world. Used positively, this can support the corporate brand values and ethical standards stated on the corporate website.

Sustainability issues impact on supplier relationships and HW Inc. have in place policies relating to quality and the operating standards of its suppliers. The company has also adopted a strong ethical stance, which is essential to maintain and promote as part of its corporate image as a responsible company. There has recently been an increase in media attention on corporate behavior, partly due to the number of scandals that have received significant publicity, and the senior management team must be aware of the growing significance placed on this by the general public.

The impact of the covid-19 pandemic does not easily fit under any specific heading but can be logically related to environmental issues. The senior management team needs to be aware of the political approach to the pandemic in each country in which it operates and ensure that it operates within the rules established. The pandemic is likely to have a significant impact on the operations of HW Inc. Therefore, there needs to be a local response but also a corporate plan to recover post-pandemic. This will mean a full strategic review of the organization and its scale of operations.

Legal

The senior management team needs to be aware of the legal issues surrounding consumer trading in all the continents in which it operates. The subsidiary companies will be vital in ensuring that they are trading within the law on all continents. Copyright and patent law are also significant for its product and brand protection, and issues such as the copying of designs and technology that are prevalent in some countries need to be monitored to ensure that the HW brand is not devalued.

As HW Inc. operates a credit card, legislation relating to consumer credit needs to be monitored, as does labor laws, planning regulation for new stores, and health and safety. Some of these elements can be quite complex when operating in many different countries. Therefore HW Inc. would be advised to have a separate legal department if it does not already have one, which can monitor and advise on legal issues affecting the company.

Porter's Five Forces

The threat of new entrants, buyer and supplier power, availability of substitute products, and competitive rivalries are discussed below.

The threat of new entrants

HW Inc. operates in a highly competitive industry which is dominated by large companies who are capable of exercising buyer power and enjoy significant economies of scale. Their presence would tend to reduce the potential for new entrants. The marketplace, however, is quite diverse in that there are many independent companies and specialist shops that operate in part of the market, that is, companies selling reduced product ranges and on a more local geographic basis. This indicates that, although the number of independent retailers has been decreasing in recent years, there is still plenty of scope for new entrants on a smaller scale, or medium-sized companies to scale-up and compete.

HW Inc. cannot be complacent about the threat of new entrants, even though the threat may be quite low and difficult for companies to compete on a similar scale as HW Inc. and its current direct competitors. In fact, the danger is more likely to come from existing competitors increasing their global reach by expanding into markets where HW Inc. already has a presence.

The pressure from concessions companies could also be a way for new entrants to gain access to the market or at least more control over the sale of their products, which could have an impact on the profitability of concessions for the large retailers such as HW Inc.

Supplier power

When retailers are so large, it is often the case that the power is in the hands of the larger retailers. This can be due to the economies of scale, giving them buyer power, and the strategic importance they present as a customer of smaller suppliers. In most cases, this is probably true; however, exclusive brands may have considerable power in negotiations if the retailer is keen to stock their products to offer the leading brands to the public. The balance of power in negotiations often comes down to the power of the brand.

Suppliers are keen to make their products available on a global basis, and therefore would benefit from the global company stocking their products. The retailer is eager to be seen to offer the leading brands. HW Inc. has adopted a policy of working closely with suppliers for mutual benefit and, therefore, should be able to mitigate any supplier power that exists, meaning that it is probably quite low.

Buyer power

In retailing, it is difficult to say that the buyer has much power on their own. The very fact that there is a considerable degree of choice to the consumer means that competition for their custom is extremely high amongst the retailers. Therefore, it is the degree of competition created by consumer choice, and low switching costs of the consumer, that keeps the downward pressure on the prices rather than any significant buyer power.

Substitute products and services to the output of the industry

The fact that HW Inc. and many of its competitors offer convenience as one of its key selling points tends to mitigate any substitutes that might be available. There are indeed many different products that a customer can buy, but this is more to do with competitive rivalry, that is, buying a competitor product rather than an HW Inc. product. The threat from substitute products is quite low in the case of HW Inc.

Competitive rivalry

It is possible to conclude that the key driving force that affects the profitability of the industry is probably competitive rivalry. As explained earlier, the main threat of new entrants is possibly from existing local competitors becoming more global. Buyers have low switching costs and a large variety of choice of retailer, which impacts on the degree of competitor rivalry. There are few substitutes, which again increases competitive rivalry as companies compete for the consumers' attention, and suppliers have little power over the larger retailers. Therefore, the biggest threat is the competition for customers and the factors affecting the industry from the PESTEL analysis, which will affect the whole sector, albeit some companies more than others.

Part (b) The major challenges

[The ideas here do not represent the only correct answer, as this is subjective, and based on your cultural background, education, and experiences, you may have different views. This is something that the senior management team would discuss to arrive at a consensus on which to base their future strategy.]

The major challenges being faced by HW Inc. from the environment include:

The degree of competition in the homeware market from major competitors as the upward pressure on costs and the downward pressure on prices means that margins are becoming smaller. The increase in the globalization of brands and major competitors is also of concern as this affects all the markets in which HW Inc. operates.

The issue of political and economic stability over the next few years, particularly in the light of BREXIT and the effect of changes in political regimes in many countries, will need to be monitored carefully. This changing situation creates uncertainty, and the senior management team will need to keep up to date on what is happening in the global economy to respond.

Technology is changing the way consumers shop, and the trend towards online and mobile shopping is something that HW Inc. will need to ensure that they are aware of to retain customers, but also to take advantage of new ways to attract customers.

Environmental and sustainability issues, including fair trade and ethical trade, could be seen as significant for retailing. Not only are consumers becoming more concerned, but governments are also beginning to legislate to force companies to operate on a more sustainable and socially responsible basis. This potential change of views could have implications for methods of operation, design of products, and supply chain issues, all of which could impact on costs.

Of more immediate concern will be the covid-19 pandemic and the impact on the organization and the need to develop a recovery strategy.

Part (c) How can the accountant contribute to the process of environmental analysis?

The following points could be made concerning part (c).

Points may include but are not restricted to:

- Assisting in the collection and provision of information on external factors, for example, industry statistics, interest rates, and economic data.

- Evaluating the financial impact of environmental influences on HW Inc., for example, increased emphasis on sustainable products, BREXIT as more information becomes available, or shift from in-store to online shopping.
- Linked to the above, assisting in assessing HW Inc.'s ability to deal with changes in the environment to ascertain whether changes are opportunities or threats.
- Competitor analysis, for example, assessment of key competitor financial performance for comparison to HW Inc.
- Assisting in the development of scenario analysis to evaluate the impact of strategic options and the potential impact on the business environment, for example, expanding operations in emerging economies, rationalizing the high street presence, and placing more focus on online shopping.

Chapter 4, Activity 4 – HW Inc. Portfolio analysis

Part (a)

Critically evaluate the usefulness of using portfolio analysis, such as the Boston Consulting Group (BCG) matrix, in developing strategies to manage diverse organizations such as HW Inc.

Answers may include but are not restricted to the following points.

Potential answers could explain the axes of relative market share and market sector growth, commenting on how easy or difficult it is to assess both aspects.

Market share requires external info on both markets and competitors.

Growth requires an assessment of growth rates, which may not be easy to ascertain from available information.

At best, the construction of the matrix is based on estimates of the business units' position, so it is not a precise tool but acts as a guide to management decision making.

Answers should mention that the BCG can be used at a corporate level where business units are mapped on the matrix, or at a product level where product groups are mapped. In fact, for HW Inc., the model could be used at a store level, mapping market growth in the local area, at a country level. For example, the U.S., or at a global level, where countries become the business units being mapped, and the growth rate per country becomes relevant. It is, therefore, quite a powerful tool in assessing the potential strategies that could be employed within the business.

The answer should also include mention of uses and advantages:

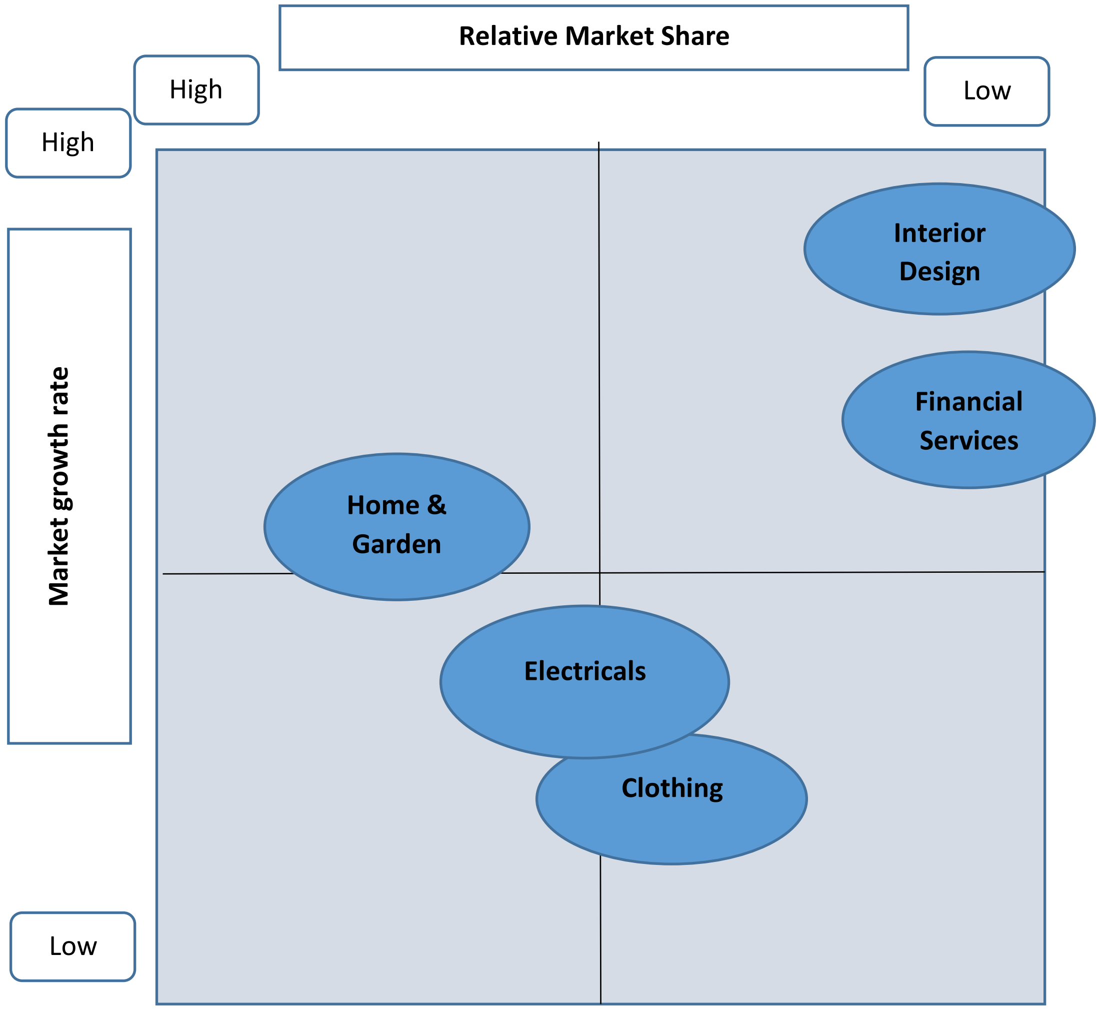
- Internal balance – a mix of new products to replace old ones
- Assess trends over time – is the strategy working?
- Evaluate threats from the competition – analysis competitor portfolio
- Ascertain the level of business risk and scenario analysis – assessing different strategies

Criticisms

- Too simplistic – only uses two dimensions
- Neglects synergies between business units/products
- It depends on how you define the market

- Focus is on cash – not profitability!
- The underlying assumption that high share is good – can be dangerous if not understood.
- High market share does not necessarily lead to profitability
- Market share is not the only indicator of success
- Sometimes dogs can generate high levels of cash
- A business with a low market share can be profitable too
- May miss small competitors that have high rates of growth
- Requires high volumes of information for an extensive portfolio of products plus problems of obtaining data

Part (b)
Note that the discussion and viewpoint expressed as to strategies that could be adopted is not the only answer to this part. Make sure that you justify your viewpoint.



The Interior Design and Financial Services have relatively low market shares but are in market sectors that have a high growth rate. This puts them in the question mark category. The BCG matrix would indicate that these require investment to enable them to grow. However, although HW Inc. has plans for the development of these product groups, they primarily support products to the main business, and so turning them into Stars may not be the objective, that is, does HW Inc. really want to compete with major financial services firms. This would require high levels of investment in what is an extremely competitive market. Plus, the potential for increased government regulations may make it a more specialized market that limits future growth rates.

Similarly, the Interior Design services might be very good operating as a niche area within which HW Inc. has a presence, rather than trying to compete with specialist firms. HW Interior Design does have an advantage in that it is backed by the HW Inc. product range and manufacturing unit, and the senior management team could focus on growing this part of the business, mainly as it appears to be quite profitable. However, the high growth is due to a market trend, and it might be worth undertaking some research to determine if this is likely to continue in the future, or if it is just a short-term trend. The planned move towards targeting corporate clients might be a good move as it takes the business unit away from a reliance on growth that might only be due to a trend in the consumer market. It will require investment in expertise in the corporate and education sectors.

The home and garden business has a relatively high market share and is in a market with a relatively high level of growth, which puts it in the Star category. The BCG suggests this business unit would require investment to maintain its market share so that as growth slows, it becomes a cash cow. It is also supported by the HW Inc. product design and manufacturing units with the HW brands and, therefore, the senior management team needs to continue to invest in the manufacturing to support the HW product ranges. They also need to maintain supplier relationships as the supply of a variety of other brands is essential in this sector.

The electrical product group is competitive, and HW Inc. has a relatively high market share in a growing, but not a particularly fast-growing market sector. The difficulty in this sector is that some sub-product groups, such as audio-visual, are continually being developed, and keeping the product range up to date is significant for consumers. There is also a lot of competition from specialist electrical goods retailers in the high street. Ideally, HW Inc. needs to maintain its presence in this market and maintain its market share. Links with suppliers to ensure ranges are up to date and supported by good inventory management will be essential factors to focus on in this sector. Perhaps the use of concessions might be an option that HW Inc. could expand in this product group, if not already exploited, as it could help share the risk.

The clothing sector is relatively low growth and set to remain so in the future. Although HW Inc. has a relatively small market share, and the BCG matrix puts it in the dog category, there is nothing that suggests that HW Inc. should exit the product group completely. The clothing range could still be contributing to fixed costs and profit. HW Inc. could consider limiting the space given to the product group or try to exploit concessions more to reduce the risk and investment in inventory required, particularly with the seasonal nature and fashion-led influences of some of the products within this group.

Part (c)

Financial controls for question marks – the key is that HW Inc. is making investments in the product ranges in this sector and should, therefore, treat decisions as investment decisions.

- Net present value (discounted cash flow) project appraisal approach to investment

- Strategic milestone targets set
- Target costing/profitability of division and its products
- Control over marketing expenditure
- Competitor analysis important

Financial controls for stars and rising stars – the key here is to continue to invest in the product range to ensure that market share does not slip back below competitors, but also to keep a watchful eye on the actions of competitors.

- Net present value (discounted cash flow) for further investment
- Marketing controls, effect on market share analysis
- Competitor analysis

Financial controls for cash cows – here, HW Inc., needs to try and maximize cash flow and contribution per product and square foot. It is these products that provide the cash flow to invest in other products within the question mark and star sectors.

- Return on investment/residual income targets to ensure position maintained
- Customer account profitability – where possible, or customer segment profitability.
- Contribution per product maximized
- Cash generation targets

Financial controls for dogs – here, HW Inc., is trying to minimize the investment and reduce reliance on the products, perhaps while maintaining a market presence.

- Cost controls to minimize costs
- Free cash flows maximization

Chapter 4, Activity 5 – HW Inc. Customer profitability analysis

Part (a)

The profitability of each customer type is shown below:

	Customer type 1	Customer type 2	Customer type 3	Customer type 4	Customer type 5
	$	$	$	$	$
Initial sales	1,000	1,000	2,500	3,000	1,500
Less goods return at full sales value	0	(200)	(500)	(1,500)	(250)
Net sales	1,000	800	2,000	1,500	1,250
Less cost of goods at 75%	(750)	(600)	(1,500)	(1,125)	(937.5)
Gross profit on sales	**250**	**200**	**500**	**375**	**312.5**

Other customer-related costs					
Process mail orders (orders x cost per order)	0	30	20	0	0
Process phone orders (Average time spent x number of orders x hourly rate)	20	0	0	80	0
Process online orders (orders times cost per order)	0	0	0	0	1
Process returns (number of returned items x cost per item)	0	60	30	210	30
Standard delivery costs (number of orders x delivery cost)	10	60	40	120	20
Overnight deliveries (number of overnight deliveries x cost per request)	4	0	0	48	0
Total other costs	**34**	**150**	**90**	**458**	**51**
Customer profitability	**216**	**50**	**410**	**(83)**	**262**
Deduct customer maintenance (marketing) estimate per customer	50	50	50	50	50
Customer profitability less maintenance costs	166	0	360	(133)	212
Profit as % of net sales revenue - before marketing costs	21.6%	6.3%	20.5%	(5.5%)	20.9%
Profit as % of net sales revenue - after marketing costs	16.6%	0.0%	18.0%	(8.9%)	16.9%

Note: as the cost of customer maintenance (marketing) is the best estimate and it does not vary by customer, and therefore the relative profitability is not be affected by its inclusion, a subtotal has been taken before its addition. It is recommended that additional investigation into this cost is undertaken, such as identifying the cost of the catalog separately, and monitoring customer complaints by both customer type and type of complaint, so that a more accurate allocation can be achieved.

Part (b)

Customer types 1, 3, and 5 are the most profitable types. Type 1 due to the high-value order; type 3 due to the good gross profit earned with relatively lower other costs; type 5 as they use the ordering process with the most economical cost, that is, online orders, and accept the standard delivery terms, also their returned items are not excessive.

The type of customer that is the least profitable is type 4 as they return 50% of the orders and always request special delivery. Type 2 is a relatively high-volume low order value customer, so the 'free delivery' policy is reducing the profitability of this type of customer.

Part (c)

The costs of each activity could be reviewed to see if improvements can reduce them in working practices. Also, a review of policy towards customers may be useful, for example, the management of HW Inc. could consider the returns policy, as this appears to be encouraging customers such as type 4 to return goods even if this is only to ask customers to pay the return postage. However, care must be taken of the potential impact on other more profitable customers. The special deliveries could be charged to customers in their entirety, as well as increasing the charge to cover the administration fee. This may deter customers from requesting this service every time. Also, consideration of a minimum order value before delivery costs are free could also be considered. Reviewing what competitors charge should be considered to make sure that policy changes do not affect the competitive position.

It would also be worth encouraging customers to use online ordering wherever possible, as this is the lowest cost for HW Inc. However, the customer base and access to the internet must be considered. This should be a consideration as internet coverage improves in various countries.

As mentioned above, the costs of maintaining the customer could be analyzed in more detail – as well as the reasons for customer returns, as this could potentially be reduced by providing more information. For example, if the products are clothes, more detailed sizing information could be beneficial or improving the description of items in the catalog.

Chapter 4, Activity 6 – HW Inc. Value creation system

The value chain for HW Inc. – Retail operations	
Structure, strategy, management systems	Team of technical specialist Quality policy and procedures designed to support quality operations and control supplier quality standards. Decentralized management but with oversight from parent company
Technology	Inventory management system supports inputs and delivery to the customer IT network aids the whole of the value system
HRD	Staff training and development

	Inputs	Operations	Delivery to customer	After-sales service
Primary activities	Flatpack of furniture Close links with suppliers JIT systems aids inventory management	Financial services could be part of the operations and are seen as part of the normal offering (may also have a marketing effect, i.e., attracts customers because of easy payment terms). Concessions are part of the operations. Store layout and design. Links between stores and manufacturing merges operations and inbound logistics with manufacturing value creation system	Flatpack of furniture Hub and spoke distribution system.	Assembly and installation if viewed as being an add-on to the basic sale. Guarantee and maintenance contracts after-sale. Financial services, if seen as an add-on
Marketing and sales	Marketing channels and sales proposition. Look and feel of stores and store layout has a marketing effect. TV advertising, web, etc. Link to manufacturing units for a specific order.			
The value chain for HW Inc. – Factory unit				
Structure, strategy, and management systems	Team of technical specialist Quality policy and procedures designed to support quality operations and control supplier quality standards.			
Technology	Inventory management system supports inputs, operations, and delivery to customers. IT network aids the whole of the value chain			
HRD	Staff training and development			

	Inputs	Operations	Delivery to customer	After-sales service
Primary activities	Close links with suppliers JIT aids inventory management	Manufacture of furniture	Hub and spoke distribution system of retail stores Delivered direct to the customer for Interior Design customer orders	None
Marketing and sales	Interior design and retail outlets create demand Made to measure orders sent directly to the factory from the retail unit or Interior Design Customer tracking of order could be considered as marketing and sales activity			

Chapter 4, Activity 7 – HW Inc. Financial Ratio analysis

The financial ratios are shown below.

	Industry average	2020	2019	2018	2017	2016	2015	2014
Gross Profit percentage of revenue	30.5%	24.8%	25.5%	25.9%	31.1%	31.6%	32.0%	32.1%
Operating profit percentage of revenue	2.5%	-1.0%	1.2%	2.8%	2.0%	1.9%	2.1%	4.4%
Return on Net Assets (Profit for year/Net Assets)	3.5%	-1.1%	2.0%	3.4%	3.0%	2.4%	3.1%	7.0%
ROCE - Operating profit as percentage of Capital Employed (Operating profit/Long term borrowings plus Equity)	6.2%	-1.4%	1.7%	3.8%	3.6%	3.4%	4.0%	9.0%

Asset turnover (Sales revenue/Long term borrowings plus Equity)	2.5	1.4	1.4	1.4	1.9	1.8	1.9	2.1
Non-current asset turnover (Sales revenue/Non-current assets)	3.0	2.0	2.1	1.9	2.5	2.5	2.5	2.6
Gearing percentage (Long term borrowings / Equity + Long term borrowings)	40%	0.7%	0.7%	4.1%	6.2%	5.9%	6.3%	6.6%
Current Ratio (Current assets/Current liabilities)	2.0	1.9	2.1	1.9	1.9	1.9	2.0	1.7
Stock turnover (Inventory/cost of sales) *365 = number of days stock held	100	109.1	87.5	112.2	84.5	91.8	89.8	93.5
Receivable days (Trade receivables / revenue) *365 = average days to collect	75	76.5	71.6	68.2	45.9	42.5	38.9	38.1
Payable days (Trade Payables / Cost of sales) *365 = average days to pay suppliers	90	124.7	121.7	116.3	86.3	95.9	76.8	96.3

The underlying trend of HW Inc.'s financial performance over the last six to seven years is one of worsening performance. In nearly all instances, it is worse than the industry average. It would be interesting to see if the industry average has also deteriorated over the last six years or so, as in 2014, HW Inc. was performing better than the current industry average, but this is over six years ago.

The gross profit has reduced from 32.1% to 24.8% and is nearly 6% less than the industry average. This fall could be due to a reduction in sales prices due to the competition, or a rise in the costs of goods sold, or change in the mix of sales. There was evidence of increasing competition and upwards pressure on costs in the environmental analysis. Still, one would expect that this would also be reflected in the industry average if it were an industry-wide phenomenon. It appears that HW Inc. has suffered more than others.

One of the ratios that organizations attempt to keep constant, particularly in retailing, is the gross profit. Once a drop in gross margin occurs, the only way to keep the operating profit level healthy is to reduce operating costs. On the plus side, although the operating profit is less than the industry average and has diminished over the last seven years, the gap between the gross profit and operating profit, that is, the operating expenses have reduced. In 2014 the difference was 27.7 percentage points. In 2019 it was 24.3 percentage points and 25.8 in 2020. This indicates that at least the management team has managed to contain operating costs for several years. Still, the disappointing aspect is the current loss and project continued loss in 2021.

The comments of the Chief Executive are perhaps relevant here in that he has given reasons for the decline during the last two to three years as being due to the effect of inconsistent store operations across the group, issues with stock availability, an estate of physical stores that is still too large to support the level of sales currently being generated, the increasing trend towards online shopping, and product pricing on some ranges not being competitive in the current market place (see the financial performance section in the case study). Most of these reasons appear to indicate the big issue is with generating enough sales from the estate that HW Inc. is operating. This is supported by the asset turnover figure that indicates that HW Inc. is only generating $1.4 for every $1 of capital it invests, and the non-current asset turnover which indicates that HW Inc. only generates $2.0 for every $1 of non-current assets. In contrast, the industry average is $2.5 and $3.0 respectively. This illustrates that HW Inc. is not generating enough revenue and could point to the product range and pricing strategy, as the CEO suggests. With the reduced operating profit percentage over the year and the loss in 2020, this indicates why the return on capital employed is lower, that is, operating profit multiplied by the asset turnover equals the ROCE. In HW's case for 2019: 1.2% x 1.4 = 1.68% (or rounded to 1.7%), and 2020: 1.0% loss x 1.4 asset turnover = a negative ROCE of 1.4%, and for the industry average: 2.5% x 2.5 = 6.2%. Therefore, HW Inc. needs to increase its operating profit and asset turnover.

The issues cited by the CEO could have been a problem over a more extended period than just the last two or three years to which the CEO is referring. The worrying aspect is that 2021 looks as if the trend has continued, possibly even before the covid-19 pandemic. The impact this will have on shareholders willing to make further investments cannot be underestimated. The problem does appear to be within the product area of the business.

The interesting aspect of the comparison is that HW Inc. has exceptionally low gearing. Given the low interest rates now, it would make sense for HW Inc. to consider financing any capital projects via loan capital. However, if interest rates rise, HW Inc. will need to make sure that the increased operating profits from new investments are capable of covering the interest payments, that is, they need to make sure that they can service the loan in the long term.

The current ratio is not much different from the industry and represents a reasonably healthy position. However, if product obsolescence is an issue, inventory management will require special attention. The new inventory management system has helped keep operating costs lower, and the average stock days are lower than the industry average, which is encouraging. But HW Inc. needs to make sure that the product ranges it stocks are moving. Therefore inventory turnover by product category and product line needs to be monitored to identify slow-moving product lines or where demand is low or at risk of obsolescence.

The receivable days are about the same as the industry average, but HW Inc.'s is increasing. This needs to be monitored carefully to make sure that it does not increase anymore.

The payable days are also lengthening, and HW Inc. needs to be careful that this does not begin to damage its relationship with key suppliers.

The analysis above is based on HW Inc. as a whole. It is assumed that the industry average includes companies that also trade globally and is, therefore, a meaningful comparison. HW Inc. should analyze the business performance over the six continents and within each country. It could be that different parts of the world are performing differently, and this would have an impact on the future strategy. The analysis of product groups and business units (Interior Design, Manufacturing, and Financial services) should also be broken down by region.

If possible, a comparison with the significant competitors rather than the industry should be undertaken. While the industry average is useful, it might be more beneficial to make a more direct comparison with companies of a similar size and global operation to that of HW Inc.

Investigating the trends in online shopping versus in-store and trends in click and collect should also be investigated. This could include an investigation into the efficiency of the hub and spoke delivery system.

An area that is difficult to analyze from the information provided is the effectiveness and efficiency of the manufacturing operations. Presumably, this is lost within the product analysis, but it would be useful to investigate whether operating their manufacturing unit is still the best option. For example, what is seen to be the strategic advantage of manufacturing HW's own products? Is it possible to gain economies of scale to make it cost-effective? Is it control over production and quality, or a strategic understanding of the manufacturing processes to be able to negotiate with other manufacturers that provide the strategic benefit?

Chapter 5, Activity 8 – HW Inc. SWOT analysis

Part (a)

[The SWOT analysis is often done in bullet point format in the form of a cruciform chart. However, for the many examinations or coursework, tutors prefer it if you explain your points. As SWOT, like environmental analysis, can be subjective it is better if you explain why you feel that an issue presents a strength or weakness, etc.]

The SWOT analysis brings together internal analysis and external analysis. It provides an answer to the question, where are we now? or presents a view of the current strategic position of the company. It is sometimes referred to as a corporate appraisal.

Strengths

HW Inc. offers a wide range of products via a variety of marketing and sales channels under the brand values of convenience, quality, and price, which it uses as part of its market offering. This diversity of products and marketing channels can be a key strength to be used in its competitive strategy.

HW Inc. is geographically diversified, that is, operates in six continents, and therefore, has some resilience to local economic cycles, but would still be affected by a global recession.

Investment in inventory management systems is helping to reduce inventory levels, and the investment in technology could be seen as a strength in that it will help to retain HW Inc.'s competitive position and help to reduce costs, which, in turn, will help to restore margins.

HW Inc. has a diverse workforce and invests in training, which can be a strength and helps to reinforce its competitive strategy of convenience and quality.

The low gearing could be a strength in that HW Inc. would be able to raise finance for future strategic initiatives, even if via a loan rather than equity. To raise significant funding via equity would require the confidence of shareholders, so a thoroughly evaluated and convincing strategic plan would need to be put forward to stop the decline and stimulate growth.

Weaknesses

The fact that some stores are seen to need refurbishment could be a weakness. This could affect the brand image if the senior management team does not address the issue – it will require investment in the stores. Still, it could be done in conjunction with the rationalization of store space if stores in certain areas are unprofitable. This may, however, have an impact on the overall profitability of HW Inc.

Despite the new inventory management system HW Inc. has experienced occasional stock-outs on some products, which could damage customer goodwill if not addressed. Similarly, in overseas markets, if publicity of alleged corruption is reported and found to be accurate, this could also damage the brand image and require the senior management team to take demonstrative action to show that they take the issue seriously. Also, the publicity HW Inc. has received concerning the "non-promotion," or reliance on U.K. staff, to manage the stores could have a negative effect. The senior management team needs to monitor and be aware of media coverage that reflects on the company. Still, they must not let media coverage drive the strategy; that is, they must not react without giving the matter due consideration to making the right strategic decision.

The poor financial performance of 2020 and the reducing margins in the industry generally is also a weakness. The chief executive has identified the factors leading to this, which may indicate poor management decision making. This situation could affect shareholder relations and their confidence in the senior management team and make it more difficult to raise finance for future expansion or strategic initiatives that required funding. The fact that shareholders have expressed their concern should highlight the significance of addressing the issue sooner rather than later. The senior management team cannot hope that it is a short term issue that will auto-correct itself next year without some form of strategic action on their part. Of course, the impact of the covid-19 pandemic will need to be addressed as part of any strategic plan to address the poor performance of the last year.

Opportunities

Opportunities in the form of market development, product development, and diversification have already been put forward. These are typical areas for expansion, and the senior management team needs to use the SWOT analysis to make sure that future strategies are evaluated on whether they build on strengths, address weaknesses, avoid the threats, and are consistent with the overall strategic values of the company.

Threats

Possibly the most significant threat is the impact of covid-19. This has affected the whole industry globally and therefore affects all areas of HW Inc. and its competitors. The senior management team will need to develop a strategy quickly that responds to the crisis and also ensures the survival and future profitability of the organization.

The economic uncertainty created by issues such as BREXIT and political stability in some parts of the world also creates a threat. This uncertainty makes developing a strategy more problematic, especially when there is a high degree of risk about the future trading arrangements that could be available. The potential fallout in terms of trade wars could impact on global supply chains. HW Inc. should lobby governments to put forward their view of what should happen and to join other industry leaders in pressing for a resolution.

Also, the senior management team needs to monitor the degree of uncertainty around the financial stability of various countries as governments prop up financial markets as this could affect currency rates and the cost of imports and exports of goods sold by HW Inc.

Current low consumer confidence in western countries will affect the industry but is also having an impact on HW Inc.'s performance. The effect of covid-19 on customers' willingness to return to normal will need careful monitoring and measures taken to encourage shoppers to return in a safe environment.

The globalization of suppliers and rising labor costs and material costs generally will be a threat to the whole industry; therefore, the senior management team will need to address this issue so that it impacts on HW Inc. less than its competitors.

The increased competitive nature of the market is putting pressure on margins, and with low consumer confidence and upward pressure on costs, it is becoming more difficult to maintain margins.

Part (b)

Key strengths

- Global reach – as this provides some protection from economic cycles.
- Available finance – although recent financial performance has been quite weak (see weaknesses), HW Inc. does have the ability to raise funding to undertake strategic developments.

Key weaknesses

- Recent poor financial performance may put HW Inc. into financial difficulties. The senior management team could also come under pressure if shareholders decide that they no longer represent a good investment and the recognition that the leading cause of poor performance could be due to poor management decisions.

Key opportunities

- There are plenty of opportunities to expand the business both via product development, market development, and diversification – the senior management team will need to make sure that it does not try to be too ambitious.

Key threats

- The impact of covid-19 needs to be addressed as a matter of urgency.
- Increased competition in the marketplace, coupled with low consumer confidence.
- The uncertainty surrounding BREXIT in Europe and other political factors, such as the relationship between America and China, will make it challenging to plan global supply chains. Tariffs on goods could impact on costs.

Chapter 6, Activity 9 – HW Inc. Competitive strategies

Part (a)

Numerical analysis

Year	Total number of Kitchen Units sold	Sales Value of Kitchen Units	Interior Design Sales revenue generated from Kitchen design	Operating profit generated from Kitchen Units and Design together
		€m	€m	€m
2018	2,050	922,500	650,000	162,000
2019	2,700	1,080,000	600,000	144,000
2020	3,600	1,260,000	550,000	107,500

Note: Profit from Interior Design services usually is 15% of the sales value generated from Design.

Year	Total number of Kitchen Units sold	Sales Value of Kitchen Units	Interior Design Sales revenue generated from Kitchen design	Operating profit generated from Kitchen Units and Design together		Profit generated from Interior Design - 15% of sales value for Interior Design C x 15%	Profit from Sales of Kitchen Units D-E
	A	B	C	D		E	F
		€m	€m	€m		€m	€m
2018	2,050	922,500	650,000	162,000		97,500	64,500
2019	2,700	1,080,000	600,000	144,000		90,000	54,000
2020	3,600	1,260,000	550,000	107,500		82,500	25,000

		Average sales price of kitchen units B / A €	Average Profit of Kitchen Unit F / B €	Average Cost of Kitchen Unit (Average sales – average profit) €
2018		450	31.46	418.54
2019		400	20.00	380.00
2020		350	6.94	343.06

The numerical analysis indicates that the increase in the volume of kitchen units has potentially been achieved by reducing the price. This is probably a response to the competitive market in Italy. The analysis relies on the suggestion that a 15% profit is achieved on the Interior Design services. We would wish to check this fact. It does, however, indicate that as costs of kitchen units have not reduced at the same rate to match the reduction in price. The profit per unit has, therefore, also decreased. The conclusion is that a cost leadership strategy could not be sustained unless HW Italy can reduce the manufacturing costs of its own branded products and negotiated prices with other suppliers.

Part (b)

HW's overall strategy is one of convenience, quality, and price. However, sustaining a further reduction in price does not look viable, given the decreasing profit per unit. There is the added danger that reducing the price could undermine the 'quality' aspect of HW Inc.'s sales proposition.

The managing director of HW Italy commented that the Italian customer is looking for functionality with style. If the competitive market is moving more towards a focus on price, there may be an opportunity for HW to **differentiate** its product offered by emphasizing the quality aspect, or "functionality with style." This strategy may justify a slightly higher price in the marketplace and help to maintain the margin.

A differentiated strategy may entail some work on the design of the HW Italy range to ensure that the products meet the "functionality with style" aspect. It provides the opportunity to look at the manufacturing process to see if it is possible to reduce the costs and still meet customer expectations. A technique known as target costing could be used in which the end price, less a profit margin, is used to create the target cost to which designers can work.

The claim that the Interior Design services make 15% profit should be investigated, and some marketing research and analysis could be undertaken to test whether the sales of Interior Design services could be increased. Questions need to be asked, such as, what is the state of the current market and the current trends within this area of business? What is HW's current market share, and what is the probability that this can be increased? What might the reaction of competitors be? Does HW Italy currently have the capacity to take on additional Interior Design services, for example, will it require further recruitment and hence costs? What is the lead time for updating the product range?

Chapter 6, Activity 10 – HW Inc ABC picnic tables

Part (a)

Calculation of traditional method – single overhead absorption rate

Total overhead = $429,000

Number of products produced = 12,000 + 14,000 = 26,000

Overheads per product based on units produced.

$429,000/26,000 = $16.50 per product.

Total cost per product	Alpha	Beta
	$	$
Material (total/units produced)	20.00	25.00
Labor (total/units produced)	14.00	10.50
Overheads (as calculated)	16.50	16.50
Total cost per product	**50.50**	**52.00**
Mark-up 25%	12.63	13.00
Selling price	**63.13**	**65.00**

Calculate the activity cost driver rates

Total activity	Alpha	Beta	Total
Machine hours	2,100	2,400	4,500
Orders executed	150	110	260
Production runs	90	40	130
Number of shipments	50	15	65
Number of returns	90	40	130

Cost per activity driver			
	$		$
Production overheads	180,000	4,500	40.00
Material Handling	78,000	260	300.00
Quality inspection	130,000	130	1000.00
Delivery	26,000	65	400.00
Production returns	15,000	130	115.38
Total	429,000		

Calculate overhead rate (activity x cost driver rate)

Overheads per ABC	Alpha	Beta	
Production overheads	84,000	96,000	
Material Handling	45,000	33,000	
Quality inspection	90,000	40,000	
Delivery	20,000	6,000	
Production returns	10,385	4,615	
Total	249,385	179,615	429,000
Output in units	12,000	14,000	
Overhead cost per unit	20.78	12.83	

Calculate direct costs per unit, total cost and selling price

Direct costs	Alpha	Beta
Materials	240,000	350,000
Labor	168,000	147,000

Total cost per product	Alpha	Beta
	$	$
Material (total/units produced)	20.00	25.00
Labor (total/units produced)	14.00	10.50
Overheads (as calculated)	20.78	12.83
Total cost per product	**54.78**	**48.33**
Mark-up 25%	13.70	12.08
Selling price	**68.48**	**60.41**

Part (b)

The use of ABC aids management decision making on pricing and cost control because it provides a more informed method of allocating costs. It highlights the costs of various activities based on the current utilization of resources, and in some cases, can highlight where this cost is unusually high. This would prompt management to investigate further to see if the cost can be reduced.

It also provides a more informed basis on which to set prices when using a cost-plus method. The activity-based costs consider the level of activity used by each product and allocate costs accordingly. It provides a fairer allocation of costs to products. However, we should bear in mind that activity base costs calculated using historical data may not be relevant for the future. If, as they should be, costs are based on estimates of future activity, the cost may be incorrect if the estimates provided are highly inaccurate. However, with modern forecasting techniques, there is no reason why future estimates cannot be reasonably accurate. In the case of new products where estimates could be aspirational, that is, marketing hopes to sell a given number of products; sensitivity analysis should be undertaken to test the impact on costs and hence profitability. It should also be recognized that volumes can have a significant effect on whether the target costs of new products are achieved or not.

Under the old method of allocation that of merely allocating costs based on the number of units produced, Alpha has a selling price of $63.13, and Beta, $65.00. However, under ABC, this is switched so that Alpha is the most expensive at $68.48, and Beta is the lower-priced of the two products at $60.41. As ABC considers the activities involved, this is probably a more realistic pricing method.

Therefore, so long as management is aware of the potential issues when reviewing ABC costs, it can aid their decision making in identifying areas of improvement in the production process and also when making pricing decisions.

Chapter 6, Activity 11 – HW Inc. TDABC and call center

Part (a)

The main activity undertaken by the call center is measured in minutes. This is also a measure of its capacity, that is, the number of minutes available during which a service can be provided. Therefore, the time-driven activity of minutes is the best way to allocate the resources. It will also provide management with information on the utilization of the resources available.

Part (b)

	Product group X	Product group Y
Number of call minutes - information	50,000	12,000
Number of call minutes - complaints	18,000	1,800
Total minutes	68,000	13,800
Cost of resource used	£68,000	£13,800
Cost allocated under the old system	£20,000	£80,000

Under the new system, the cost is much higher for Product group X.

Part (c)
Under the old system, the only way to reduce the allocated costs is to sell fewer products to reduce the sales value, which is not in the best interests of HW Inc. However, under the new system, the emphasis would be to reduce the need for customers to make calls in the first place.

This strategy could go back to the design of the product, which may mean talking to manufacturers and suppliers, if not an HW Inc. manufactured product. The provision of information about the product could be made more explicit. It could include descriptions of products on the website or in-store. Training of sales staff in-store to answer questions of customers before and during the purchase decision. Training of call center staff to deal with calls more effectively or provision of frequently asked questions on the website within the 'contact us' section. It could include web discussion forums in which customers can post reviews or ask questions of other users.

All functions within the organization can contribute to reducing the need for customer calls—for example, designers, sales staff, installers, as well as marketers and production employees.

Part (d)
Call center staff may resist the implementation as it will enable managers to assess the effectiveness of the call center in terms of total capacity. If the call center activity is reduced, it may result in job losses. Also, we could assume that the manager of product group X will not be in favor of the change.

Part (e)
The use of a Time-Driven ABC system will enable managers to assess the utilization of the call center and the resources required to run it effectively. This information could be used in comparing the costs of outsourcing, that is, the charge from an outsourcing company which, more than likely, would charge based on usage, with the provision of its center. It also provides management with a cost of underutilized resources; that is, if not all of the hours available are used, there is a cost associated with this. If the cost per minute is adjusted, that is, increased, to ensure that all the costs are recovered, it increases the cost of provision to the product managers, and again raises questions as to whether the service could be provided more cost-effectively by outsourcing. It, therefore, ensures that the best way to provide the service is always kept under review. HW Inc. also needs to make sure that they consider service levels by an outsourcing company as it is HW's reputation that is the hands of the outsourcing company. Therefore, the decision is not purely a financial one.

The value creation system is also useful in the decision as HW can investigate the costs of the activities and decide strategically if the provision of a call center, which is probably part of the after-sales service activity, is a critical activity and how much this adds value to the customer. There could also be a marketing effect of providing the after-sales advice, which cannot be ignored, plus there may be implications for the support activities, for example, technology and HRM. For example, using technology to provide more information or alternative ways of answering questions, or training of staff may be part of the solution. Therefore, the value creation system allows HW Inc. to see the activity within the context of the whole business, and not just to view the call center in isolation.

Chapter 6, Activity 12 – HW Inc. Cost of quality

Note in the following ideas; quality has been taken to encompass the customer experience as well as the actual product being fit for purpose. It is quite a broad view of quality.
Answers can also be interpreted in more than one way as the scenario creates a subjective view of the process.
Many of the problems associated with quality can often be prevented with training. It is evident from the service sector example given.

Problems	Cost issue	Corrective action	Classification
Allowed to wander around without being asked if help needed. Could have walked out again.	Loss of contribution from a potential lost sale. Plus, adverse customer experience can be told to friends and family and other potential customers.	Training – sales staff training in when to intervene to ask if customers require assistance.	Prevention.
Non-committal attitude of sales assistant – not customer-focused.	Potential lost sale.	Training. Also recruitment of staff who have customer service focus.	Prevention.
Time taken to place the order.	Poor customer service leading to unlikely repeat sales. Loss of confidence of the customer in the procedure.	Improve the order taking process. It could also be a system-based issue, so the computer ordering system requir4eds a review for ease of use.	Prevention.
Lead time to order quite long.	Potential for customer dissatisfaction and loss of repeat business.	Working more closely with suppliers to improve customer service.	Prevention.

Time taken to set up and authorize credit card, although this is a critical process to get right, so possibly expected to take some time. It is good that the process was completed at the pay point, and the customer did not have to apply separately.	Number of staff involved in the process of taken and processing and order.	Systems review, plus a review of staff responsibilities and the ability to multitask.	Prevention.
Supplier of cloth.	Delay in the process causing loss of goodwill and potential future repeat purchases. Administrative costs in dealing with the query.	Supplier lines should be checked before the order taken to avoid disappointing customers later. It could be achieved by online link, or up to date info on stock being made available online.	Internal failure.
Failure of sales staff to realize the implications of the credit card being maxed out on first use and £3 insurance taking is over the limit.	Loss of goodwill. Administrative cost of dealing with query/complaint.	Training of staff.	Internal failure (could also be classed as an external failure as it happened after purchase). It highlights the impact of the external value chain.
Onus placed on the customer to arrange a date, not asking the customer when the delivery date would be convenient.	Loss of goodwill. What happens if the customer had been away and unable to respond in time?	Review system to ensure that customer interests considered upfront.	Prevention or internal failure. It depends on whether we consider this to be a system problem or just bad practice.

Wrong chairs delivered and delivery staff unaware of the product range.	Inconvenience to the customer, loss of goodwill. Cost of re-delivery and collection of incorrect chairs. Possible repercussions for its supplier. Supplier may well have to manufacture chairs if not held in stock – can it resell the wrong chairs.	The order needs to be checked before dispatch, plus incorrect info provided, train delivery staff on product range, or in customer handling skills.	Inspection and external failure as the error reached the customer.
Incorrect info was given by the company and supplier.	Loss of goodwill.	Need more contact with the supplier to progress chase orders so that they can answer customer queries. Customers should not have to contact their supplier. They made the sale; it is their responsibility.	Internal failure and also an external failure as the customer knew about the mistake and was left to sort it out with the supplier.
Failure with supplier systems not being customer-focused. Poor telephone approach. Nonresponse to customer.	Time of telephone call – if no complaints received - no costs incurred in dealing with them. Costs of redelivery. Inconvenience of customer and loss of goodwill.	Control of suppliers needs improvement as it is affecting the goodwill of HW Inc.	Internal failure and external.
The delivery of the sofa is way outside six weeks expected.	Loss of goodwill.	Systems review, up to date info required so that more accurate promise can be made.	Internal failure and external.

Sofa damage and lack of trust shown to the customer.	Cost of repair. In this case, loss of sale and goodwill. The cost of collection of product and as made for the customer may not be resalable.	Careful onsite checking of goods delivered. Training of staff in dealing with angry customers – it would have been useful if the customer account had been flagged as a customer having complained as this could have indicated the delicate nature of the call.	External failure.

The analysis brings out several points.

- Reliance on supply chain members to fulfill their part in the value system so that the customer is happy.
- Many factors affect customer goodwill, so main cost is the loss of potential sales.
- Marketing maxim that if we have a good experience, on average, we tell three people about it, if we have a bad experience, on average, we tell 11 people about it. However, tempered by a customer that has complained and had their complaint satisfactorily dealt with is happier than a customer who has not complained. [This is a marketing reason behind the no quibble refund policy of some high street retailers].

Chapter 7, Activity 13 – HW Inc. International expansion

Porter's diamond is useful when evaluating a country as it provides a framework for considering the various factors that give a nation a competitive advantage and can be used by companies operating in the industry using the country as a base.

For example, if HW wishes to operate in Bangladesh, they will need access to the basic factors as well as the advanced factors that Porter identified. HW will need to assess the availability of labor and capital, as well as the level of education, the technology available, and infrastructure.

The information provided so far indicates that the Bangladesh government has invested in education, and one could assume that the population and hence the workforce will be relatively well educated, even though 26% of the people are living below the poverty line. Unemployment is running at approximately 5% per annum, so HW will likely be able to recruit and train the labor required for the store. One aspect that HW will need to check is that the key industries appear to be textile and manufacturing, although there is a robust financial sector, little is known about the strength of the service sector and retailing. These are the skill sets required by HW to complement its operations, and more information would be needed on this aspect.

As there is a strong financial services sector, we could assume that any finance required could be raised locally. Also, the fact that there appears to be growth in online shopping, due to investment in technology development, is good news for HW, as it indicates that online retailing is developing. Therefore we could assume that the retail sector is reasonably well established. The good seaport access possibly means the right infrastructure elements exist to get goods into the country, and also potentially opens up other markets. Little is known, however, about how easy it would be to get products around the country, that is, the road and rail networks, which might be needed if further expansion was planned in later years.

In terms of related industries, Bangladesh has a strong manufacturing tradition in clothing and apparel, and this could be beneficial for HW should it wish to source products locally. However, quality of work would need to be investigated as the clothing appears to be sold to discount stores and, therefore, may not be of the required quality standard.

Demand conditions would appear to be good, but the high level of poverty might indicate that customers shop at the lower end of the price spectrum, particularly as it is suggested that the market is price sensitive. HW will need to assess the market for its style of products, as well as checking out the competition.

The structure of the retailing industry sector is not known at the moment and is an area that HW will need to check. However, the information that low-cost goods from India and China dominate the market and that it is price sensitive tends to indicate that it is a competitive market. HW would do well to check out the International Homeware Company to see what end of the market it targets, that is, low-cost or a higher quality product.

Overall, the factor conditions and related industries are favorable to HW’s plans. However, the big issue is the market conditions and whether there is a demand for products such as HW’s. It is worth investigating this in more detail before making a final decision.

Chapter 7, Activity 14 – HW Inc. Joint development

Part (a)

Opportunities and threats

There is an opportunity for HW China to expand its reach and appeal to consumers who cannot afford the latest high street fashions and furnishings. Therefore, an out-of-town store may be attractive to aspirational customers if HW China's products become more attainable. However, HW China needs to be careful of their strategy as the concept of the Shopping Villages appears to be based on a small outlet selling quality products, but at a lower price because they are end of the season or overstocked items. HW China needs to be careful that this concept will work on a large scale, or it risks undermining the high street shops. It could confuse the customer if the out-of-town store stocks exactly the same items, are the same price as the high street store, but is near the Shopping Village that already has shops under the name of the top quality brands. The fact that the top brands are threatening not to allow the sale of their brands in out-of-stores may undermine the whole concept.

The link with the food retailer, if of a similar strategy, that is, convenience, quality, and reasonably priced, could attract more customers to HW China if on the same site. Customers of the food retailer may enter the HW China store while they are on-site doing their regular food shop. This could increase footfall (number of customers entering the shop) for HW China.

The threat of competitor action will always be an issue, and it is unlikely that, if seen as being successful, HW China's competitors will not react, which could reduce the sales generated from the new store, and possibly other HW China stores.

The central government is concerned about the impact of out-of-town stores on the high street and city centers, so it may take action that is detrimental to out-of-town shopping, which could impact on the future profits of the stores. Similarly, the local opposition from the local community, and also the change of heart from the local transport providers, may make the venture unprofitable, and could potentially damage the image and reputation of HW China if the story is picked up by the national media.

Part (b)

Stakeholders

Shareholders potentially have power over the senior management team. Still, as this is a reasonably small decision in the overall context of HW Inc., it is unlikely that the shareholders will be that interested at the moment. They may be aware of the proposal via the communications with the Supervisory board on strategy. Still, the board will need to monitor the performance of the strategy, if implemented, and judge the reaction of the shareholders to future performance.

Employees and management of HW China, both potential employees of the new stores and existing employees of current stores, in Beijing are all stakeholders with interest in the project. The new store will presumably provide new employment opportunities, but the existing employees may be concerned about the impact on the stores. Employees would be extremely interested and could potentially disrupt the strategy, but this may be short term.

Customers could potentially be pleased with the decision as it makes the products more available, but if the out-of-town strategy is seen as a move down-market, it could damage the quality image and the brands that HW China sells. HW China needs to be careful about how this decision is communicated and the rationale for the new out-of-town strategy. The senior management team needs to consider whether this will be seen as a natural expansion of retailing, or whether out-of-town stores are seen as quality outlets. An issue to recognize is whether there is such a thing as a “high street” brand image and an “out-of-town” image in China, or do customers make no distinction.

Suppliers may well welcome the opportunity to sell more products via HW China and make their products more widely available. The views of luxury brand owners, however, appear to suggest that they feel it may be downgrading their image to a permanent discount store and resist their brands being sold by HW China in the out-of-town store. This stance could undermine the whole strategy.

The government, both central and local, have a degree of power to disrupt. Indeed, the provincial government can stop the planned development by not granting permission, and so would be in the key player category.

Other suppliers, such as the transport companies, could make it challenging to implement the strategy but may not be able to stop the development if permission is granted. If customers are local and others arrive via car, the store may still be successful without public transport. It largely depends on how critical the provision of public transport is to the planned development.

The local community is quite significant because if the development does not have their support, they could create on-going difficulties throughout the construction and bring unwanted negative media attention. Any adverse media coverage will also affect the local government, who may turn against HW China. Bad publicity will also influence future local governments and communities for any other planned sites in the future. Therefore, it could be seen as essential for HW China to involve the local community and come to a compromise so that they have their support.

Part (c)

The issue of whether to undertake projects on their own or as a joint venture with a partner is mostly down to control and risk. If HW China undertakes the development on its own, then it is in total control of the project but will be carrying all the risk. However, if undertaken as a joint venture, it will be sharing the risk but may have to make compromises for the partnership to work. The terms of the contract are critical to the success as any disagreement later could risk dissolving the partnership and leaving HW China in an awkward position.

The collaboration may attract more customers to the site and increase the footfall for HW China, that is, customers of the food retailer may enter the HW China store while they are on-site doing the regular food shopping. However, HW China needs to make sure that there is a match between strategies and the customer demographic targeted. While it is sometimes useful to attract a different demographic, it could, in this instance, undermine HW China’s brand image if the food retailer targets a different demographic profile of the customer.

As they are on the same site as the food retailers, the sharing of services, facilities, and security arrangements could produce economics of scale and efficiencies. Still, an agreement needs to be made as to how this will work in practice.

Marketing strategies need to be similar, and the approach to promotions and pricing would need to be acceptable to both parties, as this could set up expectations in the minds of the customer if one retailer ran a different strategy to the other. Also, as staff are on the same site in proximity, staff policies will become known, and this could create difficulties if there are substantial differences in the way the companies treat their staff. Rumors and feelings of fairness can affect employee morale if not managed carefully.

Chapter 7, Activity 15 – HW Inc. Growth strategies

Part (a)

Business Environment

The business environment can be analyzed using the framework known as PESTEL. It provides a framework that enables a broad consideration of the factors in the general business environment that could influence the structure and nature of the industry in the future and hence affect XYZ Inc.'s ability to achieve its strategic objectives. The senior managers of XYZ Inc. need to assess whether there needs to be a strategic response to any factors arising from the analysis to ensure that the company meets its objectives.

Political and legal factors

As a primary service provider and public company, XYZ Inc. will have to deal with many stakeholders, including the government, as telecommunications and access to the internet may well form part of government policy. XYZ Inc. and its competitors may find themselves being influenced by the government's agenda in many different countries as governments attempt to improve the infrastructure and access to digital technology, particularly for educational purposes. Therefore, industry regulations and government policy will form a crucial part of future planning for XYZ Inc.

With a 55% market share in its domestic market, XYZ Inc. is the dominant player. The government will almost certainly wish to make sure that there is sufficient competition in the industry, which may mean that it restricts XYZ Inc.'s ability to grow in its domestic market. Ultimately this will mean that XYZ Inc. will need to seek growth from other areas of the business and in overseas markets.

Economic factors

XYZ Inc. is dominant in its domestic market, however, as most individuals in developed economies, and particularly in XYZ Inc.'s local market, already have a phone of some description, growth will need to come from the provision of services and increased usage.

XYZ Inc., however, may not be the market leader in other overseas markets, so significant growth can only come from these markets. XYZ Inc. has the opportunity in markets that are rapidly growing to increase revenues and market share. As many developing markets, especially the emerging economies, can "leapfrog" some of the older technology, there is the opportunity to install the newest and more efficient technology in these economies.

It would be useful for XYZ Inc. to expand its business geographically as it spreads the economic risk, that is, the economic cycle, and as there is a demand for global telecoms services, there is scope for strategic alliances and mergers in the industry.

Sociocultural factors

Mobile phones and landlines are now almost ubiquitous (everywhere) in the developed world. Therefore, XYZ Inc. will need to try to encourage greater usage by offering a wide range of services. The Internet is becoming a vital tool for business and leisure with the growth of home entertainment. Trends such as homeworking, home banking, and online shopping have increased the demands and usage of digital services. The use of social media is expanding, which also requires effective telecommunications services and national coverage of fast broadband speed. The covid-19 pandemic has increased the usage of telecommunications for work, educational, and leisure activities.

Technological factors

Technology changes very quickly and therefore requires continuous investment to stay at the forefront of technology developments.

The telecommunications industry has seen a convergence between telecommunications, computing, and broadcasting so that digital devices that were previously used predominantly for telecoms services are now being used to watch TV, social media, access news services, movies, and entertainment. More recently, the devices and Bluetooth technology are being used to target marketing messages and to make payments for goods and services.

As technology enables a sharing of platforms, there may be a reduction in the cost base of providing the infrastructure as new services are brought in that use the full capacity of the infrastructure. Therefore, XYZ Inc. should attempt to benefit from economies of scale. However, there is a danger that the infrastructure is not capable of handling the increased usage without further investment to upgrade and keep pace with the growth in demand.

Environmental factors

There is currently a concern over the volume of technology waste that is being created as users update their digital devices and need to dispose of their old ones. The cost of disposal is being placed on the industry members, and XYZ Inc. will, therefore, need to develop a strategy to deal with this responsibility.

The need to develop the infrastructure sustainably is also key to the environmental aspect of business as well as the choice of sites for digital cell stations and the need to put fiber optic cable underground wherever possible.

XYZ Inc. will need to make sure that it is aware of the environmental impact of its activities and develop a strategy to ensure that it can deal with its responsibilities for sustainability within the industry. Adopting a sustainability strategy is particularly crucial concerning international developments in emerging markets as the regulation may not be so strict in these markets, and XYZ Inc. would do well to adopt an integrity approach by applying the same standard worldwide.

Summary of critical environmental factors

The key drivers for change in the environment are the speed of technological change, which requires continued investment, the social trends and increased demand for digital services, and the deregulation of markets as governments seek to improve access to digital services within their countries. All these signs are positive in that there is scope for expansion in overseas markets if XYZ Inc. can exploit its technological advantage before competitors catch up.

Part (b)

Potential market developments

The potential market developments can be assessed using Ansoff's product market growth matrix, which provides a range of options that organizations can consider in the pursuit of growth.

The Ansoff matrix enables companies to consider product and market issues systematically, and given XYZ Inc.'s desire for growth and strategic position offers four realistic options for growth:

Market penetration

Domestic market: XYZ Inc. has 55% of the local market, and there is a regulator whose job it is to ensure that the market is a competitive one. The only hope for a penetration strategy is by an increase in the size of the market, but this does not seek likely. XYZ Inc. may not be able to increase prices due to the degree of competition and also the protection of consumers by the regulator.

Mobile and digital communications are expanding in overseas markets, particularly emerging economies, so this is the most viable option in terms of market penetration. XYZ Inc. may be better to **consolidate** its domestic market position and attempt to **penetrate** overseas markets.

[Note: withdrawal is not an option as XYZ Inc. does not have a market from which it would wish to withdraw].

Market development

Overseas markets. As a new entrant to emerging markets XYZ Inc. may be in a better position to pick up customers, especially if foreign governments are keen to promote competition in their markets. An overseas expansion could be achieved by XYZ Inc. seeking to enter the markets on their own, or via a joint venture, merger, or acquisition.

Product development

Technology development is a vital part of the telecoms industry, and XYZ Inc. could work to increase the speed of its broadband offering or to develop new products that will enhance access to the Internet. The development of telecoms products that can span the social media and TV content could be possible developments in the light of XYZ Inc.'s objective to become a global telecommunications provider.

XYZ Inc. should seek to exploit its knowledge and R & D. Examples of developments in the industry in recent years have been caller identification, call-waiting, and voice and video mail. XYZ Inc. may be able to offer business users a more extensive range of communications options, particularly as the personal user market is becoming saturated in the domestic market, as most people own a mobile phone.

Diversification

The Chairman intends to diversify. Given that new services will be marketed to the existing customer base, this is more characteristic of product development or related diversification.

Ansoff's matrix provides a framework for potential bases of development for growth. There may be synergies between options. For example, new developments that represent related diversification could be marketed through existing channels to existing customers as well, hence the link to product development.

Chapter 8, Activity 16 – HW Inc. Investment appraisal and stakeholders

Year	0	1	2	3	4	5
Description	€,000	€,000	€,000	€,000	€,000	€,000
Sales of Antwerp and Aarschot		10,000	10,000	10,000	10,000	10,000
Reduction of 5%		(500)	(500)	(500)	(500)	(500)
Sales of Turnhout and Hasselt		4,500	4,950	5,445	5,990	6,589
Total sales revenue		14,000	14,450	14,945	15,490	16,089
7% of sales revenue		**980**	**1,012**	**1,046**	**1,084**	**1,126**
Costs						
Land and buildings	(500)					
Forklift truck and stackers	(18)					
Lorries	(250)					
Annual running costs of the depot		(300)	(308)	(316)	(324)	(332)
Manager		(25)	(26)	(27)	(28)	(29)
Workers 20 x €15,000		(300)	(308)	(316)	(324)	(332)
Drivers 10 x €18,000		(180)	(185)	(190)	(195)	(200)
Net cash flow from 7% sales revenue less costs	(768)	175	185	197	213	233
Discount 3%	1.000	0.971	0.943	0.915	0.888	0.863
Discounted cash flow	(768)	170	174	180	189	201
Net present value						146

The approach taken is to calculate the revenue generated by the stores to be serviced by the new depot and then calculate 7% of this. This figure has subsequently been used as the positive cash flow in our NPV calculation. Deducting the costs from this and calculating the NPV of the net cash flows will provide either a positive or a negative NPV. If the NPV is positive, it indicates that costs do not exceed 7% of the revenue generated. If negative, then the costs exceed 7% of revenue, and the depot does not meet the investment criteria.

The Net Present Value is €146,000 and therefore would appear to satisfy the requirements that the costs be no higher than 7% of revenue served from the depot.

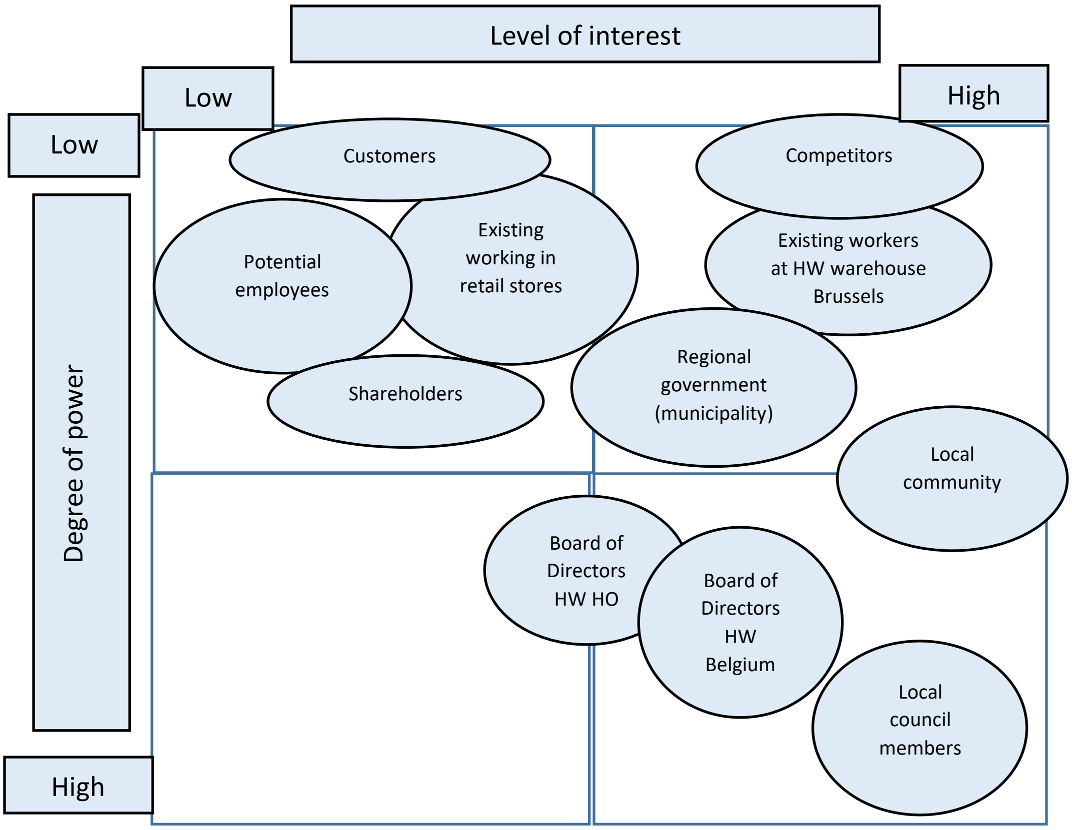
It would be beneficial to undertake some sensitivity analysis to test how sensitive the results are to changes in the estimates that have been made. For example, what happens if the estimates of revenue are lower or higher? Is there anything that can be done to lower the operating costs? Do drivers' wages have to go up in line with inflation? Are 18 drivers and 20 workers needed from the first year if sales are expected to increase, or is the estimate when the depot is operating at full capacity?

Part (b)

Stakeholder analysis

Various stakeholder groups might have an impact on the decision to develop a depot at Herentals.

[Many possible stakeholders could be discussed. In strategic decisions a company may take into account a range of stakeholder views, even if they do not have a direct responsibility to the stakeholder group, however, the significance of the analysis is to identify the key stakeholders that the company needs to engage with to be able to implement their strategy. In some cases, the argument is subjective, and you may have a different viewpoint. This is true in real life where a consensus would be arrived at through discussion, and therefore being able to put your point of view across and argue your thinking is the key to questions such as this. Note how each stakeholder group identified below is discussed as to what their level of interest and power might be.]



HW Inc. Senior management team (C-suite)

Based on the structure of the company, it is possible that the C-suite members of HW Inc. would have the final say on whether the strategy was acceptable or not. Still, given their approach of allowing the local managers some autonomy, they may not have as much say as the local management team. They would have a relatively high degree of interest in how the managers at HW Belgium were managing the development of the location and have a high degree of power, being the main decision-making body. Still, they may not choose to exercise it, making it clear that the local managers at HW Belgium have the autonomy to make the decision.

The local management team at HW Belgium

It may be odd to include the local managers in the stakeholder analysis, as they are the body making the decision. It is the managers at HW Belgium who would be undertaking the stakeholder analysis; however, there could be differences of opinion between the members of the team, so it is worth including them in the analysis for completeness.

Existing workers at HW Belgium in the warehouse in Brussels

The workers would probably be very interested in the decision as it will have an impact on their work. Still, as HW Belgium employs them, they would probably have little power to stop the decision, unless they can act together to create collective power. It would be possible to split this stakeholder group into subgroups as the warehouse workers would probably not see much difference. However, the drivers are more against the decision, as they see a direct impact on their current work. However, based on Mintzberg's ideas of replacement and disruption, any power they hold would be short-term disruption, as in the long term, they could probably be replaced.

Local government (Council) in Herentals

The local government in Herentals is hugely interested as they see the potential for jobs but might also be cautious about supporting the proposal too eagerly, due to the local community concerns. It might be that some of the local council will have their re-election in mind and so be keen to keep the locals happy. One outcome might be that the proposal is granted but with restrictions placed on traffic flows. HW Inc. will need to assess whether any limits set on the operation of the site will impact on its efficiency. This puts the local council in a strong position of power over the viability of the site.

Regional government (municipality) in Belgium responsible for Herentals.

The Regional government appears to be supportive and is clearly interested, but as they support the proposal may not wish to exert too much power over the decision. It is not clear precisely how much power the municipality has over the local council. Still, it is suggested that they usually accept the local decisions – therefore, it could be argued that they have, or will exert, little power.

Local community close to the proposed site

The local community is concerned about increased traffic and any possible impact on their day to day lives. They have lobbied the local council, and with the forthcoming re-election of members, it puts it in an influential position - possibly more so that the regional government.

Employees in the existing retail stores in Aarschot and Antwerp who are serviced from the warehouse at Brussels

Depending on how involved they feel, it could be argued that so long as the retail store gets its products delivered as and when required, employees in the existing stores may not be too worried about where the products originate. In fact, it might even make their lives a bit easier if deliveries were made from a more local source, and we could assume that they would support the proposal if it improved efficiency; however, in reality, they probably have little influence over the final decision. Therefore, as we do not know much about how involved they are, we could treat them as low interest, low power.

Potential workers, for example, drivers and workers who could gain employment

There is very little that this group could do to influence the decision, and therefore they could be treated as low interest, low power.

Competitors

HW Belgium will need to bear in mind the potential reaction of competitors. They will be interested in what HW Belgium is planning (we could assume that they may spot the proposal lodged with the local council as this would be public knowledge). However, the competitors cannot directly influence HW Belgium in their decision, so they have little or no power.

Customers

Customers are probably not that interested in the decision and may not even be aware of the plans and certainly have no power. However, it could be argued that HW Belgium is considering customers as the rationale for the decision is to improve efficiency. Therefore, the customer experience is a factor that HW Belgium takes into account, but as a stakeholder group, they have very little influence.

Shareholders

When taken into account that HW Inc. is a large organization spanning six continents, the impact of a decision in Belgium is not likely to be of concern for the shareholders of the HW Inc. Shareholder influence is relative, and this could be viewed as a strategic decision for HW Belgium, but not that significant in terms of HW Inc.'s overall results. In fact, it is in line with the overall strategy of operating a hub and spoke logistics policy. If they are aware of the decision, shareholders may simply view this as just a case of implementing company policy.

Strategy to deal with stakeholder groups.

The key players are the stakeholder groups that HW Belgium needs to involve in the decision and convince them that it is a good idea. Key players include the local council members and the local community. It can have reputational impacts if bad publicity is generated, and the company must work with the local community, so it would be beneficial for HW Belgium to meet with local representatives to see if a compromise is possible. If the issue cannot be resolved, HW Belgium would be advised to look at alternative sites.

Those stakeholders falling within the high interest but low power category should be kept informed, and a communication strategy should be devised to ensure that they are fully informed of the implications of the decision.

There are no stakeholders placed within the low interest, high power category on the stakeholder map, but if there were any in this category, an intervention strategy of explaining the rationale behind the decision should be adopted. It could be argued that the main board of directors at HW Inc. are in this box and that the local management team has to put forward a business case for the new depot to gain the approval of the C-suite members. Still, it is not certain exactly how much autonomy the local managers are allowed.

Those stakeholders falling within the low interest and low power category should be monitored, but no specific strategy needs to be developed – they can receive minimal effort but cannot be ignored.

Chapter 8, Activity 17 – HW Inc. Investment appraisal

Investment appraisal

	1	2	3	4	5	6
	$	$	$	$	$	$
Capital items						
Fitting out of premises	(400)					
Investment in stock	(250)					
Tax deductible items						
Legal fees and agents' costs	(150)					
Annual rental of premises	(100)	(300)	(300)	(300)	(300)	(300)
Arrangement fee	(12)					
Commission fee	(1)	(3)	(3)	(3)	(3)	(3)
Recruitment and training	(50)					
Marketing costs	(200)					
Sales revenue		3,000	3,300	3,630	3,993	4,392
Cost of goods sold		(2,100)	(2,310)	(2,541)	(2,795)	(3,074)
Operating costs		(350)	(368)	(386)	(405)	(425)

Net cash flows	(1,163)	247	319	400	490	590
Tax paid		0	(21)	(160)	(196)	(236)
Net cash flows	(1,163)	247	298	240	294	354
Discount factor 6%	0.943	0.890	0.840	0.792	0.747	0.705
Discounted cash flow	(1,097)	220	250	190	220	250
Net present value						33
Tax deductible items in the first year		(513)				
Net operating cash for the year		247	319	400	490	590
Net operating cash for tax purposes		(266)	53	400	490	590

The project appears to breakeven over five years of operation. HW Inc. may wish to undertake some sensitivity analysis to see what the effect will be if estimates are incorrect. Strategically this may be a good investment, and as the cash flows are positive once trading begins, assuming that the management team is confident that the level of revenue can be achieved, it is worth proceeding.

Chapter 9, Activity 18 – HW Inc. Implementing strategic change, Beyond budgeting.

Briefing note: - Implementing beyond budget at HW Inc.

Beyond budgeting is a response to some of the criticisms of traditional budgeting.

Traditional budgeting is said to be time-consuming, resource-intensive, can restrict innovation, and is open to dysfunctional behavior.

Beyond budgeting is a system that attempts to provide flexibility to the planning process of target settings and performance management. Rather than setting a fixed budget target and reporting against the plan, beyond budgeting sets stretch targets that are aimed at continuous improvement. In other words, performance monitoring is looking at the improvement made over relative targets, in comparison to the performance of others, or previous years.

Performance can be measured against internal or external comparison, such as other business units or competitors and industry sector performance. It encourages competition, both between internal teams and external measures. It seeks to challenge employees to be better than an external target, or to make progress towards bettering the target.

The challenging work environment would not be attractive to everyone. Therefore the system attracts certain types of employees, those that are confident of their capabilities and relish in a challenge. It can be quite daunting if employees are concerned about the stretch targets and the competitive environment.

The decentralized structure of HW Inc. would lend itself to the implementation of beyond budgeting. One of the principles of beyond budgeting is to create autonomous profit centers so that employees feel they are running their own business. It could be done at the store level, country level, and continent level. The senior management team (C-suite) of HW Inc. would need to learn to monitor on an exception basis and to allow a high degree of autonomy of the business units. It means that they need to instill a strong sense of mission as the senior management team will lose an element of control. The C-suite would consign itself to looking at the big picture.

The reporting systems would need to be such that comparisons with other business units and external benchmarks can be reported. The performance management system would also need to be flexible so that reporting was always in line with the strategy.

The use of a balanced scorecard system might be helpful as the targets set can be designed to encourage improvement and initiatives allow for innovation.

Beyond budgeting is often associated with a rewards system that is ideally based on team or group performance. The use of group rewards can encourage 'slackers,' but it is suggested by proponents of beyond budgeting that group performance identifies slackers and that peer pressure avoids it becoming an issue. Rewards could be based on store performance.

As HW Inc. operates in six continents and various countries within those, it will be essential to consider any differences that might affect performance at any given time. For example, events may affect the performance of one country, such as a recession, or political situation, or even natural disasters, and therefore comparisons across countries and continents need to be done with care.

Training of the managers and employees would be required to implement beyond budgeting at HW Inc. so that they were able to operate within the new system. The collection of data for comparisons, both internally and externally, may require changes to the information systems currently employed.

It may be beneficial to implement it as a pilot in one country, but ideally, it would be a corporate-wide implementation. There may be teething problems as employees get used to the new system, and therefore, it would be advisable to ensure that the accounting team can provide extra support. As with any change, it will need a commitment from the top management team. The appointment of champions or change agents in each country would be a good way of providing support for the change in the system. It will essentially mean a shift in culture within the organization.

It should be noted that traditional methods of budgeting can be adopted that include stretch targets and that using a balanced scorecard approach complete with targets and initiatives, can help towards making improvements in performance. Techniques such as benchmarking can be used to identify enhancements and improvements to operations and hence performance, and competitor analysis can ensure that HW Inc. is always aware of the relative performance.

The chief benefit of beyond budgeting, however, is that it incorporates these elements in a continuous system that seeks continuous improvement towards challenging targets.

Chapter 10, Activity 19 – HW Inc. Balanced scorecard

Part (a)

The balanced scorecard is designed to enable management to translate the organization's vision and mission into a set of objectives and performance measures that will help them achieve the overall mission. It may be particularly useful for HW Inc. at this time as management will be able to take a fresh look at the business in developing a scorecard that will help turn the company around into a profitable business again.

The four perspectives represent the financial perspective, customer perspective, internal business perspective, and the learning and growth perspective. The idea is that management can develop a range of objectives and performance measures, which means they measure more than just financial performance. If management only uses financial ratios to monitor the business, it can encourage a short-term approach, but including internal and external, financial and non-financial, quantitative and qualitative, and leading as well as lagging performance indicators encourages a long-term approach. It can also enable the management to ensure that they are addressing the expectations of a range of different stakeholders, for example, shareholders, debt providers, customers, employees, suppliers, and so on.

Each perspective has four elements: the objective, the target, the measure, and the initiative. The initiative will enable the management of HW Inc. to review whether there is anything that they could do differently to improve the business rather than just rolling the objective and measures over from year to year. This could be a useful exercise for the management of HW Inc., given the need to improve performance. Benchmarking exercises can often be used to aid the development of initiatives to help achieve the objectives.

The linkage between the perspectives also enables management to gain an understanding over time of how performance measures link together, for example, improving productivity and quality controls via staff training initiatives will impact on customer satisfaction and hence improve profits. The linkages between measures are usually shown in a strategy map and are there to help management ensure that all measures aid the achievement of the overall vision and mission. It can also be used as a means of communicating the strategy to the employees of HW Inc.

HW Inc. would ideally have a series of balanced scorecards at different levels that would link together. For example, they could have one at the level of the business unit, that is, store, manufacturing unit, country, continent, and whole corporate entity. The scorecards can be tailored specifically to suit HW Inc. This enables levels of management to focus on their area of responsibility and means that the senior management does not have to monitor everything in detail, as aspects of the business are being dealt with at different levels. The concept of critical success factors can be used to ensure that management focuses on the key activities that ensure the survival of the business.

There are, however, some difficulties that can arise when implementing a balanced scorecard approach. For example, if there are too many measures, management can get confused about where to focus their attention. It is not always possible to establish clear links between measures as sometimes one measure may have multiple impacts. For example, developing new product lines as a learning and growth measure can impact on production aspects, customer satisfaction, and the finances of the company due to the resources required to develop new products. Therefore, the reason as to why performance targets have been achieved, or not, is not always evident, making it difficult for management to determine the correct course of action to correct any adverse variance. Some measures, such as customer satisfaction and employee morale, can be quite tricky to measure as they are both qualitative and subjective, and as mentioned earlier, can be influenced by a range of different elements.

There is always the behavioral displacement aspect of performance measurement that can impact on the implementation of a balanced scorecard. For those employees and managers not used to being monitored, it requires support and training while it is being implemented. Another danger can be that managers focus on trying to meet the targets they deem to be important and take short term decisions to meet a few targets, rather than taking a long-term view in running the business.

The balanced scorecard is also meant to be used as a developmental tool, that is, for measures to be changed and developed as the business grows. Unfortunately, many organizations have left the measures unchanged from year to year and not found the scorecard approach helpful. Therefore, the management of HW Inc. needs to ensure that they develop measures to suit the business. For example, if they expand into new areas of business such as insurance in the Financial Services business unit, or corporate clients in the Interior Design business, there may be new aspects of the business that require careful monitoring.

The balanced scorecard could provide a useful tool for the management of HW Inc. to refocus its strategy and to communicate this to employees so that they all move in the same direction to help improve performance.

Part (b)

[*The trick with the performance measures is to keep it as simple as possible. The common mistake is to try and make it far too complicated. For example, if you wanted to try and increase the number of customers, the measure is simple to count the number of customers. If the number of customers is higher than last year, then it has increased. Often students try and make a link that is not necessary. For example, for an objective to increase the number of customers, a measure of the increase in sales might be suggested. However, this measures sales value and not the number of customers. An increase in sales value could be achieved by the same number of customers buying more, therefore the sales value increases, not the number of customers. So, think carefully about what it is you are measuring.*

Try and think of one objective and measure under each of the four perspectives for each business activity. Initiatives can be anything that might help meet the objective, so you can think creatively here. You do not need one per objective, as often initiatives might help a range of measures within a perspective. For example, introducing a customer loyalty scheme might help increase sales, as well as attracting new customers.]

The following are examples and do not constitute the only correct answer. Note how sometimes the objectives and initiatives are complementary across the different areas of the business and how they work together as they are part of the same overall business.

Objective	Measure	Initiative
Retail Stores		
Financial perspective To increase sales per square foot	Difference in sales per square foot in the year compared to the previous year	Hire a specialist consulting firm to review store layout to facilitate the flow of customers and display of products to enhance sales volumes.
To increase average profit per retail outlet	Difference in average profit/(loss) of retail outlets in the year compared to the previous year	
Customer perspective Increase the footfall and conversion rate for in-store purchases	Difference in footfall and conversion rate this year compared to the previous year	Hire a specialist to review advertising, particularly window displays to attract customers—link to store layout review above.
Increase repeat customers	Number of repeat uses of store card or credit card number this year compared to the previous year	Marketing of store card coupled with more targeted mail shot marketing, including tailored offers to existing customers where an address is known.
Increase customer satisfaction score	Customer satisfaction score based on a survey	Undertake customer surveys or install polling points at checkouts in stores.
Internal business perspective Reduce average inventory holding time.	Difference in inventory turnover this year compared to the previous year	Ensure all staff trained in the new inventory management system to enhance understanding of report outputs from the system and actions to take.
To increase the use of concessions in store	Number of concession operators this year compared to the previous year	Encourage concessions in-store by offering incentives to operators during the 1st year of operation.
Learning and Growth perspective To develop and launch five new product ranges in household furniture (to build on strong market position)	Number of new products launched in the year that achieved a breakeven sales volume	Conduct marketing research to identify customer preferences in household furniture.
To open stores in out-of-town shopping villages in three countries	Number of new stores in shopping villages opened during the year and in which countries	Undertake marketing research to identify suitable countries for shopping village outlets.

Objective	**Measure**	**Initiative**
Interior Design		
Financial To maintain profit margins from existing business	Gross margin this year compared to the previous year	
To increase sales revenue generated from the corporate sector	Sales from the corporate sector this year compared to the previous year	Target marketing campaign at corporate clients.
Customer To increase the number of corporate clients	Number of corporate clients this year compared to last year	
To increase customer satisfaction levels	Increased in customer satisfaction index over the previous year	Undertake customer survey.
Internal business To increase the number of orders satisfied using HW manufactured products	Number of orders where HW manufactured products are used compared to the previous year	Work with HW R & D to improve HW manufactured product range based on customer feedback and knowledge of other manufacturers' products.
Reduce lead time from order to installation of kitchen design (popular re-design)	Time from order to completed installation compared to the previous year	Undertake a benchmarking exercise, either internal between different countries, or find a suitable external partner willing to participate.
Learning and growth Recruit and train new interior designers with experience of the corporate sector	Number of new employees recruited	Establish a training program to familiarize staff with the requirements of corporate clients.
Gain at least one new client in the education sector as a starting point	Number of clients in the education sector	Target marketing to education sector institutions.

Objective	**Measure**	**Initiative**
Financial Services		
Financial Increase revenue generated from insurance products	Sales revenue generated from insurance products compared to the previous year	Target marketing to insurance products.
Reduce administration costs	Administration costs compared to the previous year (are they less and by how much)	Undertake benchmarking or review of administration processes.
Internal Business Reduce process times for opening credit card account or insurance policy approval	Time taken to open a credit card account, approve insurance policy compared to the previous year	Undertake benchmarking or review of administration processes or undertake additional training.
Reduce time to deal with insurance claims on HW purchased goods successfully	Time taken from notification of the claim to successful resolution compared to the previous year	Undertake a benchmarking exercise.
Customer Increase number of credit card customers	Number of credit card customers compared to the previous year	Marketing campaign, free transfer of balance, 0% interest rate offer, etc.
Increase the number of insurance customers	Number of insurance customers compared to the previous year	Marketing campaign.
Learning and growth Increase number of staff qualified in financial services with knowledge of the insurance market	Number of staff recruited with relevant experience compared to the previous year	Recruitment campaign.
Increase the number of insurance products offered to customers	Number of new insurance products within the product portfolio compared to the previous year	Engage with a consultant firm to research the most popular insurance products and develop competitive offerings to market.

Objective	**Measure**	**Initiative**
Product development and manufacturing		
Financial Reduce the cost of product development	Product development costs compared to the previous year	Work with the R & D team to undertake a benchmarking exercise to reduce product development time and hence costs.
Reduce the cost of materials	Cost of materials compared to previous years	Work closely with suppliers to reduce material content or costs.
Customer Maintain the sales revenue of HW manufactured products in HW stores	Revenue from HW manufactured products compared to the previous year	Work with HW retail stores to promote HW branded products.
Increase sales volumes of products to Interior Design customers	Number of products sold to Interior Design customers compared to the previous year	Work with the Interior Design team to promote HW products – maybe with financial incentives by working with HW Financial Services.
Internal business Reduce energy usage and wastage	Energy usage and wastage rates compared to previous years	Undertake energy audit and waste management study.
Reduce the length of the new product development cycle	Length of the new product development cycle compared to the previous year	Undertake a review of new PD cycle – perhaps with help from consultant firm.
Reduce the level of inventory and turnover	Inventory level and turnover compared to the previous year	Undertake a review of the inventory management system.
Learning and growth Develop new products with Interior Design suitable for corporate and education sector clients	Number of new products developed targeted at corporate and education sector clients	Work with Interior Design team and R & D to develop new products.
Identify sustainable material supplies suitable for furniture products.	Number of new supply sources of sustainable materials.	Research sustainable materials suppliers.

Chapter 10, Activity 20 – HW Inc. Critical success factors and performance management

Part (a)

Critical success factors include:

- Store location
- Relationship of footfall to passing trade and conversion from footfall to the point of purchase.
- Economies of scale and operation
- Good links with suppliers and inventory management
- Store layout and ambiance

Part (b)

Additional calculations to add to the understanding

	HW Bournemouth	**HW Newcastle**	**Competitor Manchester**
Extra calculations that can be made based on data provided			
Conversion rate – point of purchase as a percentage of footfall	26.7%	22.5%	25.0%
Footfall as a percentage of passing trade	15%	13%	20%
Average sale value per point of purchase £	60	49	27
Gross margin percentage of sales	30%	26%	30%
Percentage of sales as click and collect	1.0%	2.0%	4.0%
Inventory turnover based on the cost of sales	62	110	57
Average sales per employee £m	0.03	0.025	0.035
Average sales per square foot £	219	178	194
Average gross margin per square foot £	66	46	58
Average annual wage per staff member £	15,000	14,361	14,353

The comparisons between the Bournemouth store and the Newcastle store needs to be reviewed with the fact in mind that they are in different parts of the country with different economic indicators and potentially different demographics. While the comparison is useful in terms of operational indicators, as this could be used to help improve the operations of the northern store, the external influences on performance cannot be ignored. For example, the inventory turnover is much faster (that is, held for fewer days) in the Bournemouth store than Newcastle, but the product range could influence this, for example, the mix of clothing, home and garden, and electricals.

It is also interesting that the average sales per square foot and gross margin are higher in Bournemouth than Newcastle, which could be due to store layout. This might also impact on the conversion rate of footfall into purchases being higher. However, factors that might influence this are the average family size and average income levels, as well average age of the population, which could also influence the mix of products being purchased. Other factors to consider are that the Bournemouth store is 5,000 square feet smaller than Newcastle and stocks 1,000 fewer product ranges, which could impact on the differences in the recorded performance.

The opening hours are also slightly different. Employee numbers vary with the Bournemouth store paying slightly more on average, which may be due to local economic factors, but the sales per employee are higher, even though they are open for slightly fewer hours than Newcastle. Researching the product ranges and demographics of the customers could shed more light on this before any decisions are taken to change the operation of Newcastle. Also, the customer satisfaction levels appear to be lower in Newcastle, and further investigation as to what is causing this would be useful, for example, is it store layout, helpfulness of staff, opening hours, or other factors, that are causing the difference.

Newcastle is performing poorly compared to the major competitor. Even though they are both in the north, the economic conditions between Newcastle and Manchester still need to be considered. For example, the population growth rate is slightly higher in Manchester, as is the average income level. The Manchester competitor is open for longer, which may be an option that HW Newcastle could explore, but this will, of course, need to be resourced, which will increase wages. Therefore, the increased opening hours will need to generate enough sales to cover the cost of the additional wages, plus any additional costs.

The Manchester competitor also stocks far fewer product ranges and has a faster stock turnover. They also have more “click and collect” sales and have a higher conversion rate, both in terms of point of purchase to footfall and passing trade. Investigating the store layout and window displays to understand what is drawing in the customer into the store could be useful. One aspect that could impact this is the actual location of the competitor store in relation to other amenities and stores in the centers at Manchester, for example, being close to toilet facilities or entrance and exit to car parking, lifts, and so on, can often increase passing trade. This could be worth investigating for other centers where HW Inc. might operate. Developing a good relationship with Intu could be beneficial in the long run.

However, taking the point of purchase of sales per day and grossing this up to an annual figure we find that the average value of a sale in the competitor Manchester store is £27 compared to HW Newcastle of £49, and HW Bournemouth, £60, which raises the question as to the competitive strategy and target customer demographic of the competitor Manchester store, and hence whether it is a valid comparison. The store layout would be interesting to investigate in more detail as the store is more extensive than HW Newcastle and has fewer product ranges, so exploring how the sales space is used to generate sales could provide some useful information, even if a different demographic and competitive strategy is being followed.

The Newcastle store could investigate the customer satisfaction level as this might increase sales and conversion rates. Also, research could be undertaken to find out whether customers would prefer longer opening hours, bearing in mind the associated costs of opening for longer. Inventory stock management is an area where HW Inc. is supposed to have improved its management systems, but HW Newcastle is less efficient than the Bournemouth store and the competition in this respect. Also, store layout might be worth looking into to see if improvements could be made to engage the customer more and increase conversion rates.

Chapter 10, Activity 21 – HW Inc. evaluation of EVA™

Part (a)

Economic Value Added was developed by a firm of consultants *(Stern Stewart)* as a means of measuring company performance and linked to executive pay and rewards. The economic value is the net operating profit after tax from which a deduction is made for the use of capital in the form of a capital charge, based on the weighted average cost of capital, to arrive at the economic value. It is an absolute value, that is, a number rather than a percentage, and therefore if used as an investment appraisal method would encourage managers to undertake an investment if it increased the economic value added. In this way, it is said to be a good measure to use as it encourages managers to make decisions based on the interests of the shareholders and the company.

The firm of consultants recommended that adjustments should be made to the financial accounting profit to derive an adjusted net operating profit. The typical adjustments include adding back non-cash items and accounting adjustments, such as depreciation. This is to arrive at a figure that is closer to cash generated – hence its use as an investment appraisal technique. Other typical adjustments include research and development, marketing, and training. The underlying justification for adjusting these items is that they are an investment in generating future revenue streams rather than a charge against profits in the year in which they are incurred. An adjustment is made to treat them as investments and therefore added to the balance sheet to be written off over the period for which they are deemed to be generating revenue and, hopefully, profits. For example, a new product developed by HW Inc. may generate profits over three years, and therefore, the product development costs should also be written off over the same period.

As mentioned above a key benefit of EVA™ is that the basic principle is similar to that of Residual Income and the NPV principle, in that it reduces the potential for dysfunctional behavior based on past results, for example, undertaking a project reducing the average ROI, whereas EVA™ will encourage managers to undertake the project if it increases the absolute value of EVA™.

EVA™ is said to have several uses that may be of interest to HW Inc. For example, it can be used to set organizational goals and, therefore, could feature as a performance measure and target on the balanced scorecard. It can also be used to determine bonuses at a divisional and whole organizational level and could be a way of motivating managers to increase economic value. It can also be used to value companies and determine equity investments, but these are of less use to HW Inc. now.

Other benefits are that it introduces an element of accountability to divisional managers for investment decisions that benefit the company in the long term. This may be useful to HW

Inc. as it will encourage managers to think about the long-term issues rather than attempting a short-term fix. It also makes managers think along the lines of shareholders in terms of adding value to the business.

However, as with most techniques, there are some issues that HW Inc. needs to be aware of if thinking of using EVA^{TM} as a performance measure. It is complex and can require the collection of data that is not usually collected within the accounting system. Managers who do not have a financial background can also find it challenging to understand. Therefore there will be a requirement for training and support at all levels in the organization.

As it is a single measure, it can be dangerous to focus on value-added, so it needs using as part of a balanced scorecard approach to performance management.

There is also a high degree of subjectivity in estimating the length of time that items such as research and development, marketing, and training continue to generate revenue streams and, therefore, the period over which they should be written off. In fact, the adjustments only make a difference to EVA^{TM} in the long run in periods when research and development, marketing and training are increasing, or reducing, year on year. Otherwise, the net effect is simply to spread the costs over a more extended period, and it becomes an issue of accounting timing rather than a management issue. In which case, the tendency is for managers to ignore the measure.

However, a focus on value could be beneficial for HW Inc. now, given its recent poor performance and used in conjunction with other measures could help to revitalize the company over the next few years. Other techniques, such as the value chain analysis, could be used to help the management of HW Inc. identify where the real value could be added.

Part (b)

The method adopted is to add back the items for adjustment in full and then write off the appropriate value to the profit and loss account with the net amount of the adjustment shown in the balance sheet. (Shown on next page).

	2018		2019		2020	
	Products	Interior Design	Products	Interior Design	Products	Interior Design
	£m	£m	£m	£m	£m	£m
Profit before interest and taxation	188.4	332.5	278.0	274.4	(91.5)	317.6
Add back depreciation	160.3	57.3	144.2	51.5	91.0	32.5
Add back R & D 2018	247.9	144.6				
Write off 1/3 2018	(82.6)	(48.2)				
Write off 1/3 2019			(82.6)	(48.2)		
Write off balance 2020					(82.7)	(48.2)
Add back R & D 2019			147.2	85.9		
Write off 1/3 2019			(49.1)	(28.6)		
Write off 1/3 2020					(49.1)	(28.6)
Add back 2020					154.3	90.0
Write off 1/3 2020					(51.4)	(30.0)
Add back marketing 2018	322.8	271.8				
Write off 1/2 marketing 2018	(161.4)	(135.9)				
Write off 1/2 marketing 2018			(161.4)	(135.9)		
Add back marketing 2019			234.8	177.7		
Write off 1/2 marketing 2019			(117.4)	(88.9)		
Write off 1/2 marketing 2019					(117.4)	(88.8)
Add back marketing 2020					222.3	158.8
Write off 1/2 marketing 2020					(111.2)	(79.4)
Training - no adjustment required						
Net operating profit	675.4	622.1	393.7	287.9	(35.7)	323.9
Less taxation paid	(45.0)	(79.4)	(67.6)	(66.7)	(5.4)	(67.4)
Net operating profit after tax	630.4	542.7	326.1	221.2	(41.1)	256.5
Capital charge	(588.2)	(232.4)	(603.2)	(236.5)	(624.0)	(243.9)
Economic value added	42.2	310.3	(277.1)	(15.3)	(665.1)	12.6

Balance sheet provided to calculate the capital charge.

	2018		2019		2020	
	Products $m	Interior Design $m	Products $m	Interior Design $m	Products $m	Interior Design $m
Net assets	9,316.1	3,583.1	9,611.2	3,696.6	10,046.4	3,864.0
Add back depreciation	160.3	57.3	144.2	51.5	91.0	32.5
Research and Development 2018	165.3	96.4				
R & D balance of 2018			82.7	48.2		
Research and Development 2019			98.1	57.3		
R & D balance of 2019					49.0	28.7
Research and Development 2020					102.9	60.0
Marketing 2018 - balance	161.4	135.9				
Marketing 2019 balance			117.4	88.8		
Marketing 2020 balance					111.1	79.4
Training - no adjustment required						
Net operating assets	9,803.1	3,872.7	10,053.6	3,942.4	10,400.4	4,064.6
Capital change at 6% of net assets	588.2	232.4	603.2	236.5	624.0	243.9

Part (c)

Comments

The first point to make is that 2018 can be largely ignored. As the adjustments have been made beginning in that year, the figures are therefore distorted as the costs that would be coming through from previous years for R & D and Marketing are not shown. This accounts for the significant increase in profit shown in 2018 under the EVA calculation. Ideally, we would need to restate these years by adjusting for previous years. The analysis becomes more relevant as the years progress, and by the time we get to 2020, we can see the full effect of the adjustments. The R & D and marketing adjustments merely shift expenditure between the years and will only have a significant impact on EVA™ in the long run if expenditure on these items increases or decreases. Where this becomes more useful is when making comparisons between different companies, or perhaps in the case of HW, if a comparison of EVA™ was made at the subsidiary level. The different levels of investment in R & D and Marketing would then become more apparent if one subsidiary were investing heavily in marketing compared to another, that is, it could be said that one subsidiary was investing in the future to generate future revenues, compared to the one that was merely seeking to maintain sales.

The overall impact is that the company is, in fact, destroying shareholder value rather than generating it. The Products side of the business performing much worse than the original profit and loss account shows, but what is perhaps more interesting is that the Interior Design is not doing as well as first thought. The product range is hit quite hard by R & D, and marketing and the allocation of these costs might require more investigation, but the analysis gives management some ideas as to where value might be added.

While the figures are interesting and provide some insight into the effect of the investments in marketing and R & D, it is dangerous to read too much into the figures at this stage. What it does show is that the company is finding it difficult to generate returns that cover the cost of capital as before the charge for capital costs, only the Products part of the business is generating a loss. The net assets allocated to the Interior Design business seem to be high compared to the products section of the business, and more information might be useful as to how this figure is derived. Also, the taxation figure appears to be high compared to other parts of the business, but this could be due to taxation allowances received by the products division (which presumably includes the manufacturing business), reducing the tax charge allocated to products.

Chapter 10, Activity 22 – HW Inc. Transfer pricing

Part (a)

Calculate each transfer price described in the scenario.

Factory Offer		$
	Normal selling price	240.00
	Less: variable selling and distribution costs Sales force salaries are fixed so VC = carriage $400,000/100,000	4.00
	Adjusted selling price	**236.00**

Interior Design Offer	Standard variable (direct) manufacturing costs (7,200 + 4,600 + 800) $12,600,000/100,000	126.00
	Variable manufacturing overheads $200,000/100,000	2.00
	Variable manufacturing costs	128.00
	PLUS 20% profit margin	25.60
	Variable manufacturing costs plus mark-up	**153.60**
Op Directors suggestion	Full manufacturing cost plus 15% based on 100,000 units $1,760,000/100,000	176.00
	Plus 15%	26.40
	Full manufacturing cost plus mark-up	**202.40**
	Full manufacturing cost at full capacity of 120,000 which could also be used to arrive at the fixed costs	
	Variable costs $12,800,000/100,000	128.00
	Fixed overheads 600 + 3,000 + 1,200 = $4,800,000/120,000	40.00
		168.00
	Plus 15%	25.20
	Full manufacturing cost at full capacity plus mark-up	**193.20**

Part (b)

Where there is spare capacity, the only extra cost to the Factory of producing and selling one additional unit is the variable manufacturing costs. Therefore, the Factory would be willing to supply at anything over the variable manufacturing cost; that is, below this, they would lose money from selling to the Interior Design business. However, it would be good for the Factory to make a profit on their sale for motivational purposes.

The Interior Design Business (ignoring issues of quality for the moment) would not wish to pay more for the product than they could obtain an alternative product for in the external market, that is, $180. As the Factory product is of better quality, then the Interior Design business should be willing to pay up to at least the external alternative as it is getting a better product for less money.

When there is spare capacity, the transfer price could be negotiated between $128.00 and $180.00.

Part (c)

When there is no spare capacity, the situation changes for the Factory, as to sell a product to the Interior Design business means it cannot make an external sale. It loses the contribution on that sale (note we say contribution as it will still incur the fixed costs, whether it sells a product or not, so when it sells a product, it is contributing to fixed costs and profit).

This is where the opportunity cost becomes useful. The opportunity cost is the benefit foregone from the next best alternative course of action.

In the first instance where there is spare capacity, we could say that the next best alternative is not to produce a product at all, in which case the Factory saves the marginal or variable costs of manufacturing, i.e., $128.00. Therefore, this is the opportunity cost of producing the extra unit. However, when the external sale is made, the Factory incurs the variable cost of manufacturing and makes a contribution, so if the chance of an external sale is lost by selling to the Interior Design business, HW Inc. actually loses the contribution as well. Therefore, the contribution lost in this instance when there is no spare capacity is the selling price less the variable manufacturing costs ($240.00 - $126.00 - $2.00) $112.00. Therefore, the opportunity cost of producing one extra unit and selling to the Interior Design business is the variable manufacturing cost plus lost contribution. $128.00 + $112 = $240. (Note that this could be adjusted by the distribution costs not incurred which would leave us with the adjusted selling price).

The key point is that if we use the opportunity cost of $240 as the transfer price, then this deters the Interior Design business from buying from the Factory which is the right decision from HW Inc.'s position as if an external sale is lost, the company as a whole loses money. This is the basis of a contention that if the opportunity cost is used, the correct decision is always made for the benefit of the company.

The obvious decision to follow up with is whether it is worth investing to increase the capacity of the Factory, which is a different but related decision.

Chapter 10, Activity 23 – HW Inc. Benchmarking

Part (a)

Benchmarking is a means of comparing the performance of an organization (or individual or subgroup) with another with the aim of learning and making improvements. It is important to note that it is not just a copying exercise as the context in which the improvements are being implemented need to be taken in to account. For example, if HW Inc. benchmarked against a competitor that was much smaller (or larger) than HW Inc., the relative size of organizations may mean that economies of scale are a significant factor. The smaller competitor will not enjoy the economies of scale that HW Inc. can use, or conversely, that a larger competitor achieves benefits from economies of scale that HW Inc. cannot hope to emulate. Therefore, a meaningful comparator needs to be found.

One of the key advantages of benchmarking is that it can aid in setting aspirational targets that are linked to strategy, particularly if used as part of the initiatives within the balanced scorecard. This could be important for HW Inc. at this time due to its poor performance in recent years. It can also encourage innovation, something that HW Inc. might be able to use to improve its relative competitive position. It can also help to motivate employees via the use of targets but also because benchmarking involves all employees. It is not a process that is undertaken in isolation but should be inclusive and engages employees at all levels.

There are difficulties, however, that HW Inc. needs to be aware of when undertaking benchmarking exercises. If targets are set and continuously missed, it can have the opposite effect of motivating employees but can demotivate them. Also under certain forms of benchmarking, for example, competitor benchmarking, there is a danger of disclosing confidential or commercially sensitive information in an effort to gain some benefit from the exercise, that is, there may be a temptation to reveal too much information. The danger of just copying what others do is also a temptation without taking the time to assess how best to implement an improvement in HW Inc.'s particular context, that is, management get focused on the benchmark itself rather than learning from what they have found. It could also mean that HW Inc. becomes like other companies in the high street and loses that extra element that sets it apart from the competition. It also assumes that suitable partners can be found with which to benchmark.

However, used correctly, benchmarking can be a particularly useful tool for improving the operations and performance of a business.

Part (b)

There are many classifications under which benchmarking is considered. These include internal and external, formal and informal, as well as others. The typical types of benchmarking that might be appropriate for HW Inc. are as follows:

- Internal – comparing one operating unit or function with another in the same company, for example, one retail outlet against another, or one production unit against another. It is, however, essential to be aware that outlets in different parts of the country, or indeed countries themselves, may be affected by different factors within their local context, although the operations may be the same.
- Functional / activity – internal functions are compared with the best external practitioners regardless of industry, for example, inventory control with a supermarket, or website navigation with organizations that are in the business of providing information and advice online.

- Competitor – with direct competitors, including reverse engineering techniques, that is, direct competitors of HW Inc., but again we need to be careful that it is a meaningful comparison. This tends to be appropriate for aspects that can be benchmarked via publicly available data, for example, product ranges, prices, and so on.
- Strategic – aimed at strategic action and organizational change, for example, launching a new product range, or product development. Even benchmarking against companies that have successfully turned around a loss-making position to one of profitability could be a possibility for HW Inc.
- Industry – there may be some industry standards that can be used, for example, general statistics on footfall, conversion rates, and staffing levels in the retailing sector.

Part (c)

There is no one definitive process for benchmarking, but a typical series of stages that HW Inc. could follow is outlined below:

(1) Establish benchmarking objectives – it is essential to have a clear idea of what it is HW Inc. wishes to achieve and what aspects of the business they are benchmarking.

(2) Establish a mixed skills benchmarking team – benchmarking is inclusive and is not undertaken just by accountants. A team of people with a mix of skills and knowledge of the specific area is usually required. This also facilitates a sharing of knowledge and understanding within the company.

(3) Develop relevant KPIs – the performance indicators must be developed before collecting data as this determines what data is required. It is also important to recognize that the data must be available from both parties if benchmarking with another organization.

(4) Choose an organization or business unit against which to benchmark – choosing an appropriate benchmarking partner is essential as the benchmark must be meaningful and one from which HW Inc. can learn. Also, if external, the partner will wish to learn from the exercise as well, that is, mutual benefit – this process can take time to find a suitable partner.

(5) Measure own and partner's performance – the obvious stage of measuring the performance of both parties on a comparable basis.

(6) Analyze data & discuss results – once collected, the data needs to be analyzed. It should also be recognized that the reason why there are differences in performance needs to be discussed as this may not always be apparent; that is, HW Inc. needs to understand the "why" behind the difference.

(7) Implement change – any improvements that could be made need to be implemented, which brings into play change management issues as employees need to be included in the process.

(8) Monitor improvements – the impact of changes needs to be monitored, and often this is not immediately apparent as to why performance has or has not improved, particularly if several things have been changed as there may not be a direct link.

(9) Publish success – an important step often overlooked is to publish the success of the exercise as this can act as a motivating factor for employees.

Part (d)

Benchmarking can also be used as a means of developing new initiatives that can be implemented as part of a balanced scorecard approach to performance management. Also, in relation to competitors, it can aid the determination of strengths and weaknesses as part of the corporate appraisal or SWOT analysis. Therefore the process and outputs of benchmarking exercises can be used in conjunction with other techniques to aid the development of strategy and the achievement of objectives.

Value creation activities can be benchmarked to identify critical activities in the industry, or sources of strengths and weakness, as mentioned above. Costs of quality is another area where benchmarking is particularly useful, as well as in target costing as a means of making improvements to processes or functionality, design, and so on, to meet the target cost.

Chapter 10, Activity 24 – HW Inc. Divisional performance

Looking at this from the viewpoint of HW INC.

Part (a)

- Decisions should be made based on NPV calculations.
- In this case, there is an Rp90,000m initial investment and an Rp31,500m net cash flow (150,000 - 118,500)
- As the cash flow is the same amount per year, we can use the cumulative discount factor

<u>NPV Calculation:</u>

- Rate - 7 Years at 10% = 4.868
- -90,000 + [(150,000-118,500) x 4.868] = Rp63,342m

Therefore, the decision would be that this project is one that HW Inc. should pursue.

Note that we have used the Rp90,000m (assumed to be incurred in year 0), essentially ignoring the initial development costs as these are sunk costs, and for NPV, we are concerned with future cash flows. Whatever happens, HW Inc. will not get the Rp30,000m initial costs back. However, when undertaking RoI calculations, we would include the total investment as we are interested in the return on total investment rather than the timing of future cash flows.

However, if you take the viewpoint of the Indonesian division, the head office wants them to reimburse the initial development costs.

Looking at this from the viewpoint of the Indonesian division

NPV Calculation:

- Rate - 7 Years at 10% = 4.868
- -120,000 + [(150,000-118,500) x 4.868] = Rp33,342m

We can see that it is still a positive number, but it highlights a difficulty where two parts of the business see the decision as being something slightly different. Therefore, care needs to be taken when reviewing divisional performance, and if you work for a head office, always take into account how the division might view the proposed project, as they might take a different viewpoint. It also highlights the significance of who bears the costs in joint developments with head office as this can influence decision making in surprising ways.

Part (b)

Return on investment

	Current	New Project	Combined
	Rp,m	Rp,m	Rp,m
Sales	540,000	150,000	690,000
Less			
Cash operating expenses	400,000	118,500	518,500
Depreciation	41,000	17,143	58,143
Divisional profit	99,000	14,357	113,357
Return on investment	99,000/450,000 x 100 = 22%	14,357/120,000 x 100 = 12%	113,357/570,000 x 100=20%

Note depreciation of new project/ (90,000 + 30,000)/7 = 17,143

We know the organization should want to take this project forward, but the manager would refuse to do this if they are judged on ROI. So, using Residual Income

	Current	New Project	Combined
	Rp,m	Rp,m	Rp,m
Divisional profit from above	99,000	14,357	113,357
Capital charge at 10% of capital employed	-45,000	-12,000	-57,000
Residual income	54,000	2,357	56,357

Capital charge is calculated as:

Capital charge at 10% of capital employed	450,000 x 10% = -45,000	120,000 x 10% = -12,000	570,000 x 10% = -57,000

Part (c)

Under the RoI method, the divisional management may view the project as reducing their overall average RoI and hence not be that motivated to undertake the project, even though it is yielding a percentage return above that required by the head office.

The Residual Income method increases the residual income and, therefore, would encourage the division to undertake the project. Thus, the RI is a preferable method. It is similar in a way to the NPV calculation in that it produces an absolute value. Therefore if it is positive, it encourages acceptance, whereas if negative, it discourages acceptance. There may be instances when a project with a negative NPV is strategically advantageous to undertake, but the principle is the same.

However, a difficulty is in establishing the cost of capital, as with the NPV, if a higher cost of capital is used in the calculation, it will reduce the resultant value of the RI or NPV. We could also argue that the depreciation rate chosen will impact on the RI, as it does with RoI, whereas NPV works on cash flows, so the fact that RI uses accounting information, and historical asset values, could mean that a true evaluation is not being undertaken. As with RoI, it also depends on the size of the return in relation to the investment. Is it 1,000 on an investment of 1,000,000 or 10,000? Although both produce a positive RI, we would probably argue that 1,000 on 10,000 is much better and that 1,000 from 1million is not that good. It might mean more if RI is expressed as a percentage! For example, 0.1% compared to 10%.

RI is said to be a better measure to use as it takes away some of the motivational influences of the RoI percentage. Still, for new investments, the NPV should always be undertaken, as this ignores the accounting policies issue.

Chapter 11, Activity 25 – HW Inc. Sustainability

The following elements indicate that HW Inc. takes CSR seriously (remember that this is based on a real company, so the activities do take place in a global company).

HW Inc. has a group CSR framework – therefore, this guides the behavior of all subsidiary companies.

Each business creates its own CSR plans based on local stakeholder engagement. This provides some autonomy and ensures that each part of HW Inc. engages with their local stakeholders, but within the group guidelines, as the plans are submitted to the CSR committee. It also ensures local buy-in to the plan as they created it, and it not imposed by the head office.

HW Inc. allows employees time to contribute to the local community. The company is, therefore, committing resources to the CSR strategy.

Training is provided, and HW Inc. also has a qualification developed for its CSR champions. The knowledge gained by these champions is also shared around the group.

The CSR policy sets targets around sustainability issues and is divided into four main areas: community, environment, marketplace, and workplace.

The local champions provide commitment and local input, together with the support network provided, enables and encourages the sharing of experiences and ideas around the group to develop a form of organizational learning. The action group ensures that something is done rather than just talking about issues. Champions are supported by the group CSR director and coordinator. This provides a mechanism to ensure that good practice is shared but also demonstrates the head office commitment to CSR and its process within the group.

The finance department is heavily involved in both gathering, analyzing, and preparing the information for CSR reports, as well as providing an audit check on its accuracy. The audit is necessary because the report is published, and therefore the accuracy needs to be checked in case it leaves the company open to criticism later.

Chapter 11, Activity 26 – HW Inc. Sustainability and the accountant

Sustainability

Sustainability is defined as environmental, economic, and social sustainability and sustainable development is concerned with ensuring that actions are taken with due consideration being given to future generations.

Accountants are often involved in preparing the annual CSR report, which many companies now produce to demonstrate and report on actions they are taking to ensure that they act responsibly. In a way, this has increased the degree of accountability and transparency in managing and reporting on organizational performance, something that accountants are always involved in through the stewardship and corporate governance roles within an organization.

Accountants are well placed to contribute to sustainability in the area of performance management. The balanced scorecard approach to performance management can be a useful way of capturing sustainability aspects of performance. There is some debate about the best approach to include these, for example, should sustainability be incorporated within the corporate balanced scorecard, or should there be a separate sustainability scorecard. An argument to suggest that it should be included within the corporate scorecard is that if a separate scorecard is created, it can have the effect of marginalizing the sustainability scorecard. In the case of HW Inc., it would perhaps be best if they implemented a single scorecard approach incorporating sustainability elements within the normal perspectives. This is the recommended approach as HW Inc. does not make a virtue out of sustainability, that is, it does not seek to use it as a competitive advantage, and therefore would not benefit from having a separate scorecard.

The accountant can also contribute by assisting in monitoring the environment for changes in industry standards that might require a more sustainable approach by industry members. For example, the current concerns about energy usage, and recycling of products, using sustainable sources of materials, exploitation of low paid workers in developing countries to manufacture clothes. Accountants would not necessarily look for these aspects in particular, but when monitoring economic factors and business-related media reports, the accountant may come across items that they can share, or at least make sure that someone in HW Inc. has seen the item. Large organizations often channel such information through their communication department, if they have one, who is responsible for making sure that the relevant management team members are up to date with issues in their area of responsibility. This could be considered as contributing to social sustainability.

A prominent area where accountants can contribute is in the development of controls, particularly the diagnostic controls, typically plan or budget versus actual, which in accounting terms is budgetary control and part of economic sustainability. Also, encouraging the use of interactive controls, whereby employees are encouraged to take control action and a culture of learning is created. Benchmarking exercises also aid this perspective and the use of initiatives on the balanced scorecard, so that employees are encouraged to challenge the way things are currently done. Accountants can contribute to training programs by increasing the financial awareness of all employees and thus contribute to the development of staff, not just as an employee, but also in broader terms to develop as a person, which contributes to social sustainability.

Specific costs can be monitored, such as energy costs, which do not only have sustainable aspects but also benefit the company in achieving economic sustainability by reducing and managing costs more closely. If this reduces energy usage, it also contributes to environmental sustainability. For example, one of the aspects of HW Inc. stores is the ambiance to which lighting is a key part. 'Bright and airy' is often used to describe the interior of the stores – this could be viewed as unnecessary use of energy by some, and therefore ensuring that this is achieved in an energy-efficient way could be significant, not just in cost terms but also for the public image. Similarly, reducing wastage (costs of quality) in the product or improving efficiency/effectiveness of manufacturing processes in the factories. The use of the value chain analysis linked to ABC can aid this process and highlight areas where significant improvements can be made, which also increases the sustainability of HW Inc.

As mentioned above, specific techniques can be used to aid the improvement of sustainability best practices. Benchmarking exercises can be useful as a means of identifying the sustainable practice of other companies that can be implemented within HW Inc. Also, when developing new products, the concept of lifecycle costing would consider the recycling of product elements at the end of their useful life as well as the cost of design and manufacture. This could provide savings across the industry. Target costing could also be employed to aid sustainable product development.

HW Inc. is in the process of conducting a future potential review and will, therefore, be making strategic decisions and accountants are in an excellent position to evaluate strategic options by way of a cost-benefit analysis, and including the tangible and intangible costs and benefits. For example, considering the impact on employees within the rationalization of stores is considering the social aspects of the decision. Therefore, HW Inc. needs to take into account the sustainability aspects of the decision when evaluating various options.

Overall, the management accountant can make a significant contribution to the sustainability of businesses. Even contributing to halting the decline in profits of HW Inc. is contributing to economic sustainability. After all, if a company is not profitable, it will not be around long enough to contribute to the sustainability of the planet. Hence the 3 P maxim: profit, people, and the planet.

Appendix D – Present value and annuity tables

PRESENT VALUE TABLE

Present value of 1 ie $(1 + r)^{-n}$ Where r = discount rate, n = number of periods until payment.

Discount rates (r)

***Periods* (n)**	**1%**	**2%**	**3%**	**4%**	**5%**	**6%**	**7%**	**8%**	**9%**	**10%**
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	0.980	0.961	0.943	0.925	0.907	0.890	0.873	0.857	0.842	0.826
3	0.971	0.942	0.915	0.889	0.864	0.840	0.816	0.794	0.772	0.751
4	0.961	0.924	0.888	0.855	0.823	0.792	0.763	0.735	0.708	0.683
5	0.951	0.906	0.863	0.822	0.784	0.747	0.713	0.681	0.650	0.621
6	0.942	0.888	0.837	0.790	0.746	0.705	0.666	0.630	0.596	0.564
7	0.933	0.871	0.813	0.760	0.711	0.665	0.623	0.583	0.547	0.513
8	0.923	0.853	0.789	0.731	0.677	0.627	0.582	0.540	0.502	0.467
9	0.914	0.837	0.766	0.703	0.645	0.592	0.544	0.500	0.460	0.424
10	0.905	0.820	0.744	0.676	0.614	0.558	0.508	0.463	0.422	0.386
11	0.896	0.804	0.722	0.650	0.585	0.527	0.475	0.429	0.388	0.350
12	0.887	0.788	0.701	0.625	0.557	0.497	0.444	0.397	0.356	0.319
13	0.879	0.773	0.681	0.601	0.530	0.469	0.415	0.368	0.326	0.290
14	0.870	0.758	0.661	0.577	0.505	0.442	0.388	0.340	0.299	0.263
15	0.861	0.743	0.642	0.555	0.481	0.417	0.362	0.315	0.275	0.239
	11%	**12%**	**13%**	**14%**	**15%**	**16%**	**17%**	**18%**	**19%**	**20%**
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	0.812	0.797	0.783	0.769	0.756	0.743	0.731	0.718	0.706	0.694
3	0.731	0.712	0.693	0.675	0.658	0.641	0.624	0.609	0.593	0.579
4	0.659	0.636	0.613	0.592	0.572	0.552	0.534	0.516	0.499	0.482
5	0.593	0.567	0.543	0.519	0.497	0.476	0.456	0.437	0.419	0.402
6	0.535	0.507	0.480	0.456	0.432	0.410	0.390	0.370	0.352	0.335
7	0.482	0.452	0.425	0.400	0.376	0.354	0.333	0.314	0.296	0.279
8	0.434	0.404	0.376	0.351	0.327	0.305	0.285	0.266	0.249	0.233
9	0.391	0.361	0.333	0.308	0.284	0.263	0.243	0.225	0.209	0.194
10	0.352	0.322	0.295	0.270	0.247	0.227	0.208	0.191	0.176	0.162
11	0.317	0.287	0.261	0.237	0.215	0.195	0.178	0.162	0.148	0.135
12	0.286	0.257	0.231	0.208	0.187	0.169	0.152	0.137	0.124	0.112
13	0.258	0.229	0.204	0.182	0.163	0.145	0.130	0.116	0.104	0.093
14	0.232	0.205	0.181	0.160	0.141	0.125	0.111	0.099	0.088	0.078
15	0.209	0.183	0.160	0.140	0.123	0.108	0.095	0.084	0.074	0.065

ANNUITY TABLE – cumulative present values

Present value of an annuity of 1 ie $\frac{1 - (1 + r)^{-n}}{r}$ where r = interest rate, n = years

Interest rates (r)

Present **(n)**	**1%**	**2%**	**3%**	**4%**	**5%**	**6%**	**7%**	**8%**	**9%**	**10%**
1	0.990	0.980	0.971	0.962	0.952	0.943	0.935	0.926	0.917	0.909
2	1.970	1.942	1.913	1.886	1.859	1.833	1.808	1.783	1.759	1.736
3	2.941	2.884	2.829	2.775	2.723	2.673	2.624	2.577	2.531	2.487
4	3.902	3.808	3.717	3.630	3.546	3.465	3.387	3.312	3.240	3.170
5	4.853	4.713	4.580	4.452	4.329	4.212	4.100	3.993	3.890	3.791
6	5.795	5.601	5.417	5.242	5.076	4.917	4.767	4.623	4.486	4.355
7	6.728	6.472	6.230	6.002	5.786	5.582	5.389	5.206	5.033	4.868
8	7.652	7.325	7.020	6.733	6.463	6.210	5.971	5.747	5.535	5.335
9	8.566	8.162	7.786	7.435	7.108	6.802	6.515	6.247	5.995	5.759
10	9.471	8.983	8.530	8.111	7.722	7.360	7.024	6.710	6.418	6.145
11	10.37	9.787	9.253	8.760	8.306	7.887	7.499	7.139	6.805	6.495
12	11.26	10.58	9.954	9.385	8.863	8.384	7.943	7.536	7.161	6.814
13	12.13	11.35	10.63	9.986	9.394	8.853	8.358	7.904	7.487	7.103
14	13.00	12.11	11.30	10.56	9.899	9.295	8.745	8.244	7.786	7.367
15	13.87	12.85	11.94	11.12	10.38	9.712	9.108	8.559	8.061	7.606

	11%	**12%**	**13%**	**14%**	**15%**	**16%**	**17%**	**18%**	**19%**	**20%**
1	0.901	0.893	0.885	0.877	0.870	0.862	0.855	0.847	0.840	0.833
2	1.713	1.690	1.668	1.647	1.626	1.605	1.585	1.566	1.547	1.528
3	2.444	2.403	2.361	2.322	2.283	2.246	2.210	2.174	2.140	2.106
4	3.102	3.037	2.974	2.914	2.855	2.798	2.743	2.690	2.639	2.589
5	3.696	3.605	3.517	3.433	3.352	3.274	3.199	3.127	3.058	2.991
6	4.231	4.111	3.998	3.889	3.784	3.685	3.589	3.498	3.410	3.326
7	4.712	4.564	4.423	4.288	4.160	4.039	3.922	3.812	3.706	3.605
8	5.146	4.968	4.799	4.639	4.487	4.344	4.207	4.078	3.954	3.837
9	5.537	5.328	5.132	4.946	4.772	4.607	4.451	4.303	4.163	4.031
10	5.889	5.650	5.426	5.216	5.019	4.833	4.659	4.494	4.339	4.192
11	6.207	5.938	5.687	5.453	5.234	5.029	4.836	4.656	4.486	4.327
12	6.492	6.194	5.918	5.660	5.421	5.197	4.988	4.793	4.611	4.439
13	6.750	6.424	6.122	5.842	5.583	5.342	5.118	4.910	4.715	4.533
14	6.982	6.628	6.302	6.002	5.724	5.468	5.229	5.008	4.802	4.611
15	7.191	6.811	6.462	6.142	5.847	5.575	5.324	5.092	4.876	4.675

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