

Introduction to management accounting

INTRODUCTION

Welcome to the world of management accounting! In this introductory chapter, we examine the role of management accounting within a business. To understand the context for management accounting we begin by considering the nature and purpose of a business. Thus, we first consider what businesses seek to achieve, how they are organised and how they are managed. Having done this, we go on to explore how management accounting information can be used within a business to improve the quality of managers' decisions. We also identify the characteristics that management accounting information must possess to fulfil its role. Management accounting has undergone many changes in response to developments in the business environment and in business methods. In this chapter we shall discuss some of the more important changes that have occurred.

LEARNING OUTCOMES

When you have completed this chapter, you should be able to:

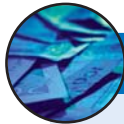
- Identify the purpose of a business and discuss the ways in which a business may be organised and managed.
- Discuss the issues to be considered when setting the financial aims and objectives of a business.
- Explain the role of management accounting within a business and describe the key qualities that management accounting information should possess.
- Explain the changes that have occurred over time in both the role of the management accountant and the type of information provided by management accounting systems.

What is the purpose of a business?

Peter Drucker, an eminent management thinker, has argued that *'The purpose of business is to create and keep a customer'* (see reference 1 at the end of the chapter). Drucker defined the purpose of a business in this way in 1967, at a time when most businesses did not adopt this strong customer focus. His view therefore represented a radical challenge to the accepted view of what businesses do. Forty-five years on, however, his approach has become part of the conventional wisdom. It is now widely recognised that, in order to succeed, businesses must focus on satisfying the needs of the customer.

Although the customer has always provided the main source of revenue for a business, this has often been taken for granted. In the past, too many businesses have assumed that the customer would readily accept whatever services or products were on offer. When competition was weak and customers were passive, businesses could operate under this assumption and still make a profit. However, the era of weak competition has passed. Today, customers have much greater choice and are much more assertive concerning their needs. They now demand higher quality services and goods at cheaper prices. They also require that services and goods be delivered faster with an increasing emphasis on the product being tailored to their individual needs. If a business cannot meet these needs, a competitor business often can. Thus the business mantra for the current era is *'the customer is king'*; most businesses now recognise this fact and organise themselves accordingly.

Real World 1.1 provides an illustration of how one very successful UK business recognises the supremacy of the customer.



REAL WORLD 1.1

Checking out the customers

FT

Tesco plc, the UK supermarket business, has been highly successful at expanding its operations and generating wealth for its owners (the shareholders). In an interview with the *Financial Times*, the business's chief executive (most senior manager) Sir Terry Leahy explained how this profitable expansion is being achieved. He said:

The big change for Tesco came when we stopped being a company with a marketing department and became a marketing company. We put the customer right at the heart of the business and their requirements drove everything we did. It's not too strong to say we became obsessed with customers. Real marketing, that is, understanding people's lives and needs and responding to them with products and services, I believe lies at the heart of business success.

Later in the interview Sir Terry added:

'We never forget customers have a choice of stores and if we don't satisfy them they will go elsewhere.'

Source: 'Ask the expert: Tesco's Sir Terry Leahy', *Financial Times*, 2 June 2006.

How are businesses organised?

Nearly all businesses that involve more than a few owners and/or employees are set up as limited companies. This means that the finance will come from the owners (shareholders) both in the form of a direct cash investment to buy shares (in the ownership of the business) and through the shareholders allowing past profits, which belong to them, to be reinvested in the business. Finance will also come from lenders (banks, for example), who earn interest on their loans, and from suppliers of goods and services being prepared to supply on credit, with payment occurring a month or so after the date of supply, usually on an interest-free basis.

In larger limited companies, the owners (shareholders) are not involved in the daily running of the business; instead they appoint a board of directors to manage the business on their behalf. The board is charged with three major tasks:

- setting the overall direction and strategy for the business;
- monitoring and controlling the activities of the business; and
- communicating with shareholders and others connected with the business.

Each board has a chairman, elected by the directors, who is responsible for running the board in an efficient manner. In addition, each board has a chief executive officer (CEO), or managing director, who is responsible for running the business on a day-to-day basis. Occasionally, the roles of chairman and CEO are combined, although it is usually considered to be a good idea to separate them in order to prevent a single individual having excessive power.

The board of directors represents the most senior level of management. Below this level, managers are employed, with each manager being given responsibility for a particular part of the business's operations.

Activity 1.1

Why are most larger businesses *not* managed as a single unit by one manager?

Three common reasons are:

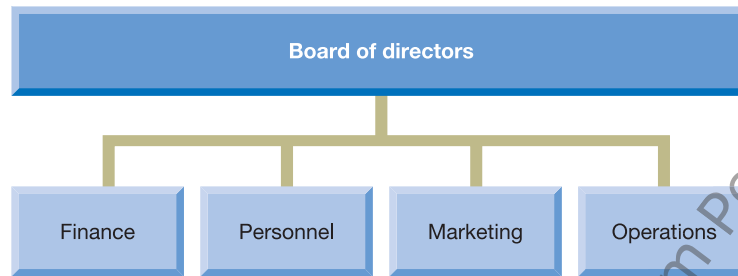
- The sheer volume of activity or number of staff employed makes it impossible for one person to manage them.
- Certain business operations may require specialised knowledge or expertise.
- Geographical remoteness of part of the business operations may make it more practical to manage each location as a separate part, or set of separate parts.

The operations of a business may be divided for management purposes in different ways. For smaller businesses offering a single product or service, separate departments are often created, with each department responsible for a particular function (such as marketing, personnel and finance). The managers of each department will then be accountable to the board of directors. In some cases, individual board members may also be departmental managers.

A typical departmental structure, organised along functional lines, is set out in Figure 1.1.

Figure 1.1

A departmental structure organised according to business functions



This is a typical departmental structure organised along functional lines.

The structure set out in the figure may be adapted according to the particular needs of the business. Where, for example, a business has few employees, the personnel function may not form a separate department but may form part of another department. Where business operations are specialised, separate departments may be formed to deal with each specialist area. Example 1.1 illustrates how Figure 1.1 may be modified to meet the needs of a particular business.

Example 1.1

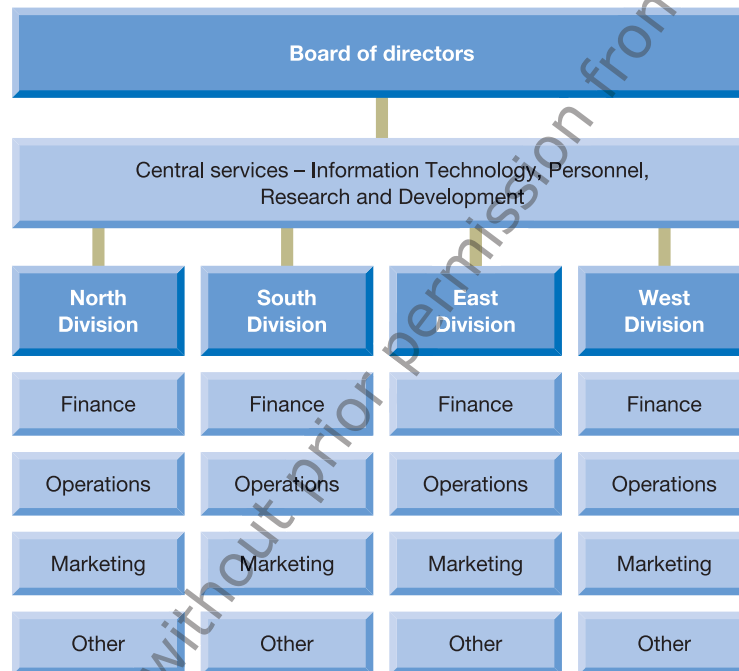
Supercoach Ltd owns a small fleet of coaches that it hires out with drivers for private group travel. The business employs about 50 people. It might be departmentalised as follows:

- *Marketing department*, dealing with advertising, dealing with enquiries from potential customers, maintaining good relationships with existing customers and entering into contracts with customers.
- *Routing and personnel department*, responsible for the coach drivers' routes, schedules, staff duties and rotas, and problems that arise during a particular job or contract.
- *Coach maintenance department*, looking after repair and maintenance of the coaches, buying spares, giving advice on the need to replace old or inefficient coaches.
- *Finance department*, responsible for managing the cash flows, borrowing, use of surplus funds, payment of wages and salaries, billing and collecting charges to customers, processing invoices from suppliers and paying them.

For large businesses that have a diverse geographical spread and/or a wide product range, the simple departmental structure set out in Figure 1.1 will usually have to be adapted. Separate divisions are often created for each geographical area and/or major product group. Each division will be managed separately and will usually enjoy a degree of autonomy. Within each division, however, departments will often be created and organised along functional lines. Some functions providing support across the

various divisions, such as personnel, may be undertaken at head office to avoid duplication. The managers of each division will be accountable to the board of directors. In some cases, individual board members may also be divisional managers. A typical divisional organisational structure is set out in Figure 1.2. Here the main basis of the structure is geographical. Thus, north division deals with production and sales in the north and so on.

Figure 1.2 A divisional organisational structure



This is a typical organisational structure for a business that has been divided into separate operating divisions.

Once a particular divisional structure has been established, it by no means needs to be permanent. Successful businesses are likely to be innovative and progressive and so they are always looking to improve the way in which they operate. This may well include revising their divisional structure. Take for example the business whose structure is depicted in Figure 1.2. At a later stage, senior management may well conclude that the needs of customers and/or operational efficiency would be better served by having a structure that was based more on product types and less on geographical areas. This might lead to it reorganising into a structure with a separate division for each type of product, irrespective of where production takes place and/or customers are based.

Real World 1.2 provides an example of a reorganisation at a well-known international financial services provider.



REAL WORLD 1.2

Banking on a reorganisation

FT

Citigroup Inc., a financial services organisation (Citibank etc.) based in New York, reorganised its Asia-Pacific operation in an attempt to refocus on providing a better service to its customers. The operation is now managed as four geographical divisions: Japan, North Asia, South Asia and Southeast Asia. The operation had previously been organised along product lines, from New York.

Asia-Pacific accounts for about 20 per cent of Citigroup's income.

Source: Information taken from Tucker, S., 'Pandit shake-up shifts responsibility to regional heads', *Financial Times*, 19 August 2008.

Managing large businesses through a group of divisions can be a very effective approach. The existence of a divisional structure does, however, pose a number of problems concerning the way in which we should measure the performance of the various operating divisions. The benefits and problems of divisionalisation will be considered in detail in Chapter 10. Both the divisional structure and departmental structure just described appear to be widely used, although it should be emphasised that other organisational structures may also be found in practice.

How are businesses managed?

Over the past two decades, the environment in which businesses operate has become increasingly turbulent and competitive. Various reasons have been identified to explain these changes, including:

- the increasing sophistication of customers (as we have seen);
- the development of a global economy where national frontiers have become less important;
- rapid changes in technology;
- the deregulation of domestic markets (for example, electricity, water and gas);
- increasing pressure from owners (shareholders) for competitive economic returns; and
- the increasing volatility of financial markets.

The effect of these environmental changes has been to make the role of managers more complex and demanding. It has meant that managers have had to find new ways to manage their business. This has increasingly led to the introduction of **strategic management**.



Strategic management is designed to provide a business with a clear sense of purpose and to ensure that appropriate action is taken to achieve that purpose. The action taken should link the internal resources of the business to the external environment of competitors, suppliers, customers and so on. This should be done in such a way that any business strengths, such as having a skilled workforce, are exploited and any weaknesses, such as being short of investment finance, are not exposed. To achieve this requires the development of strategies and plans that take account of the business's strengths and weaknesses, as well as the opportunities offered and threats posed by the external environment. Access to a new, expanding market is an example of an opportunity; the decision of a major competitor to reduce prices is an example of a threat.

Real World 1.3 indicates the importance attached by senior management to strategic planning.



REAL WORLD 1.3

Strategy on board

Directors spend 24 per cent of their time at board meetings developing strategies. This was according to a survey conducted by McKinsey, the management consultancy organisation, in February 2008.

Half of the managers surveyed said that they would prefer to spend more time on this activity than they currently do. Only one manager in six felt that too much time was spent on it.

Most of the remainder of the time at board meetings was spent on issues concerning actual performance.

Clearly senior managers take strategic planning very seriously.

586 directors from businesses all over the world responded to the survey.

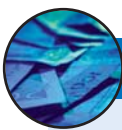
Source: Information taken from 'Making the board more strategic', *The McKinsey Quarterly*, March 2008.

The strategic management process can be approached in different ways. One well-established approach, involving five steps, is now described.

1 Establish mission and objectives



The first step is to establish the mission of a business, which may be set out in the form of a **mission statement**. This normally provides a concise statement of the overall aims, or intentions, of the business. It will often emphasise a clear customer focus, as discussed earlier, and may identify the activities that the business undertakes. It may also identify the values and beliefs that are held. The mission is usually established on a 'once and for all' basis. It is relatively rare for businesses to alter their mission statements. **Real World 1.4** provides examples of mission statements.



REAL WORLD 1.4

On a mission

Mission statements often set ambitious aims for the business. Here are two examples of mission statements.

Allianz Insurance plc has the following mission:

To be the outstanding competitor in our chosen markets by delivering:

- products and services that our clients recommend
- a great company to work for
- the best combination of profit and growth.

TUI Travel plc which owns a large number of travel and holiday businesses (including First Choice, LateRooms.com and Exodus) has a mission:

To create superior shareholder value by being the world's leading leisure travel group providing customers with a wide choice of differentiated and flexible travel experiences to meet their changing needs.

Sources: www.allianz.co.uk, © Allianz Insurance plc; www.tuitravelplc.com, © TUI Travel PLC.

Businesses tend to publish their mission statements on their websites and, occasionally, in their annual reports.

Having established the broad aims, objectives must then be developed to translate these aims into specific commitments. The objectives should provide clear targets, or outcomes, which are both challenging and achievable and which can provide a basis for assessing actual performance. Although quantifiable objectives provide the clearest targets, some areas of performance, such as employee satisfaction, may only be capable of partial quantification. Other areas, such as business ethics, may be impossible to quantify.

In practice, the objectives set by a business are likely to range across all key areas and may include a commitment to achieve:

- a specified percentage share of the market in which the business competes;
- an increase in customer satisfaction;
- an increase in employee satisfaction;
- improvements in internal business processes;
- high standards of ethical behaviour in business dealings;
- a specified percentage operating profit margin (operating profit as a percentage of sales revenue);
- a specified percentage return on capital employed.

Businesses tend not to make their statement of objectives public, often because they do not wish to make their intentions clear to their competitors.

2 Undertake a position analysis

- ➔ With the **position analysis**, the business is seeking to establish how it is placed relative to its environment (customers, competitors, suppliers, technology, the economy, political climate and so on), given the business's attributes, in the context of its mission and objectives. This is often approached within the framework of an analysis of the business's strengths, weaknesses, opportunities and threats (a **SWOT analysis**). A SWOT analysis involves identifying the business's strengths and weaknesses as well as the opportunities provided and threats posed by the world outside the business. Strengths and weaknesses are internal factors that are attributes of the business itself, whereas opportunities and threats are factors expected to be present in the environment in which the business operates.

Activity 1.2

Ryanair plc is a highly successful 'no-frills' airline. Can you suggest some factors that could be strengths, weaknesses, opportunities and threats for this business? Try to think of two for each of these (eight in all).

Strengths could include such things as:

- a strong, well-recognised brand name
- a modern fleet of aircraft requiring less maintenance
- reliable customer service concerning punctuality and baggage loss
- internet booking facility used by virtually all passengers, which reduces administration costs.

Weaknesses might include:

- limited range of destinations
- use of secondary airports situated some distance from city centres
- poor facilities at secondary airports.

Opportunities might include:

- new destinations becoming available, particularly in eastern Europe
- increasing acceptance of 'no-frills' air travel among business travellers
- the development of new fuel-efficient aircraft.

Threats to the business might come from:

- increased competition – either new low-fare competitors entering the market or traditional airlines reducing fares to compete
- fuel price rises
- increasing congestion at airports, making it more difficult to turn aircraft around quickly
- changes in the regulatory environment (for example, changes in EU laws concerning the maximum monthly flying hours for a pilot) making it harder to operate
- vulnerability to a downturn in economic conditions.

You may have thought of others.

The SWOT framework is not the only possible approach to undertaking a position analysis, but it seems to be a very popular one. A 2009 survey of businesses in a wide range of business sectors, geographical locations and sizes found that about 65 per cent of those businesses use the SWOT approach (see reference 2 at the end of the chapter).

3 Identify and assess the strategic options

This involves attempting to identify possible courses of action that will enable the business to reach its objectives through using its strengths to exploit opportunities, at the same time avoiding exposing its weaknesses to threats. The strengths, weaknesses, opportunities and threats are, of course, those identified by the SWOT analysis. Having identified the possible options, each will then be assessed according to agreed criteria.

4 Select strategic options and formulate plans

The business will select what appears to be the best of the courses of action or strategies (identified in step 3) available. When making a selection, the potential of the selected strategies to achieve the mission and objectives must be the key factor. The strategies selected will provide the general way forward but a plan will be required to specify the particular actions that must be taken. This overall plan will normally be broken down into a series of plans, one for each element of the business.

Sometimes a business may select a strategic option that results in the sale of a part, or all, of its operations. **Real World 1.5** provides an example of this. Here, BP, the oil business sold a part of its business that it felt lacked 'strategic fit' following the massive oil spill in the Gulf of Mexico in 2010.



REAL WORLD 1.5

BP narrows the gulf

FT

BP has agreed to sell its interests in four deepwater fields in the Gulf of Mexico to Japan's Marubeni Oil for \$650 million (£414 million).

The assets, which BP said produce 15,000 barrels of oil equivalent a day, were purchased from the Oklahoma-based US company Devon Energy in March in a £7 billion all-cash deal that included assets in Azerbaijan and Brazil.

BP has been looking to reduce the number of operatorships it holds in the Gulf of Mexico as part of a move to cut its capital spending and rebalance its portfolio of assets in the wake of the Macondo oil spill disaster.

BP said the spill affected only the timing of the disposal: 'It's about keeping the things that have big potential for growth and selling off those that don't. We would have disposed of them at some point; the decision to get rid of them is nothing to do with Macondo although the timing has been accelerated.'

The principal assets sold are mature fields in the western and central Gulf of Mexico. They include interests in the ConocoPhillips-operated Magnolia field, the Anadarko Petroleum-operated Merganser and Nansen fields and an operating interest in the Zia field.

Gordon Gray, an analyst at Collins Stewart, said: 'The point is that BP did a deal with Devon pre-Macondo, which included a bundle of Gulf of Mexico assets. Some of them were not a logical strategic fit so it makes commercial sense to sell. This would have happened anyway – it doesn't presage a wider sell-off in the Gulf of Mexico.'

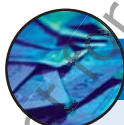
Source: Extracts from: 'BP to sell four Gulf of Mexico fields', *Financial Times* (Thompson, C.), © The Financial Times Limited, 25 October 2010.

5 Perform, review and control

Here the business implements the plans derived in step 4. The actual outcome will be monitored and compared with the plans to see whether things are progressing satisfactorily. Steps should be taken to exercise control where actual performance does not appear to be matching plans.

Figure 1.3 shows the strategic management framework in diagrammatic form. This framework will be considered further as the book develops. We shall see how the business's mission links, through objectives and long-term plans, to detailed budgets, in Chapters 6 and 7.

Real World 1.6 provides an indication of the extent that strategic planning is carried out in practice.



REAL WORLD 1.6

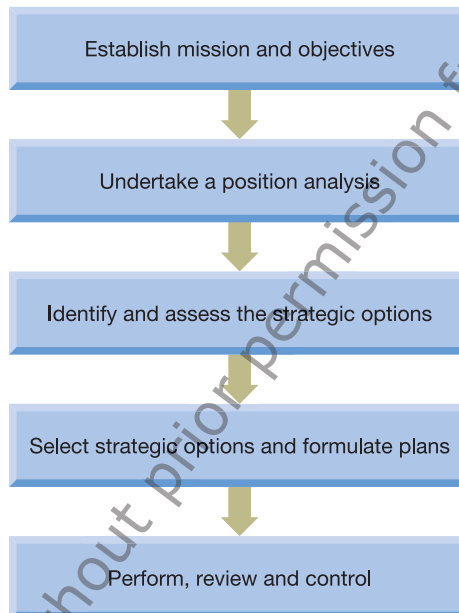
Strategic planning high on the list

A recent survey found that strategic planning is used by 67 per cent of the businesses consulted. This made strategic planning the second most popular management tool. Strategic planning had occupied first place for the previous eight years, but lost its first place in 2009 to 'benchmarking', a technique that we shall consider in Chapter 5.

The survey was of 1,430 large businesses throughout the world. About 20 per cent were in North America, 20 per cent in Europe, Middle East and Africa, 20 per cent in Asia-Pacific and 40 per cent in Latin America.

Source: Rigby, D. and Bilodeau, B., *The Bain 2009 Management Tool Study*, Bain and Company, 2009.

Figure 1.3 The strategic management framework



The business should take steps to draw up and follow strategic plans. By doing this, it can work effectively towards its mission and objectives.

The changing business landscape

Factors such as increased global competition and advances in technology, which were mentioned earlier, have had a tremendous impact on the types of businesses that survive and prosper, as well as the business structures and processes adopted. Important changes that have occurred in a number of countries in recent years, including the UK, are:

- *The growth of the service sector.* This includes businesses such as financial services, communications, tourism, transportation, consultancy, leisure and so on. This growth of the service sector has been matched by the decline of the manufacturing sector.
- *The emergence of new industries.* This includes science-based industries such as genetic engineering and biotechnology.

- *The growth of e-commerce.* Consumers are increasingly drawn to buying a wide range of goods including groceries, books, CDs and computers on-line. Businesses also use e-commerce to order supplies, monitor deliveries and distribute products.
- *Automated manufacturing.* Many manufacturing processes are now fully automated and computers are used to control the production process.
- *Lean manufacturing.* This involves a systematic attempt to identify and eliminate waste in the production process, excess production, delays, defects and so on.
- *Greater product innovation.* There is much greater pressure to produce new, innovative products. The effect has been to increase the range of products available and to shorten the life cycles of many products.
- *Faster response times.* There is increasing pressure on businesses to develop products more quickly, to produce products more quickly and to deliver products more quickly.

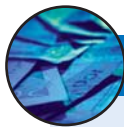
These changes have presented huge challenges for the management accountant. New techniques have been developed and existing techniques adapted to try to ensure that management accounting retains its relevance. These issues will be considered in more detail as we progress through the book.

Setting financial aims and objectives

Enhancing the owners' wealth

Businesses are created with the intention of enhancing their owners' (shareholders') wealth.

Real World 1.7 gives an example of how a major UK-listed but global household, health and personal care products manufacturer sees the primary objective of the business.



REAL WORLD 1.7

Cleaning up for the shareholders

Reckitt Benckiser Group plc makes a number of household, health and personal care products including Vanish, Dettol, Air Wick and Nurofen. In its 2009 annual report the business stated its primary objective as follows:

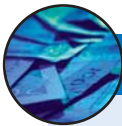
Reckitt Benckiser's vision is to deliver better consumer solutions in household health and personal care for the ultimate purpose of creating shareholder value.

Source: Reckitt Benckiser Group plc Annual Report 2009. Reproduced with permission.

Within a market economy there are strong competitive forces at work to ensure that failure to enhance shareholder wealth will not be tolerated for long. Competition for the funds provided by shareholders and competition for managers' jobs will normally mean that shareholders' interests will prevail. If the managers do not provide the expected increase in shareholder wealth, the shareholders have the power to replace the existing management team with a new team that is more responsive to shareholders'

needs. Does this mean that the needs of other groups associated with the business (employees, customers, suppliers, the community and so on) are not really important? The answer to this question is certainly no, if the business wishes to survive and prosper over the longer term. Satisfying the needs of other groups will normally be consistent with increasing the wealth of the owners over the longer term. Dissatisfied customers will take their business to another supplier and this will lead to a loss of wealth for the shareholders. A dissatisfied workforce may result in low productivity, strikes and so forth, which will in turn have an adverse effect on shareholders' wealth. Similarly, a business that upsets the local community by polluting the environment may attract bad publicity, resulting in a loss of customers, and heavy fines.

Real World 1.8 provides an example of how two businesses responded to potentially damaging allegations.



REAL WORLD 1.8

The price of clothes

FT

US clothing and sportswear manufacturers Gap and Nike have much of their clothes produced in Asia where labour tends to be cheap. However, some of the contractors that produce clothes on behalf of the two companies have been accused of unacceptable practices.

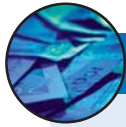
Campaigners visited the factories and came up with damaging allegations. The factories were employing minors, they said, and managers were harassing female employees. Nike and Gap reacted by allowing independent inspectors into the factories. They promised to ensure their contractors obeyed minimum standards of employment. Earlier this year, Nike took the extraordinary step of publishing the names and addresses of all its contractors' factories on the internet. The company said it could not be sure all the abuse had stopped. It said that if campaigners visited its contractors' factories and found examples of continued malpractice, it would take action.

Nike and Gap said the approach made business sense. They needed society's approval if they were to prosper. Nike said it was concerned about the reaction of potential US recruits to the campaigners' allegations. They would not want to work for a company that was constantly in the news because of the allegedly cruel treatment of those who made its products.

Source: Michael Skapinker, 'Fair shares?', FT.com, 11 June 2005.

It is important to recognise that generating wealth for the owners is not the same as seeking to maximise the current year's profit. Wealth creation is a longer-term concept, which relates not only to this year's profit but to that of future years as well. In the short term, corners can be cut and risks taken that improve current profit at the expense of future profit.

Real World 1.9 provides some examples of how emphasis on short-term profit can be damaging.



REAL WORLD 1.9

Short-term gains, long-term problems

FT

For many years, under the guise of defending capitalism, we have been allowing ourselves to degrade it. We have been poisoning the well from which we have drawn wealth. We have misunderstood the importance of values to capitalism. We have surrendered to the idea that success is pursued by making as much money as the law allowed without regard to how it was made.

Thirty years ago, retailers would be quite content to source the shoes they wanted to sell as cheaply as possible. The working conditions of those who produced them were not their concern. Then headlines and protests developed. Society started to hold them responsible for previously invisible working conditions. Companies like Nike went through a transformation. They realised they were polluting their brand. Global sourcing became visible. It was no longer viable to define success simply in terms of buying at the lowest price and selling at the highest.

Financial services and investment are today where footwear was 30 years ago. Public anger at the crisis will make visible what was previously hidden. Take the building up of huge portfolios of loans to poor people on US trailer parks. These loans were authorised without proper scrutiny of the circumstances of the borrowers. Somebody else then deemed them fit to be securitised. . . and so on through credit default swaps and the rest without anyone seeing the transaction in terms of its ultimate human origin.

Each of the decision makers thought it okay to act like the thoughtless footwear buyer of the 1970s. The price was attractive. There was money to make on the deal. Was it responsible? Irrelevant. It was legal, and others were making money that way. And the consequences for the banking system if everybody did it? Not our problem. Now we are paying the price in trillions of dollars for that imprudent attitude.

One senior investment banker whose business has survived the crisis in good shape recently confirmed this analysis to me. Again and again new product ideas had been put in front of him, without any prior thought about their ethical content.

The consumer has had a profound shock. Surely we could have expected the clever and wise people who invested our money to be better at risk management than they have shown themselves to be in the present crisis?

How could they have been so gullible in not challenging the bankers whose lending proved so flaky? How could they have believed that the levels of bonuses that were, at least in part, coming out of their savings could have been justified in 'incentivising' a better performance? How could they have believed that a 'better' performance would be one that is achieved for one bank without regard to its effect on the whole banking system? Where was the stewardship from those exercising investment on their behalf? The answer has been that very few of them do exercise that stewardship. Most have stood back and said it doesn't really pay them to do so.

The failure of stewardship comes from the same mindset that created the irresponsible lending in the first place. We are back to the mindset that has allowed us to poison the well: 'never mind the health of the system as a whole, I'm making money out of it at the moment'.

Responsibility means awareness for the system consequences of our actions. It is not a luxury. It is the cornerstone of prudence.

Source: Goyder, M., 'How we've poisoned the well of wealth', *Financial Times*, 15 February 2009.

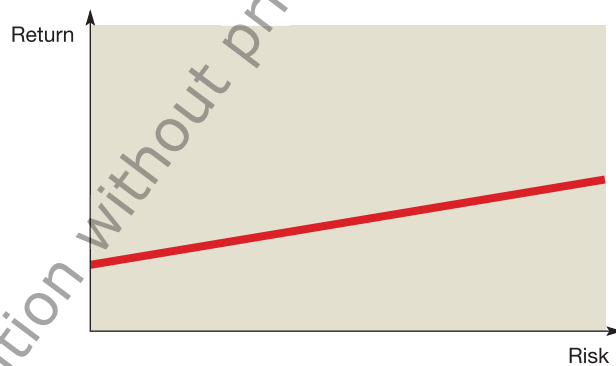
Though enhancing the wealth of the owners may not be a perfect description of what businesses seek to achieve, it is certainly something that businesses cannot ignore for the reasons mentioned. For the remainder of this book enhancement/maximisation of shareholders' (owners') wealth is treated as the key financial objective against which decisions will be assessed. There will usually be other non-financial/non-economic factors that will also tend to bear on decisions. The final decision may well involve some compromise.

Balancing risk and return

All decision making involves the future. We can only make decisions about the future; no matter how much we may regret it, we cannot alter the past. Business decision making is no exception to this general rule. There is only one thing certain about the future, which is that we cannot be sure what is going to happen. Sometimes we may be able to predict with confidence that what actually occurs will be one of a limited range of possibilities. We may even feel able to ascribe statistical probabilities to the likelihood of occurrence of each possible outcome, but we can never be completely certain of the future. Risk is therefore an important factor in all financial decision making. It must be considered explicitly in all cases.

As in other aspects of life, risk and return tend to be related. Evidence shows that returns relate to risk in something like the way shown in Figure 1.4.

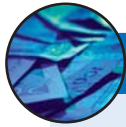
Figure 1.4 Relationship between risk and return



Even at zero risk a certain level of return will be required. This will increase as the level of risk increases.

This relationship between risk and return has important implications for setting financial objectives for a business. The owners (shareholders) will require a minimum return to induce them to invest at all, but will require an additional return to compensate for taking risks; the higher the risk, the higher the required return. Managers must be aware of this and must strike the appropriate balance between risk and return when setting objectives and pursuing particular courses of action.

The recent turmoil in the banking sector has shown, however, that the right balance is not always struck. Some banks have taken excessive risks in pursuit of higher returns and, as a consequence, have incurred massive losses. They are now being kept afloat with taxpayers' money. **Real World 1.10** discusses the collapse of one leading bank, in which the UK government took a majority stake, and argues that the risk appetite of banks must now change.



REAL WORLD 1.10

Banking on change

The taxpayer has become the majority shareholder in the Royal Bank of Scotland (RBS). This change in ownership, resulting from the huge losses sustained by the bank, will shape the future decisions made by its managers. This does not simply mean that it will affect the amount that the bank lends to homeowners and businesses. Rather it is about the amount of risk that it will be prepared to take in pursuit of higher returns.

In the past, those managing banks such as RBS saw themselves as producers of financial products that enabled banks to grow faster than the economy as a whole. They didn't want to be seen as simply part of the infrastructure of the economy. It was too dull. It was far more exciting to be seen as creators of financial products that created huge profits and, at the same time, benefited us all through unlimited credit at low rates of interest. These financial products, with exotic names such as 'collateralised debt obligations' and 'credit default swaps', ultimately led to huge losses that taxpayers had to absorb in order to prevent the banks from collapse.

Now that many banks throughout the world are in taxpayers' hands, they are destined to lead a much quieter life. They will have to focus more on the basics such as taking deposits, transferring funds and making simple loans to customers. Is that such a bad thing?

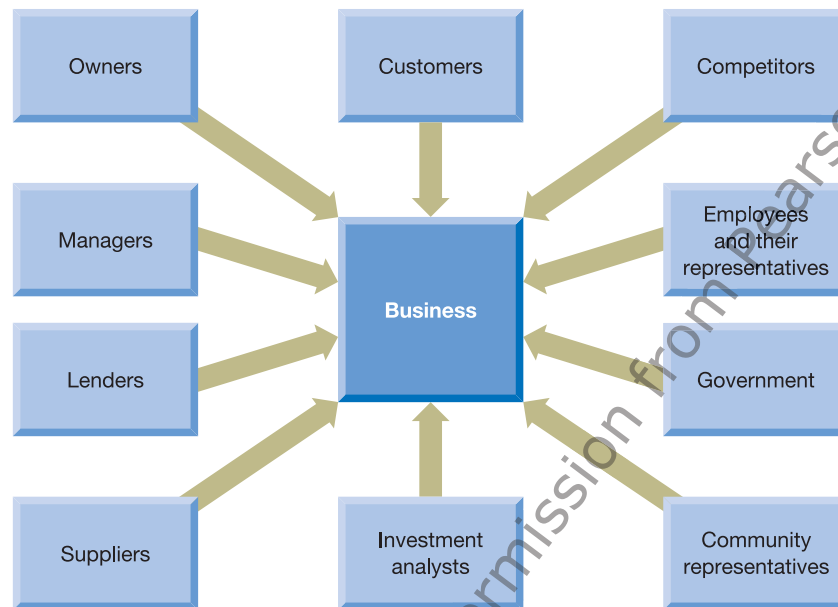
The history of banking has reflected a tension between carrying out their core functions and the quest for high returns through high risk strategies. It seems, however, that for some time to come they will have to concentrate on the former and will be unable to speculate with depositors' cash.

Source: Based on information in 'We own Royal Bank', Robert Peston, BBC News www.bbc.co.uk, 28 November 2008.

What is management accounting?

Having considered what businesses are and how they are organised and managed, we can now turn our attention to the role of **management accounting**. A useful starting point for our discussion is to acknowledge the general role of accounting, which is to help people make informed business decisions. All forms of accounting, including management accounting, are concerned with collecting and analysing financial information and then communicating this information to those making decisions. This decision-making perspective of accounting provides the theme for the book and shapes the way that we deal with each topic.

For accounting information to be useful for decision making, the accountant must be clear about *for whom* the information is being prepared and *for what purpose* it will be used. In practice there are various groups of people (known as 'user groups') with an interest in a particular organisation, in the sense of needing to make decisions about that organisation. For the typical private sector business, the most important of these groups are shown in Figure 1.5. Each of these groups will have different needs for accounting information.

Figure 1.5 Main users of accounting information relating to a business

There are several user groups with an interest in the accounting information relating to a business. The majority of these are outside the business but, nevertheless, have a stake in it. The above is not an exhaustive list of potential users, but the groups identified are normally the most important.

This book is concerned with providing accounting information for only one of the groups identified – the managers. This, however, is a particularly important user group. Managers are responsible for running the business and their decisions and actions play an important role in determining its success. Planning for the future and exercising day-to-day control over a business involves a wide range of decisions being made. For example, managers may need information to help them decide whether to:

- develop new products or services (as with a computer manufacturer developing a new range of computers);
- increase or decrease the price or quantity of existing products or services (as with a telecommunications business changing its mobile phone call and text charges);
- borrow money to help finance the business (as with a supermarket wishing to increase the number of stores it owns);
- increase or decrease the operating capacity of the business (as with a beef farming business reviewing the size of its herd);
- change the methods of purchasing, production or distribution (as with a clothes retailer switching from a local to overseas suppliers).

As management decisions are broad in scope, the accounting information provided to managers must also be wide-ranging. Accounting information should help in identifying and assessing the financial consequences of decisions such as those listed above. In later chapters, we shall consider each of the types of decisions in the list and see how their financial consequences can be assessed.

How useful is management accounting information?

There are arguments and convincing evidence that management accounting information is regarded by managers as being useful to them. There have been numerous research surveys that have asked managers to rank the importance of management accounting information, in relation to other sources of information, for decision-making purposes. These studies have tended to find that managers rank accounting information very highly. Broadly, there is no legal compulsion for businesses to produce management accounting information, yet virtually all businesses do so. Presumably, the cost of producing this information is justified on the grounds that managers believe it to be useful to them. Such arguments and evidence, however, leave unanswered the question as to whether the information produced actually is being used for decision making purposes: that is, does the information affect managers' behaviour?

It is impossible to measure just how useful management accounting information is to managers. We should remember that such information would usually represent only one input to a particular decision. The precise weight attached to that information by the manager, and the benefits that flow as a result, cannot be accurately assessed. We shall shortly see, however, that it is at least possible to identify the kinds of qualities that accounting information must possess in order to be useful. Where these qualities are lacking, the usefulness of the information will be diminished.

Providing a service

One way of viewing management accounting is as a form of service. Management accountants provide economic information to their 'clients', the managers. The quality of the service provided would be determined by the extent to which the managers' information needs have been met. It is generally accepted that, to be useful, management accounting information should possess certain key qualities, or characteristics. These are:

- ● **Relevance.** Management accounting information must have the ability to influence decisions. Unless this characteristic is present, there is really no point in producing the information. This means that the information should be targeted at the requirements of the individual manager for whom it is being provided. Reports that are general in nature are likely to be unhelpful to most managers. To be able to influence a decision, the information must be available when the decision needs to be made. To be relevant, therefore, information must be timely.
- ● **Reliability.** Management accounting should be free from significant errors or bias. It should be capable of being relied upon by managers to represent what it is supposed to represent. Though both relevance and reliability are very important, the problem that we often face in accounting is that information that is highly relevant may not be very reliable. Similarly, that which is reliable may not be very relevant.

Activity 1.3 illustrates this last point.

Activity 1.3

A manager has to sell a custom-built machine for which the business has no further use. She has recently received a bid for it. This machine is very unusual and there is no ready market for it.

What information would be relevant to the manager when deciding whether to accept the bid? How reliable would that information be?

The manager would probably like to know the current market value of the machine before deciding whether or not to accept the bid. The current market value would be highly relevant to the final decision, but it might not be very reliable because the machine is unique and there is likely to be little information concerning market values.

Where a choice has to be made between providing information that has either more relevance or more reliability, the maximisation of relevance tends to be the guiding rule.

- ➔ ● **Comparability.** This quality will enable managers to identify changes in the business over time (for example, the trend in sales revenue over the past five years). It will also help them to evaluate the performance of the business in relation to other similar businesses. Comparability is achieved by treating items that are basically the same in the same manner for management accounting purposes. Comparability tends also to be enhanced by making clear the policies that have been adopted in measuring and presenting the information.
- ➔ ● **Understandability.** Management accounting reports should be expressed as clearly as possible and should be understood by those managers at whom the information is aimed.

But . . . is it material?

The qualities, or characteristics, that have just been described will help us to decide whether management accounting information is potentially useful. If a particular piece of information has these qualities then it may be useful. However, in making a final decision, we also have to consider whether the information is material, or significant. This means that we should ask whether its omission or misrepresentation in the management accounting reports would really alter the decisions that managers make. Thus, in addition to possessing the characteristics mentioned above, management accounting information must also achieve a threshold of **materiality**. If the information is not regarded as material, it should not be included within the reports as it will merely clutter them up and, perhaps, interfere with the managers' ability to interpret the financial results. The type of information and amounts involved will normally determine whether it is material.

- ➔ ● In addition to possessing the characteristics mentioned above, management accounting information must also achieve a threshold of **materiality**. If the information is not regarded as material, it should not be included within the reports as it will merely clutter them up and, perhaps, interfere with the managers' ability to interpret the financial results. The type of information and amounts involved will normally determine whether it is material.

Weighing up the costs and benefits

Having read the previous sections you may feel that, when considering a piece of management accounting information, provided the four main qualities identified are present, and it is material, it should be gathered and made available to managers. Unfortunately, there is one more hurdle to jump. Something may still exclude a piece of management accounting information from the reports even when it is considered to be useful. Consider Activity 1.4.

Activity 1.4

Suppose an item of information is capable of being provided. It is relevant to a particular decision; it is also reliable and comparable; it can be understood by the manager concerned and is material.

Can you think of a reason why, in practice, you might choose not to produce the information?

The reason that you may decide not to produce, or discover, the information is that you judge the cost of doing so to be greater than the potential benefit of having the information. This cost–benefit issue will limit the extent to which management accounting information is provided.

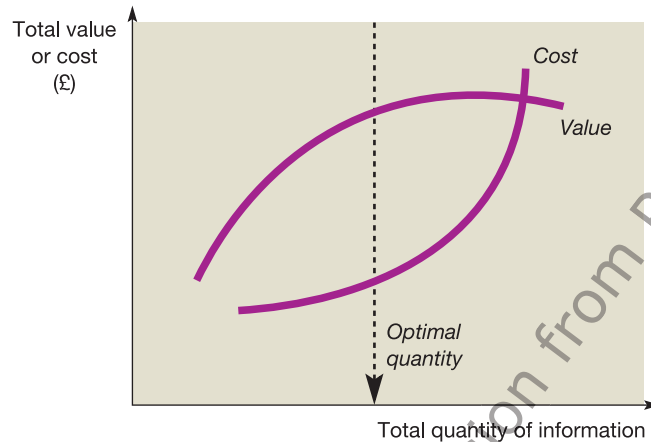
In theory, a particular item of management accounting information should only be produced if the costs of providing it are less than the benefits, or value, to be derived from its use. Figure 1.6 shows the relationship between the costs and value of providing additional management accounting information.

The figure shows how the total value of information received by the decision maker eventually begins to decline. This is, perhaps, because additional information becomes less relevant, or because of the problems that a decision maker may have in processing the sheer quantity of information provided. The total cost of providing the information, however, will increase with each additional piece of information. The broken line indicates the point at which the gap between the value of information and the cost of providing that information is at its greatest. This represents the optimal amount of information that can be provided. Beyond this optimal level, each additional piece of information will cost more than the value of having it. This theoretical model, however, poses a number of problems in practice, as discussed below.

To illustrate the practical problems of establishing the value of information, suppose that we wish to have the damaged bodywork of a car repaired at a local garage. We know that the nearest garage would charge £250 but believe that other local garages may offer the same service for a lower price. The only way of finding out the prices at other garages is to visit them so that they can see the extent of the damage. Visiting the garages will involve using some petrol and will take up some of our time. Is it worth the cost of finding out the price for the job at the various local garages? The answer, as we have seen, is that if the cost of discovering the price is less than the potential benefit, it is worth having that information.

Figure 1.6

Relationship between cost and the value of providing additional management accounting information



The benefits of management accounting information eventually decline. The cost of providing information, however, will rise with each additional piece of information. The optimal level of information provision is where the gap between the value of the information and the cost of providing it is at its greatest.

To identify the various prices for the job, there are various points to be considered, including:

- How many garages shall we visit?
- What is the cost of petrol to visit each garage?
- How long will it take to make all the garage visits?
- How much do we value our time?

The economic benefit of having the information on the price of the job is probably even harder to assess. The following points, therefore, need to be considered:

- What is the cheapest price that we might be quoted for the job?
- How likely is it that we shall be quoted prices cheaper than £250?

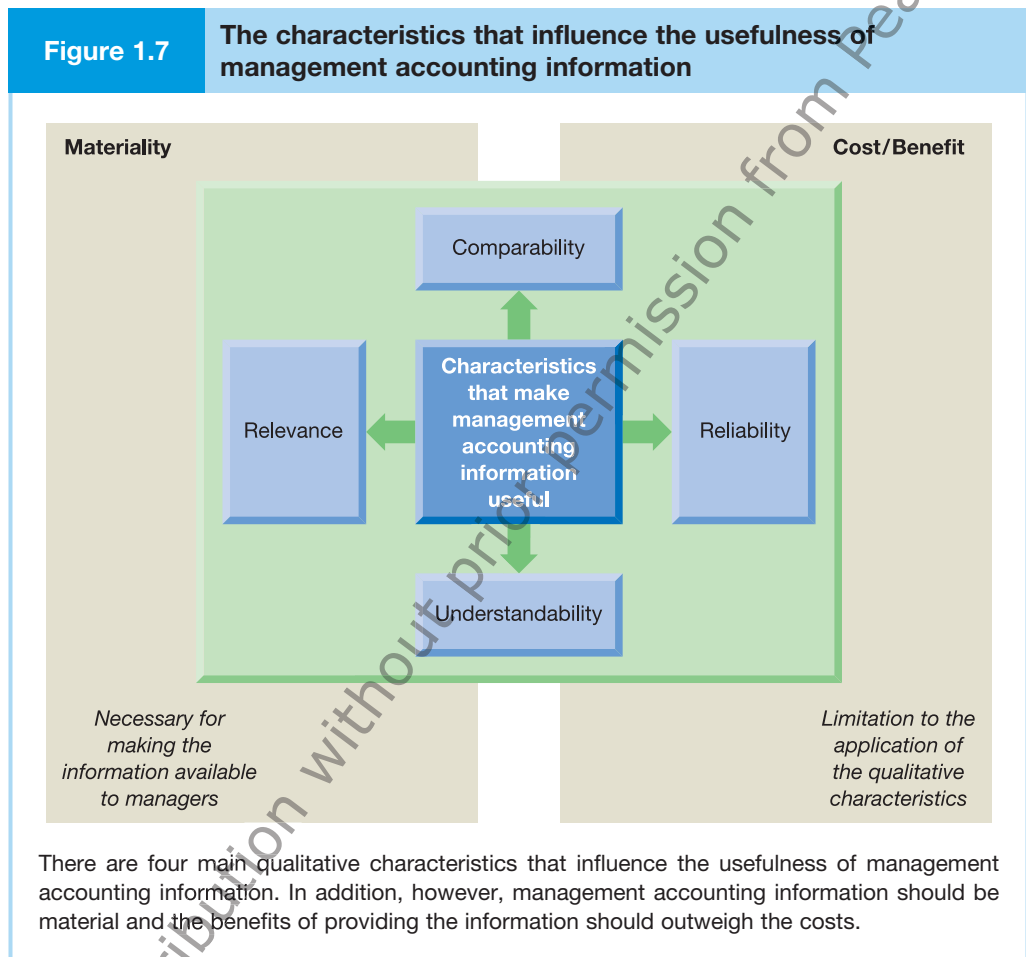
As we can imagine, the answers to these questions may be far from clear. Of course, were we to contact all of the garages and find out all of the prices, we should know whether the exercise had been cost-effective. Unfortunately we cannot know this for certain in advance. We need to make a judgement. When assessing the value of accounting information we are confronted with similar problems.

The provision of management accounting information can be very costly; however, the costs are often difficult to quantify. The direct, out-of-pocket costs such as salaries of accounting staff are not really a problem to put a price on, but these are only part of the total costs involved. There are also less direct costs such as the costs of the manager's time spent on analysing and interpreting the information contained in reports.

The economic benefit of having management accounting information is even harder to assess. It is possible to apply some 'science' to the problem of weighing the costs and benefits, but a lot of subjective judgement is likely to be involved. While no

one would seriously advocate that the typical business should produce no management accounting information, at the same time, no one would advocate that every item of information that could be seen as possessing one or more of the key characteristics should be produced, irrespective of the cost of producing it.

The characteristics that influence the usefulness of management accounting information and which have been discussed in this section and the preceding section are set out in Figure 1.7.



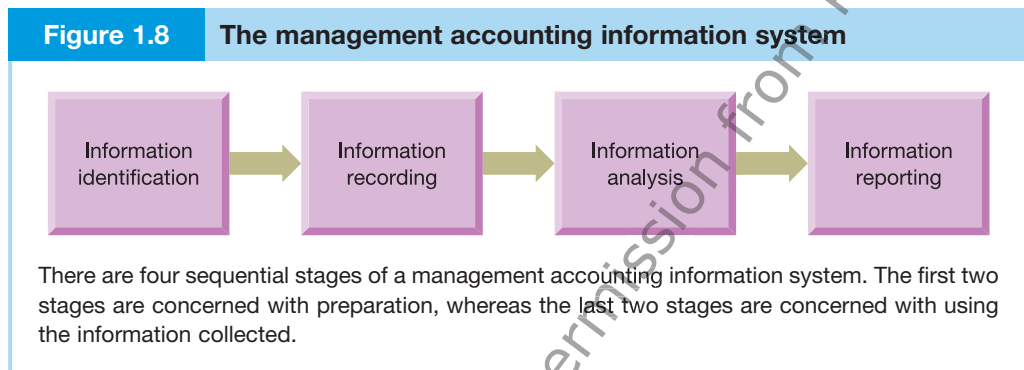
Management accounting as an information system

Management accounting is a part of the business's total information system. Managers have to make decisions concerning the allocation of scarce economic resources. To try to ensure that these resources are allocated in an efficient manner, managers require economic information on which to base their decisions. It is the role of the management accounting system to provide that information and this will involve information gathering and communication.

→ The **management accounting information system** has certain features that are common to all information systems within a business. These are:

- identifying and capturing relevant information (in this case economic information);
- recording the information collected in a systematic manner;
- analysing and interpreting the information collected;
- reporting the information in a manner that suits the needs of individual managers.

The relationship between these features is set out in Figure 1.8.



Given the decision-making emphasis of this book, we shall be concerned primarily with the last two elements of the process – the analysis and reporting of management accounting information. We shall consider the way in which information is used by, and is useful to, managers rather than the way in which it is identified and recorded.

It's just a phase . . .

Though management accounting has always been concerned with helping managers to manage, the information provided has undergone profound changes over the years. This has been in response to changes in both the business environment and in business methods. The development of management accounting is generally accepted to have had four distinct phases.

Phase 1

Until 1950, or thereabouts, businesses enjoyed a fairly benign economic environment. Competition was weak and, as products could easily be sold, there was no pressing need for product innovation. The main focus of management attention was on the internal processes of the business. In particular, there was a concern for determining the cost of goods and services produced and for exercising financial control over the relatively simple production processes that existed during that period. In this early phase, management accounting information was not a major influence on decision making. Although cost and budget information was produced, it was not widely supplied to managers at all levels of seniority.

Phase 2

During the 1950s and 1960s management accounting information remained inwardly focused; however, the emphasis shifted towards producing information for short-term planning and control purposes. Management accounting came to be seen as an important part of the system of management control and of particular value in controlling the production and other internal processes of the business. The controls developed, however, were largely reactive in nature. Problems were often identified as a result of actual performance deviating from planned performance. Only then would corrective action be taken.

Phase 3

During the 1970s and early 1980s the world experienced considerable upheaval as a result of oil price rises and economic recession. This was also a period of rapid technological change and increased competition. These factors conspired to produce new techniques of production, such as robotics and computer-aided design. These new techniques led to a greater concern for controlling costs, particularly through waste reduction. Waste arising from delays, defects, excess production and so on was identified as a non-value-added activity – that is, an activity that increases costs, but does not generate additional revenue. Various techniques were developed to reduce or eliminate waste. To compete effectively, managers and employees were given greater freedom to make decisions and this in turn has led to the need for management accounting information to be made more widely available. Advances in computing, such as the personal computer, changed the nature, amount and availability of management accounting information. Increasing the volume and availability of information to managers meant that greater attention had to be paid to the design of management accounting information systems.

Phase 4

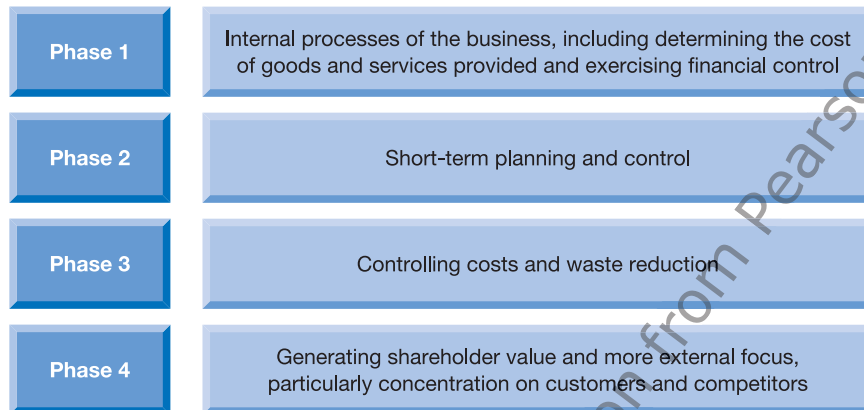
During the 1990s and 2000s advances in manufacturing technology and in information technology, such as the World Wide Web, continued unabated. This further increased the level of competition which, in turn, led to a further shift in emphasis. Increased competition provoked a concern for the more effective use of resources, with particular emphasis on creating value for shareholders by understanding customer needs (see reference 3 at the end of the chapter). This change resulted in management accounting information becoming more outwardly focused. The attitudes and behaviour of customers have become the object of much information gathering. Increasingly, successful businesses are those that are able to secure and maintain competitive advantage over their rivals through a greater understanding of customer needs. Thus, information that provides details of customers and the market has become vitally important. Such information might include customers' evaluation of services provided (perhaps through the use of opinion surveys) and data on the share of the market enjoyed by the particular business.

It must be emphasised that the effect of these four phases is cumulative. That is to say that each successive phase built on what already existed as common practice, rather than replacing it. For example, the activities of Phase 1 (principally, cost determination) remain an important part of the work of the management accountant during Phase 4.

Figure 1.9 summarises the four phases in the development of modern management accounting.

Figure 1.9

The four phases in the development of management accounting



Modern management accounting can be seen as having developed in four phases. Each of these adds to, rather than replaces, the previous one. Cost determination of output, which was the main focus of Phase 1, is still an important part of management accounting today.

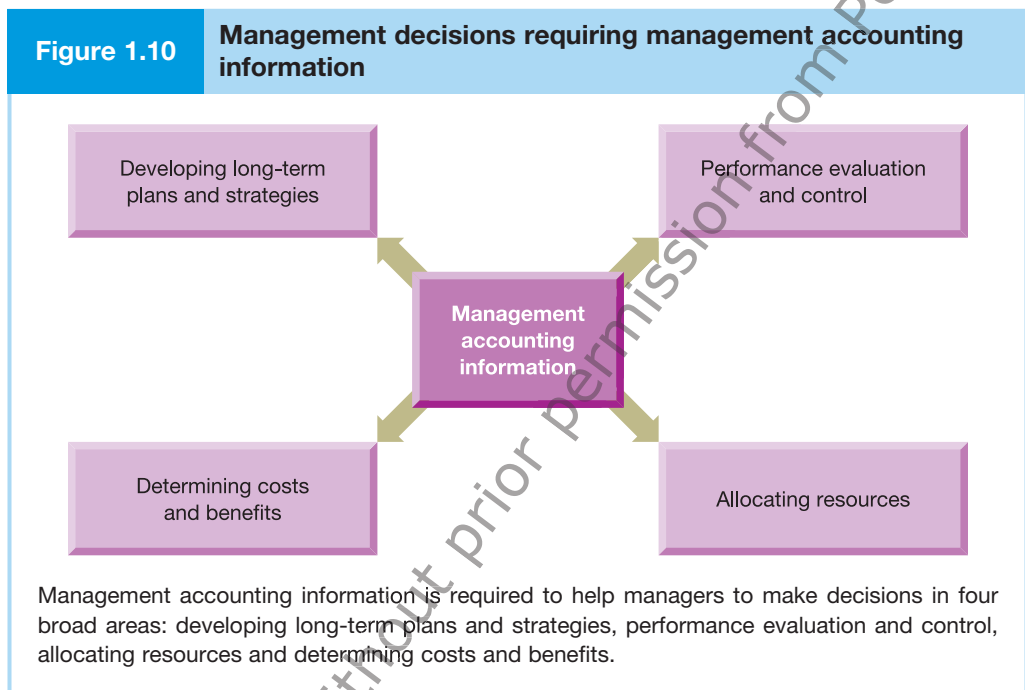
What information do managers need?

We have seen that management accounting can be regarded as a form of service where managers are the 'clients'. This raises the question, however, as to what kind of information these 'clients' require. It is possible to identify four broad areas of decision making where management accounting information is required.

- *Developing objectives and plans.* Managers are responsible for establishing the mission and objectives of the business and then developing strategies and plans to achieve these objectives. Management accounting information will be useful in developing appropriate objectives and strategies. It can also generate financial plans that set out the likely outcomes from adopting particular strategies. Managers can then use these financial plans to evaluate each strategy and use this as a basis for deciding between the various strategies on offer.
- *Performance evaluation and control.* Management accounting information can help in reviewing the performance of the business against agreed criteria. We shall see below that non-financial indicators are increasingly used to evaluate performance, along with financial indicators. Controls need to be in place to try to ensure that actual performance conforms to planned performance. Actual outcomes will, therefore, be compared with plans to see whether the performance is better or worse than expected. Where there is a significant difference, some investigation should be carried out and corrective action taken where necessary.
- *Allocating resources.* Resources available to a business are limited and it is the responsibility of managers to try to ensure that they are used in an efficient and effective manner. Decisions concerning such matters as the optimum level of output, the optimum mix of products and the appropriate type of investment in new equipment will all require management accounting information.

- *Determining costs and benefits.* Many management decisions require knowledge of the costs and benefits of pursuing a particular course of action such as providing a service, producing a new product or closing down a department. The decision will involve weighing the costs against the benefits. The management accountant can help managers by providing details of particular costs and benefits. In some cases, costs and benefits may be extremely difficult to quantify; however, some approximation is usually better than nothing at all.

These areas of management decision making are set out in Figure 1.10.



Reporting non-financial information

Adopting a more strategic and customer-focused approach to running a business has highlighted the fact that many factors, which are often critical to success, cannot be measured in purely financial terms. Many businesses now seek to develop **key performance indicators (KPIs)**. These include the traditional financial measures, such as return on capital employed. However, KPIs now usually include a significant proportion of non-financial indicators to help assess the prospects of long-term success. As the traditional provider of decision-making information, the management accountant has increasingly shouldered responsibility for reporting non-financial measures regarding quality, product innovation, product cycle times, delivery times and so on.

Activity 1.5

It can be argued that non-financial measures, such as those mentioned above, do not, strictly speaking, fall within the scope of accounting information and, therefore, could (or should) be provided by others. What do you think?

It is true that others could collect this kind of information. However, management accountants are major information providers to managers and usually see it as their role to provide a broad range of information for decision making. The boundaries of accounting are not fixed and it is possible to argue that management accountants should collect this kind of information as it is often linked inextricably to financial outcomes.

Activity 1.6 considers the kind of information that may be expressed in non-financial terms and which the management accountant may provide for an airline business.

Activity 1.6

Imagine that you are the chief executive of the 'no-frills' airline Ryanair plc.

What kinds of non-financial information (that is, information not containing monetary values) may be relevant to help you evaluate the performance of the business for a particular period? Try to think of at least six.

Here are some possibilities, although there are many more that might have been chosen:

- volume of passengers transported to various destinations
- average load factor (that is, percentage of total passenger seats occupied) per trip
- market share of air passenger travel
- number of new routes established by Ryanair
- percentage of total passenger volume generated by these new routes
- aircraft turnaround times at airports
- punctuality of flights
- levels of aircraft utilisation
- number of flight cancellations
- percentage of baggage losses
- levels of customer satisfaction
- levels of employee satisfaction
- percentage of bookings made over the Internet
- maintenance hours per aircraft.

In Chapter 10 we shall look at some of the financial and non-financial KPIs that are used in practice.

Influencing managers' behaviour

Management accounting information is intended to have an effect on the behaviour of those working in the business. The reason for providing the information is to improve the quality of the decisions. This should lead to actions that better contribute to the fulfilment of the business objectives. In some cases, however, the behaviour change caused by management accounting is not beneficial. One possible effect is that managers and employees will concentrate their attention and efforts on the aspects of the business that are being measured and will give much less attention to the items

that are not. It is said that 'the things that count are the things that get counted'. This rather narrow view, however, can have undesirable consequences for the business, which can often arise where a particular measure is being used, or is perceived as being used, as a basis for evaluating performance. This is illustrated in Activity 1.7.

Activity 1.7

A departmental manager has been allocated an amount of money to spend on staff training. How might the manager's focus on 'the things that get counted' result in undesirable consequences?

To demonstrate cost-consciousness, the manager may underspend during the period by cutting back on staff training and development. Though the effect on expenditure incurred may be favourable, the effect on staff morale and longer-term profitability may be extremely unfavourable for the business. These unfavourable effects may go unrecognised, at least in the short term, where the expenditure limit is the focus of attention.

Attempts may be made to manipulate a particular measure where it is seen as important. For example, a manager may continue to use old, fully depreciated pieces of equipment to keep depreciation charges low and, therefore, boost profits. This may be done despite knowledge that the purchase of new equipment would produce higher quality products and help to increase sales revenue over the longer term. Attempts at manipulation are often related to managers' rewards. For example, profit-related bonuses may provide the incentive to manipulate reported profits in the way described.

In some cases, the particular targets against which performance is measured are the objects of manipulation. For example, a sales manager may provide a deliberately low forecast of the size of the potential market for the next period if he or she believes that this forecast will form the basis of future sales targets. This may be done either to increase rewards (for example, where bonuses are awarded for exceeding sales targets) or to ensure that future sales targets can be achieved with relatively little effort.

The management accountant must be aware of the impact of accounting measures of performance on human behaviour. When designing accounting measures, it is important to try to ensure that all key aspects of performance are taken into account, even though certain aspects may be difficult to measure. When operating an accounting measurement system, it is important to be alert to behaviour aimed at manipulating particular measures rather than achieving the goals to which they relate.

Reaping the benefits of IT

The impact of information technology (IT) on the development of management accounting is difficult to overstate. The ability of computers to process large amounts of information means that routine reports can be produced quickly and accurately. Indeed, certain reports may be produced on a daily, or even real-time, basis. This can be vital to businesses operating in a highly competitive environment, which risk the loss of competitive advantage from making decisions based on inaccurate or out-of-date reports. IT has also enabled information to be more widely spread throughout the business. Increasingly, through their personal computers, employees at all levels are able to gain access to relevant information and reports to guide their decisions and actions.

IT has allowed management reports to be produced in greater detail and in greater variety than could be contemplated under a manual system. In addition, it has allowed sophisticated measurement systems to be provided at relatively low cost. Managers can use IT to help assess proposals by allowing variables (such as product price, output, product cost and so on) to be changed easily. With a few keystrokes, managers can increase or decrease the size of key variables to create a range of possible scenarios.

The information revolution is gathering pace and so IT is likely to play an increasingly important role in management accounting in the future. Particularly interesting developments are occurring in the area of financial information evaluation. Computers are becoming more capable of making sophisticated judgements that, in the past, only humans were considered capable of making. Increasingly, in management accounting, IT is viewed not only as a means of improving the timeliness and accuracy of management reports but also as an important source of competitive advantage.

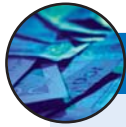
From bean counter to team member

Given the changes described above, it is not surprising that the traditional role of the management accountant within a business has changed. IT has released the management accountant from much of the routine work associated with preparation of management accounting reports. This has provided the opportunity for the management accountant to take a more pro-active role within the business. It has led to the management accountant becoming part of the management team and, therefore, directly involved in planning and decision making. This new dimension to the management accountant's role has implications for the kind of skills required to operate effectively. In particular, certain 'soft' skills, such as interpersonal skills for working as part of an effective team and communication skills to help influence the attitudes and behaviour of others, are needed.

This new dimension to the role of the management accountant should have benefits for the development of management accounting as a discipline. When working as part of a cross-functional team, the management accountant should gain a greater awareness of strategic and operational matters, an increased understanding of the information needs of managers and a deeper appreciation of the importance of value creation. This is likely to have a positive effect on the design and development of management accounting systems. As a consequence, we should see increasing evidence that management accounting systems are being designed to fit the particular structure and processes of the business rather than the other way round.

By participating in planning, decision making and control of the business as well as providing management accounting information for these purposes, the management accountant plays a key role in achieving the objectives of the business. It is a role that should add value to the business and improve its competitive position.

Real World 1.11 considers how management accountants are making an impact in the UK National Health Service.



REAL WORLD 1.11

Management accountants operating in the NHS

FT

In many ways the National Health Service is in the same position as any private sector organisation. When it comes to running the organisation managers are expected to do more for the same. The expectations of patients rise inexorably.

The limited resource is money. The NHS is a service industry. It is based on delivery and the overwhelming amount of its cost base is people. So the big issues are productivity, getting better value out of capital and getting better value in areas such as drugs.

This makes it a classic for treatment by fundamental management accountancy principles. . . .

'The management accountant's role is to bring discipline to the management process,' says Simon Wombwell, deputy chair of CIMA's NHS working group. 'It is not just costing services but also trying to drive down costs. It is the reporting of key performance indicators, for example,' he says, 'and the monitoring of the achievement of productivity and efficiency' . . .

Transparent accounting, rather than the old ways of hushing up the issues, is the best way to achieve long-term results. Increasingly the accountants are working in teams with senior clinicians and senior nurses.

The vast majority of accountants in the NHS have worked within its systems for a good many years.

They do understand the sometimes eccentric ways in which it all works.

In the past the systems stopped them doing much about it.

Now, if the politicians don't get in the way too much, they can bring about the reforms that could create a much more efficient and patient-focused NHS.

Source: Extracts from Bruce, R., 'Physician, heal thyself', © The Financial Times Limited, 15 September 2006.

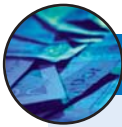
Reasons to be ethical

The way in which individual businesses operate in terms of the honesty, fairness and transparency with which they treat their stakeholders (customers, employees, suppliers, the community, the shareholders and so on) has become a key issue. There have been many examples of businesses, some of them very well known, acting in ways that most people would regard as unethical and unacceptable. Examples of such actions include:

- paying bribes to encourage employees of other businesses to reveal information about the employee's business that could be useful;
- oppressive treatment of suppliers, for example, making suppliers wait excessive periods before payment; and
- manipulating the financial statements to mislead users of them, for example, to overstate profit so that senior managers become eligible for performance bonuses (known as 'creative accounting').

Despite the many examples of unethical acts that have taken place over recent years, it would be very unfair to conclude that most businesses are involved in unethical activities. Nevertheless, revelations of unethical practice can be damaging to the entire business community. Lying, stealing and fraudulent behaviour can lead to a loss of confidence in business and the imposition of tighter regulatory burdens. In response

to this threat, businesses often seek to demonstrate their commitment to acting in an honest and ethical way. One way in which this can be done is to produce, and adhere to, a code of ethics concerning business behaviour. **Real World 1.12** provides some interesting food for thought on this topic.



REAL WORLD 1.12

Honesty is the best policy

Some of the largest UK businesses were divided into two groups: those that had published a code of ethics for their business and those that had not. The commercial success of these two groups of business was then assessed over the five consecutive years ending in 2005. Commercial success was measured by four factors, two linked to the financial (accounting) results and two related to the performance of the businesses' shares on the Stock Exchange.

Overall the businesses with a published ethical statement performed better than the group without such a statement. Of course, it may simply be that the better-organised businesses produce both the statement and better performances, but either way it is an interesting finding.

Source: Information taken from Ugoji, K., Dando, N. and Moir, L., *Does Business Ethics Pay? – Revisited*, Institute of Business Ethics, 2007.

Management accountants are likely to find themselves at the forefront with issues relating to business ethics. In the three examples of unethical business activity listed above, a management accountant would probably have to be involved either in helping to commit the unethical act or in covering it up. Management accountants are, therefore, particularly vulnerable to being put under pressure to engage in unethical acts. Some businesses recognise this risk and produce an ethical code for their accounting staff. **Real World 1.13** provides an example of one such code.



REAL WORLD 1.13

Shell's ethical code

Shell plc, the oil and energy business, has a code of ethics for its executive directors and senior financial officers. The key elements of this code are that these individuals should:

- adhere to the highest standards of honesty, integrity and fairness, while maintaining a work and business climate that fosters these standards;
- comply with any codes of conduct or rules concerning dealing in securities;
- avoid involvement in any decisions that could involve a conflict of interest;
- avoid any financial interest in contracts awarded by the company;
- not seek or accept favours from third parties;
- not hold positions in outside businesses that might adversely affect their performance;
- avoid any relationship with contractors or suppliers that might compromise their ability to act impartially;
- ensure full, fair, timely, accurate and understandable disclosure of information that the business communicates to the public or publicly files.

Source: Royal Dutch Shell plc website (www.shell.com).

Management accounting and financial accounting

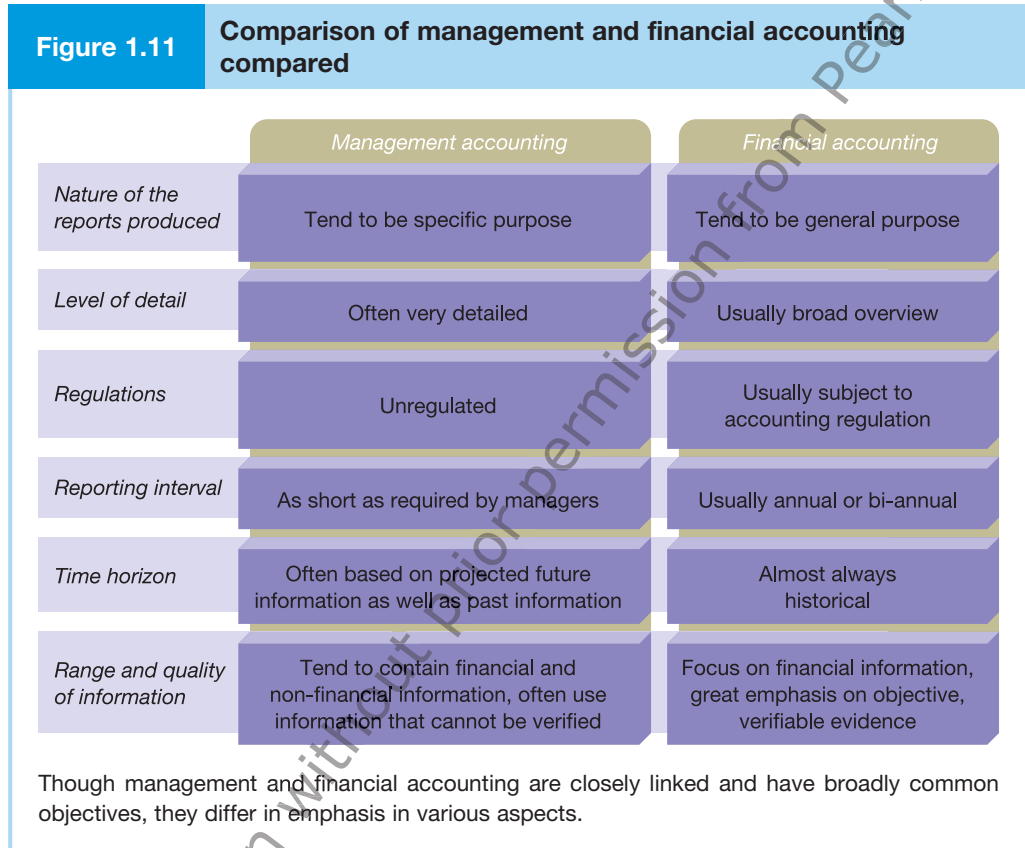
Management accounting is one of two main strands in accounting; the other strand is **financial accounting**. The difference between the two is based on the user groups to which each is addressed. Management accounting seeks to meet the needs of managers, whereas financial accounting seeks to meet the accounting needs of the other users that were identified earlier in Figure 1.5 (see p. 17).

The difference in their targeted user groups has led to each strand of accounting developing along different lines. The main areas of difference are as follows:

- *Nature of the reports produced.* Financial accounting reports tend to be general purpose, that is, they contain financial information that will be useful for a broad range of users and decisions rather than being specifically designed for the needs of a particular group or set of decisions. Management accounting reports, on the other hand, are often specific-purpose reports. They are designed with a particular decision in mind and/or for a particular manager.
- *Level of detail.* Financial accounting reports provide users with a broad overview of the performance and position of the business for a period. As a result, information is aggregated and detail is often lost. Management accounting reports, however, often provide managers with considerable detail to help them with a particular operational decision.
- *Regulations.* Financial accounting reports, for many businesses, are subject to accounting regulations that try to ensure that they are produced with standard content and in a standard format. The law and accounting rule makers impose these regulations. As management accounting reports are for internal use only, there are no regulations from external sources concerning the form and content of the reports. They can be designed to meet the needs of particular managers.
- *Reporting interval.* For most businesses, financial accounting reports are produced on an annual basis, though some large businesses produce half-yearly reports and a few produce quarterly ones. Management accounting reports may be produced as frequently as required by managers. In many businesses, managers are provided with certain reports on a daily, weekly or monthly basis, which allows them to check progress frequently. In addition, special-purpose reports will be prepared when required (for example, to evaluate a proposal to purchase a piece of equipment).
- *Time orientation.* Financial accounting reports reflect the performance and position of the business for the past period. In essence, they are backward looking. Management accounting reports, on the other hand, often provide information concerning future performance as well as past performance. It is an oversimplification, however, to suggest that financial accounting reports never incorporate expectations concerning the future. Occasionally, businesses will release projected information to other users in an attempt to raise capital or to fight off unwanted takeover bids. Even preparation of the routine financial accounting reports typically requires making some judgements about the future, for example the residual value of a depreciating asset.
- *Range and quality of information.* Financial accounting reports concentrate on information that can be quantified in monetary terms. Management accounting also produces such reports, but is also more likely to produce reports that contain information of a non-financial nature, such as physical volume of inventories, number of sales orders received, number of new products launched, physical output per employee and so on. Financial accounting places greater emphasis on the use of objective, verifiable evidence when preparing reports. Management accounting reports may use information that is less objective and verifiable, but nevertheless provide managers with the information they need.

We can see from this that management accounting is less constrained than financial accounting. It may draw from a variety of sources and use information that has varying degrees of reliability. The only real test to be applied when assessing the value of the information produced for managers is whether or not it improves the quality of the decisions made.

The differences between the two strands of accounting are summarised in Figure 1.11.



The distinctions between management and financial accounting suggest that there are differences between the information needs of managers and those of other users. While differences undoubtedly exist, there is also a good deal of overlap between these needs.

Activity 1.8

Can you think of any areas of overlap between the information needs of managers and those of other users?

We thought of two points:

- Managers will, at times, be interested in receiving an historical overview of business operations of the sort provided to other users.
- Other users would be interested in receiving information relating to the future, such as the planned level of profits and non-financial information such as the state of the sales order book and the extent of product innovations.

The distinction between the two areas of accounting reflects, to some extent, the differences in access to financial information. Managers have much more control over the range and content of information they receive. Other users have to rely on what managers are prepared to provide or what the financial reporting regulations require must be provided. Though the scope of financial accounting reports has increased over time, fears concerning loss of competitive advantage and user ignorance concerning the reliability of forecast data have led businesses to resist providing other users with the same detailed and wide-ranging information available to managers.

In the past it has been argued that accounting systems are biased in favour of providing information for external users. Financial accounting requirements have been the main priority and management accounting has suffered as a result. Recent survey evidence suggests, however, that this argument has lost its force. Nowadays, management accounting systems will usually provide managers with information that is relevant to their needs rather than that determined by external reporting requirements. External reporting cycles, however, retain some influence over management accounting. Managers tend to be aware of external users' expectations (see reference 4 at the end of the chapter).

Not-for-profit organisations

Though the focus of this book is management accounting as it relates to private sector businesses, there are many organisations that do not exist mainly for the pursuit of profit yet produce management accounting information for decision-making purposes. Examples of such organisations include charities, clubs and associations, universities, national and local government authorities, churches and trades unions. Managers need accounting information about these types of organisation to help them to make decisions. The objectives of not-for-profit organisations will not be concerned with the creation of wealth for shareholders, but with creating wealth for the organisations and effectively applying that wealth towards the achievement of their missions.

Not-for-profit organisations are not exempt from the changes that have taken place in the world. They too must be 'customer' orientated and are under increasing pressure to deliver value for money in the manner in which they operate.

Real World 1.14 provides an example of the importance of accounting to relief agencies, which are, of course, not-for-profit organisations.



REAL WORLD 1.14

Accounting for disasters

FT

In the aftermath of the Asian tsunami more than £400 million was raised from charitable donations. It was important that this huge amount of money for aid and reconstruction was used as efficiently and effectively as possible. That did not just mean medical staff and engineers. It also meant accountants.

The charity that exerts financial control over aid donations is Mango: Management Accounting for Non-Governmental Organisations (NGOs). It provides accountants in the field and it provides the back up, such as financial training and all the other services that should result in really robust financial management in a disaster area.

The world of aid has changed completely as a result of the tsunami. According to Mango's director, Alex Jacobs, 'Accounting is just as important as blankets. Agencies have been aware of this for years. But when you move on to a bigger scale there is more pressure to show the donations are being used appropriately.'

More recently, the earthquake in Haiti led to a call from Mango for French-speaking accountants to help support the relief programme and to help in the longer-term rebuilding of Haiti.

Source: Adapted from Robert Bruce, 'Tsunami: finding the right figures for disaster relief', FT.com, 7 March 2005 and Robert Bruce, 'The work of Mango: Coping with generous donations', FT.com, 27 February 2006. Paul Grant 'Accountants needed in Haiti', *Accountancy Age*, 5 February 2010.

SUMMARY

The main points of this chapter may be summarised as follows:

What is the purpose of a business?

- To create and keep a customer.

How are businesses organised and managed?

- Most businesses of any size are set up as limited companies.
- A board of directors is appointed by shareholders to oversee the running of the business.
- Businesses are often divided into departments and organised along functional lines; however, larger businesses may be divisionalised along geographical and/or product lines.

Strategic management

- The move to strategic management has been caused by the changing and more competitive nature of business.
- Strategic management involves five steps:
 - 1 Establish mission and objectives.
 - 2 Undertake a position analysis (for example, a SWOT analysis).
 - 3 Identify and assess strategic options.
 - 4 Select strategic options and formulate plans.
 - 5 Perform, review and control.

The changing business landscape

- Increased competition and advances in technology have changed the business landscape.
- There have been changes in the types of businesses operating as well as changes in the ways in which businesses are structured and operate.

Setting financial aims and objectives

- A key financial objective is to enhance/maximise owners' (shareholders') wealth.
- When setting financial objectives the right balance must be struck between risk and return.

What is management accounting?

- All accounting must be useful for decision making and this requires a clear understanding of *for whom* and *for what purpose* the information will be used.
- Management accounting can be viewed as a form of service as it involves providing financial information required by the managers.
- To provide a useful service, management accounting must possess certain qualities, or characteristics. These are relevance, reliability, comparability and understandability. In addition, management accounting information must be material.
- Providing this service to managers can be costly. Financial information should, therefore, be produced only if the cost of providing the information is less than the benefits gained.

Management accounting information

- Management accounting is part of the total information system within a business. It shares the features that are common to all information systems within a business, which are the identification, recording, analysis and reporting of information.
- Management accounting has changed over the years in response to changes in the business environment and in business methods.
- To meet managers' needs, information relating to the following broad areas is required:
 - developing objectives and plans
 - performance evaluation and control
 - allocating resources
 - determining costs and benefits.
- Providing non-financial information has become an increasingly important part of the management accountant's role.

Influencing behaviour

- The main purpose of management accounting is to affect people's behaviour.
- This effect is not always beneficial.

Reaping the benefits of IT

- IT has had a major effect on the ability to provide accurate, detailed and timely information.
- Developments in IT have enabled information and reports to be more widely disseminated throughout the business.

Changing role of the management accountant

- Less time is spent preparing reports.
- The management accountant is now a key member of the management team.
- This new dimension to the management accountant's role should benefit the design of more relevant management accounting information systems.

Ethical behaviour

- Management accountants may be put under pressure to commit unethical acts.
- Many businesses now publish a code of ethics governing their behaviour.

Management accounting and financial accounting

- Accounting has two main strands – management accounting and financial accounting.
- Management accounting seeks to meet the needs of businesses' managers. Financial accounting seeks to meet the needs of the other user groups.

- These two strands differ in terms of the types of reports produced, the level of reporting detail, the time horizon, the degree of standardisation and the range and quality of information provided.

Not-for-profit organisations

- Not-for-profit organisations also require management accounting information for decision-making purposes.



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→ Key terms

Strategic management p. 6	Understandability p. 19
Mission statement p. 7	Materiality p. 19
Position analysis p. 8	Management accounting information system p. 23
SWOT analysis p. 8	Key performance indicators (KPIs) p. 26
Management accounting p. 16	Financial accounting p. 32
Relevance p. 18	
Reliability p. 18	
Comparability p. 19	

References

- 1 Drucker, P., *The Effective Executive*, Heinemann, 1967.
- 2 Chartered Institute of Management Accounting, *Management accounting tools for today and tomorrow*, CIMA 2009.
- 3 Abdel-Kader, M. and Luther, R., 'The impact of firm characteristics on management accounting practices: A UK-based empirical analysis', *British Accounting Review*, March 2008.
- 4 Dugdale, D., Jones, C. and Green, S., *Contemporary Management Accounting Practices in UK Manufacturing*, Elsevier, 2006.

Further reading

If you would like to explore the topics covered in this chapter in more depth, we recommend the following books:

- Drury, C., *Management and Cost Accounting*, 7th edn, Cengage Learning, 2007, chapter 1.
- Hilton, R., *Managerial Accounting*, 9th edn, McGraw-Hill Higher Education, 2011, chapter 1.
- Hornigren, C., Foster, G., Datar, S., Rajan, M. and Ittner, C., *Cost Accounting: A Managerial Emphasis*, 13th edn, Prentice Hall International, 2008, chapter 1.
- Lynch, R., *Corporate Strategy*, 4th edn, Financial Times Prentice Hall, 2006, chapter 1.
- Scapens, R., Ezzamel, M., Burns, J. and Baldvinsdottir, G., *The Future Direction of UK Management Accounting Practice*, CIMA Publishing, Elsevier, 2003.



REVIEW QUESTIONS

Answers to these questions can be found in Appendix C, starting on p. 501.

- 1.1** Identify the main users of accounting information for a university. For what purposes would different user groups need information? Would these groups use the accounting information in a different way from the equivalent groups in private sector businesses?
- 1.2** Management accounting has been described as 'the eyes and ears of management'. What do you think this expression means?
- 1.3** Assume that you are a manager considering the launch of a new service. What accounting information might be useful to help in making a decision?
- 1.4** 'Accounting information should be understandable. As some managers have a poor knowledge of accounting we should produce simplified financial reports to help them.' To what extent do you agree with this view?



EXERCISES

Exercise 1.2 is more advanced than 1.1. Both have answers in Appendix D, starting on p. 511. If you wish to try more exercises, visit www.myaccountinglab.com

- 1.1** You have been speaking to a friend who owns a small business and she has said that she has read something about strategic management and that no modern business can afford not to get involved with it. Your friend has little idea what strategic management involves.

Required:

Briefly outline the steps in strategic management, summarising what each step tends to involve.

- 1.2** Jones Dairy Ltd (Jones) operates a 'doorstep' fresh milk delivery service. Two brothers carry on the business that they inherited from their father in the early 1960s. They are the business's only directors. The business operates from a yard on the outskirts of Trepont, a substantial town in mid-Wales.

Jones expanded steadily from when the brothers took over until the early 1980s, by which time it employed 25 full-time rounds staff. This was achieved because of four factors: (1) some expansion of the permanent population of Trepont, (2) expanding Jones's geographical range to the villages surrounding the town, (3) an expanding tourist trade in the area and (4) a positive attitude to 'marketing'.

As an example of the marketing effort, when new residents move into the area, the member of the rounds staff concerned reports this back. One of the directors immediately visits the potential customer with an introductory gift, usually a bottle of milk, a bottle of wine and a bunch of flowers. He then attempts to obtain a regular milk order. Similar methods are used to persuade existing residents to place orders for delivered milk.

By the mid-1980s Jones had a monopoly of doorstep delivery in the Trepont area. A combination of losing market share to Jones and the town's relative remoteness had discouraged the national doorstep suppliers. The little, locally-based competition there once was had gone out of business.

Supplies of milk come from a bottling plant, owned by one of the national dairy businesses, which is located 50 miles from Trepont. The bottlers deliver nightly, except Saturday nights, to Jones's depot. Jones delivers daily, except on Sundays.

Profits, after adjusting for inflation, have fallen since the early 1980s. Sales volumes have fallen by about a third, compared with a decline of about 50 per cent for doorstep deliveries nationally over the same period. New customers are increasingly difficult to find, despite a continuing policy of encouraging them. Many existing customers tend to have less milk delivered. A sufficient profit has been made to enable the directors to enjoy a reasonable income compared with their needs, but only by raising prices. Currently Jones charges 40p for a standard pint, delivered. This is fairly typical of doorstep delivery charges around the UK. The Trepont supermarket, which is located in the centre of town, charges 26p a pint and other local stores charge between 35p and 40p.

Currently Jones employs 15 full-time rounds staff, a van maintenance mechanic, a secretary/bookkeeper and the two directors. Jones is regarded locally as a good employer. Regular employment opportunities in the area are generally few. Rounds staff are expected to, and generally do, give customers a friendly, cheerful and helpful service.

The two brothers continue to be the only shareholders and directors and comprise the only level of management. One of the directors devotes most of his time to dealing with the supplier and with issues connected with details of the rounds. The other director looks after administrative matters, such as the accounts and personnel issues. Both directors undertake rounds to cover for sickness and holidays.

Required:

As far as the information given in the question will allow, undertake an analysis of the strengths, weaknesses, opportunities and threats (a SWOT analysis) of the business.

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Relevant costs for decision making

INTRODUCTION

This chapter considers the identification and use of costs in making management decisions. These decisions should be made in a way that will promote the business's achievement of its strategic objectives. We shall see that not all of the costs (and revenues) that appear to be linked to a particular business decision are relevant to it. It is important to distinguish carefully between costs (and revenues) that are relevant and those that are not. Failure to do this could well lead to bad decisions being made. The principles outlined here will provide the basis for much of the rest of the book.

LEARNING OUTCOMES

When you have completed this chapter, you should be able to:

- Define and distinguish between relevant costs, outlay costs and opportunity costs.
- Identify and quantify the costs that are relevant to a particular decision.
- Use relevant costs to make decisions.
- Set out the relevant cost analysis in a logical form so that the conclusion may be communicated to managers.

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What is meant by 'cost'?

- **Cost** represents the amount sacrificed to achieve a particular business objective. Measuring cost may seem, at first sight, to be a straightforward process: it is simply the amount paid for the item of goods being supplied or the service being provided. When measuring cost *for decision-making purposes*, however, things are not quite that simple. The following activity illustrates why this is the case.

Activity 2.1

You own a motor car, for which you paid a purchase price of £5,000 – much below the list price – at a recent car auction. You have just been offered £6,000 for this car.

What is the cost to you of keeping the car for your own use? *Note: Ignore running costs and so on; just consider the 'capital' cost of the car.*

By retaining the car, you are forgoing a cash receipt of £6,000. Thus, the real sacrifice, or cost, incurred by keeping the car for your own use is £6,000. Any decision that you make with respect to the car's future should logically take account of this figure. This cost is known as the 'opportunity cost' since it is the value of the opportunity forgone in order to pursue the other course of action. (In this case, the other course of action is to retain the car.)

We can see that the cost of retaining the car is not the same as the purchase price. In one sense, of course, the cost of the car in Activity 2.1 is £5,000 because that is how much was paid for it. However, this cost, which for obvious reasons is known as the

→ **historic cost**, is only of academic interest. It cannot logically ever be used to make a decision on the car's future. If we disagree with this point, we should ask ourselves how we should assess an offer of £5,500, from another person, for the car. The answer is that

→ we should compare the offer price of £5,500 with the **opportunity cost** of £6,000. This should lead us to reject the offer as it is less than the £6,000 opportunity cost. In these circumstances, it would not be logical to accept the offer of £5,500 on the basis that it was more than the £5,000 that we originally paid. (The only other figure that should concern us is the value to us, in terms of pleasure, usefulness and so on, of retaining the car. If we valued this more highly than the £6,000 opportunity cost, we should reject both offers.)

We may still feel, however, that the £5,000 is relevant here because it will help us in assessing the profitability of the decision. If we sold the car, we should make a profit of either £500 (£5,500 – £5,000) or £1,000 (£6,000 – £5,000) depending on which offer we accept. Since we should seek to make the higher profit, the right decision is to sell the car for £6,000. However, we do not need to know the historic cost of the car to make the right decision. What decision should we make if the car cost us £4,000 to buy? Clearly we should still sell the car for £6,000 rather than for £5,500 as the important comparison is between the offer price and the opportunity cost. We should reach the same conclusion whatever the historic cost of the car.

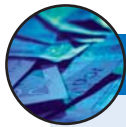
To emphasise the above point, let us assume that the car cost £10,000. Even in this case the historic cost would still be irrelevant. Had we just bought a car for £10,000 and

found that shortly after it is only worth £6,000, we may well be fuming with rage at our mistake, but this does not make the £10,000 a **relevant cost**. The only relevant factors, in a decision on whether to sell the car or to keep it, are the £6,000 opportunity cost and the value of the benefits of keeping it. Thus, the historic cost can never be relevant to a future decision.

→ To say that historic cost is an **irrelevant cost** is not to say that *the effects of having incurred that cost* are always irrelevant. The fact that we own the car, and are thus in a position to exercise choice as to how to use it, is not irrelevant. It is absolutely relevant.

Opportunity costs are rarely taken into account in the routine accounting process, as they do not involve any out-of-pocket expenditure. They are normally only calculated where they are relevant to a particular management decision. Historic costs, on the other hand, do involve out-of-pocket expenditure and are recorded. They are used in preparing the annual financial statements, such as the statement of financial position (balance sheet) and the income statement. This is logical, however, since these statements are intended to be accounts of what has actually happened and are drawn up after the event.

Real World 2.1 gives an example of linked decisions made by two English football clubs: Manchester City and Chelsea.



REAL WORLD 2.1

Transferring players: a game of two halves

In July 2005, Manchester City Football Club transferred one of its young players, Shaun Wright-Phillips, the England international, to Chelsea Football Club for a reported £21 million. City had signed the player eight years earlier (as a 15-year-old) on a free transfer after Nottingham Forest had released him having decided that he was 'too small' to make a professional footballer.

In August 2008, Chelsea sold Wright-Phillips back to City for a fee believed to be around £8.5 million. During his three seasons with Chelsea, Wright-Phillips started only 43 games, though he was brought on as a substitute in some more.

As the transfer fee from Chelsea to City was rather less than half of the amount originally paid, Chelsea made a huge loss on the transaction. However, Chelsea must have viewed the offer of £8.5 million from City as being greater than the sacrifice, or cost, of losing Wright-Phillips's services for Chelsea to have agreed to the transfer. The original amount paid for the player's services should not have been a factor in arriving at the agreed transfer price.

Source: <http://en.wikipedia.org>.

It might be useful to formalise what we have discussed so far.

A definition of cost

Cost may be defined as the amount of resources, usually measured in monetary terms, sacrificed to achieve a particular objective. The objective might be to retain a car, to buy a particular house, to make a particular product or to render a particular service.

Relevant costs: opportunity and outlay costs

- We have just seen that, when we are making decisions concerning the future, **past costs** (that is, historic costs) are irrelevant. It is future opportunity costs and future
- **outlay costs** that are of concern. An opportunity cost can be defined as the value in monetary terms of being deprived of the next best opportunity in order to pursue the particular objective. An outlay cost is an amount of money that will have to be spent to achieve that objective. We shall shortly meet plenty of examples of both of these types of future cost.

To be relevant to a particular decision, a future outlay cost, or opportunity cost, must satisfy both of the following criteria:

- *It must relate to the objectives of the business.* Most businesses have enhancing owners' (shareholders') wealth as their key strategic objective. That is to say, they are seeking to become richer (see Chapter 1). Thus, to be relevant to a particular decision, a cost must have an effect on the wealth of the business.
- *It must differ from one possible decision outcome to the next.* Only costs (and revenues) that are different between outcomes can be used to distinguish between them. Thus, one reason that the historic cost of the car, that we discussed earlier, is irrelevant is that it is the same whichever decision is taken about the future of the car. This means that all past costs are irrelevant because what has happened in the past must be the same for all possible future outcomes.

It is not only past costs that are the same from one decision outcome to the next; some future costs may also be the same. Take, for example, a road haulage business that has decided that it will buy a new additional lorry and the decision lies between two different models. The load capacity, the fuel and maintenance costs are different for each lorry. The potential costs and revenues associated with these are relevant items. The lorry will require a driver, so the business will need to employ one, but a suitably qualified driver could drive either lorry equally well, for the same wage. The cost of employing the driver is thus irrelevant to the decision as to which lorry to buy. This is despite the fact that this cost is a future one.

If, however, the decision did not concern a choice between two models of lorry but rather whether to operate an additional lorry or not, the cost of employing the additional driver would be relevant, because it would then be a cost that would vary with the decision made.

Activity 2.2

A garage business has an old car that it bought several months ago. The car needs a replacement engine before it can be driven. It is possible to buy a reconditioned engine for £300. This would take seven hours to fit by a mechanic who is paid £15 an hour. At present the garage is short of work, but the owners are reluctant to lay off any mechanics or even to cut down their basic working week because skilled labour is difficult to find and an upturn in repair work is expected soon.

The garage paid £3,000 to buy the car. Without the engine it could be sold for an estimated £3,500. What is the minimum price at which the garage should sell the car with a reconditioned engine fitted?



Activity 2.2 continued

The minimum price is the amount required to cover the relevant costs of the job. At this price, the business will make neither a profit nor a loss. Any price that is lower than this amount will mean that the wealth of the business is reduced. Thus, the minimum price is:

	£
Opportunity cost of the car	3,500
Cost of the reconditioned engine	<u>300</u>
Total	<u>3,800</u>

The original cost of the car is irrelevant for reasons that have already been discussed. It is the opportunity cost of the car that concerns us. The cost of the new engine is relevant because, if the work is done, the garage will have to pay £300 for the engine; but will pay nothing if the job is not done. The £300 is an example of a future outlay cost.

The labour cost is irrelevant because the same cost will be incurred whether the mechanic undertakes the engine-replacement work or not. This is because the mechanic is being paid to do nothing if this job is not undertaken; thus the additional labour cost arising from this job is zero.

It should be emphasised that the garage will not seek to sell the car with its reconditioned engine for £3,800; it will attempt to charge as much as possible for it. However, any price above the £3,800 will make the garage better off financially than it would be by not undertaking the engine replacement.

Activity 2.3

Assume exactly the same circumstances as in Activity 2.2, except that the garage is quite busy at the moment. If a mechanic is to be put on the engine-replacement job, it will mean that other work that the mechanic could have done during the seven hours, all of which could be charged to a customer, will not be undertaken. The garage's labour charge is £60 an hour, though the mechanic is only paid £15 an hour.

What is the minimum price at which the garage should sell the car, with a reconditioned engine fitted, under these altered circumstances?

The minimum price is:

	£
Opportunity cost of the car	3,500
Cost of the reconditioned engine	300
Labour cost (7 × £60)	<u>420</u>
Total	<u>4,220</u>

We can see that the opportunity cost of the car and the cost of the engine are the same as in Activity 2.2 but now a charge for labour has been added to obtain the minimum price. The relevant labour cost here is that which the garage will have to sacrifice in making the time available to undertake the engine replacement job. While the mechanic is working on this job, the garage is losing the opportunity to do work for which a customer would pay £420. Note that the £15 an hour mechanic's wage is still not relevant. The mechanic will be paid £15 an hour irrespective of whether it is the engine-replacement work or some other job that is undertaken.

Activity 2.4

A business is considering making a bid to undertake a contract. Fulfilment of the contract will require the use of two types of raw material. Quantities of both of these materials are held by the business. If it chose to, the business could sell the raw materials in their present state. All of the inventories of these two raw materials will need to be used on the contract. Information on the raw materials concerned is as follows:

<i>Inventories item</i>	<i>Quantity (units)</i>	<i>Historic cost (£/unit)</i>	<i>Sales value (£/unit)</i>	<i>Replacement cost (£/unit)</i>
A1	500	5	3	6
B2	800	7	8	10

Inventories item A1 is in frequent use in the business on a variety of work.

The inventories of item B2 were bought a year ago for a contract that was abandoned. It has recently become obvious that there is no likelihood of ever using this raw material unless the contract currently being considered proceeds.

Management wishes to deduce the minimum price at which the business could undertake the contract without reducing its wealth as a result. This can be used as the baseline in deducing the bid price.

How much should be included in the minimum price in respect of the two inventories items detailed above?

The relevant costs to be included in the minimum price are:

Inventories item:	A1	$£6 \times 500 = £3,000$
	B2	$£8 \times 800 = £6,400$

We are told that the item A1 is in frequent use and so, if it is used on the contract, it will need to be replaced. Sooner or later, the business will have to buy 500 units (currently costing £6 a unit) additional to those which would have been required had the contract not been undertaken.

Item B2 will never be used by the business unless the contract is undertaken. Thus, if the contract is not undertaken, the only reasonable thing for the business to do is to sell the B2. This means that if the contract is undertaken and the B2 is used, it will have an opportunity cost equal to the potential proceeds from disposal, which is £8 a unit.

Note that the historic cost information about both materials is irrelevant and this will always be the case.

Activity 2.5

HLA Ltd is in the process of preparing a quotation for a special job for a customer. The job will have the following material requirements:

Material	Units required	Units currently held in inventories			
		Quantity held (units)	Historic cost (£/unit)	Sales value (£/unit)	Replacement cost (£/unit)
P	400	0	–	–	40
Q	230	100	62	50	64
R	350	200	48	23	59
S	170	140	33	12	49
T	120	120	40	0	68

Material Q is used consistently by the business on various jobs.

The business holds materials R, S and T as the result of previous overbuying. No other use (apart from this special job) can be found for R, but the 140 units of S could be used in another job as a substitute for 225 units of material V that are about to be purchased at a price of £10 a unit. Material T has no other use, it is a dangerous material that is difficult to store and the business has been informed that it will cost £160 to dispose of the material currently held.

If it chose to, the business could sell the raw materials Q, R and S already held in their present state.

What is the relevant cost of the materials for the job specified above?

The relevant cost is as follows:

	£
<i>Material P</i>	
This will have to be purchased at £40 a unit ($400 \times £40$)	16,000
<i>Material Q</i>	
This will have to be replaced, therefore, the relevant price is ($230 \times £64$)	14,720
<i>Material R</i>	
200 units of this are held and these could be sold. The relevant price of these is the sales revenue forgone ($200 \times £23$)	4,600
The remaining 150 units of R would have to be purchased ($150 \times £59$)	8,850
<i>Material S</i>	
This could be sold or used as a substitute for material V.	
The existing inventories could be sold for £1,680 (that is, $140 \times £12$); however, the saving on material V is higher and therefore should be taken as the relevant amount ($225 \times £10$)	2,250
The remaining units of material S must be purchased ($30 \times £49$)	1,470
A saving on disposal will be made if material T is used	(160)
Total relevant cost	<u>47,730</u>

Real World 2.2 gives an example of how opportunity costs can affect a student's choice.



REAL WORLD 2.2

A good opportunity

FT

Most Master of Business Administration (MBA) programmes in the United States take two years to complete, whereas European ones typically last for one year.

Commenting on this in the following extract from a recent *Financial Times* article, Dominique Turpin, the head of the Swiss business school, IMD, said:

The number of contact hours in European schools is not always far from what is offered in US schools and this is the main reason for their popularity together with the opportunity cost of saving one year's salary.

Source: 'Ask the experts: European business schools', FT.com, 6 December 2010.

Sunk costs and committed costs

- A **sunk cost** is simply another way of referring to a past cost and so the terms 'sunk cost' and 'past cost' can be used interchangeably. A **committed cost** is also, in effect, a past cost to the extent that an irrevocable decision has been made to incur the cost because, for example, a business has entered into a binding contract. As a result, it is more or less a past cost despite the fact that the cash may not be paid in respect of it until some point in the future. Since the business has no choice as to whether it incurs the cost or not, a committed cost can never be a relevant cost for decision-making purposes.

It is important to remember that, to be relevant, a cost must be capable of varying according to the decision made. If the business is already committed by a legally binding contract to a cost, that cost cannot vary with the decision.

Figure 2.1 summarises the relationship between relevant, irrelevant, opportunity, outlay and past costs.

Activity 2.6

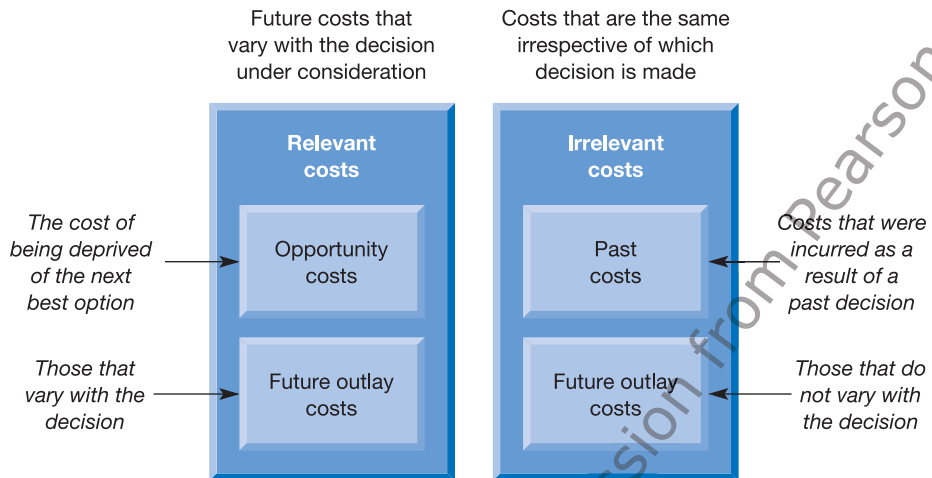
Past costs are irrelevant costs. Does this mean that what happened in the past is irrelevant?

No, it does not mean this. The fact that the business has an asset that it can deploy in the future is highly relevant. What is not relevant is how much it cost to acquire that asset. This point was examined in the discussion that followed Activity 2.1.

Another reason why the past is not irrelevant is that it generally – though not always – provides us with our best guide to the future. Suppose that we need to estimate the cost of doing something in the future to help us to decide whether it is worth doing. In these circumstances our own experience, or that of others, on how much it has cost to do the thing in the past may provide us with a valuable guide to how much it is likely to cost in the future.

Figure 2.1

Summary of the relationship between relevant and irrelevant costs



Note in particular that future outlay costs may be either relevant or irrelevant costs depending on whether they vary with the decision. Future opportunity costs and outlay costs that vary with the decision, are relevant; future outlay costs that do not vary with the decision, and all past costs, are irrelevant.

Qualitative factors of decisions

Although businesses must look closely at the obvious financial effects when making decisions, they must also consider factors that are not directly economic. These are likely to be factors that have a broader, but less immediate, impact on the business. Ultimately, however, these factors are likely to have economic effect – that is, to affect the wealth of the business.

Activity 2.7

Activity 2.3 was concerned with the cost of putting a car into a marketable condition. Apart from whether the car could be sold for more than the relevant cost of doing this, are there any other factors that should be taken into account in making a decision as to whether or not to do the work?

We can think of three points:

- Turning away another job in order to do the engine replacement may lead to customer dissatisfaction.
- On the other hand, having the car available for sale may be useful commercially for the garage, beyond the profit that can be earned from that particular car sale. For example, having a good range of second-hand cars for sale may attract potential customers wanting to buy a car.

- There is also a more immediate economic point. It has been assumed that the only opportunity cost concerns labour (the charge-out rate for the seven hours concerned). In practice, most car repairs involve the use of some materials and spare parts. These are usually charged to customers at a profit to the garage. Any such profit from a job turned away would be lost to the garage. This lost profit would be an opportunity cost of the engine replacement. It should, therefore, be included in the calculation of the minimum price to be charged for the sale of the car.

You may have thought of additional points.

It is important to consider 'qualitative' factors carefully. There is a risk that they may be given less weight by managers because they are virtually impossible to assess in terms of their ultimate economic effect. This effect can nevertheless be very significant.

Self-assessment question 2.1

JB Limited is a small specialist manufacturer of electronic components. Makers of aircraft, for both civil and military purposes, use much of its output. One of the aircraft makers has offered a contract to JB Limited for the supply, over the next 12 months, of 400 identical components. The data relating to the production of each component are as follows:

- *Material requirements:*

3 kg of material M1 (see Note 1 below)

2 kg of material P2 (see Note 2 below)

1 bought-in component (part number 678) (see Note 3 below)

Note 1: Material M1 is in continuous use by the business; 1,000 kg are currently held by the business. The original cost was £4.70/kg, but it is known that future purchases will cost £5.50/kg.

Note 2: 1,200 kg of material P2 are currently held. The original cost of this material was £4.30/kg. The material has not been required for the last two years. Its scrap value is £1.50/kg. The only foreseeable alternative use is as a substitute for material P4 (in constant use) but this would involve further processing costs of £1.60/kg. The current cost of material P4 is £3.60/kg.

Note 3: It is estimated that the component (part number 678) could be bought in for £50 each.

- *Labour requirements:* Each component would require five hours of skilled labour and five hours of semi-skilled. A skilled employee is available and is currently paid £14/hour. A replacement would, however, have to be obtained at a rate of £12/hour for the work which would otherwise be done by the skilled employee. The current rate for semi-skilled work is £10/hour and an additional employee could be appointed for this work.
- *General manufacturing costs:* It is JB Limited's policy to charge a share of the general costs (rent, heating and so on) to each contract undertaken at the rate of £20 for each machine hour used on the contract. If the contract is undertaken, the general costs are expected to increase as a result of undertaking the contract by £3,200.



Self-assessment question 2.1 continued

Spare machine capacity is available and each component would require four machine hours. A price of £200 a component has been offered by the potential customer.

Required:

- Should the contract be accepted? Support your conclusion with appropriate figures to present to management.
- What other factors ought management to consider that might influence the decision?

The answer to this question can be found in Appendix B on page 491.

To end the chapter, **Real World 2.3** describes another case where the decision makers, quite correctly, ignored past costs and just concentrated on future options for the business concerned.



REAL WORLD 2.3

Pound shop

FT

In 2006 Merchant Equity Partners (MEP), a private equity group, bought the retail arm of MFI (the furniture business) for just £1. MEP planned to revive the loss-making furniture chain and sell it on for up to £500 million in around 2011. MFI management felt at the time that having it taken over by MEP might avoid the retail arm slipping further into financial difficulties.

The buy-out agreement included an arrangement that MFI would pay a 'dowry' of £75 million over three years to encourage MEP to take it off MFI's hands. MFI felt that it would then be able to concentrate on the profitable part of its business, Howden Joinery, which sells kitchen cabinets to the building trade.

In the event, MEP's plans for MFI retail were overtaken by the downturn in furniture sales and MEP allowed the business to be taken over by a group of its managers in 2008. The business collapsed completely and stopped trading late in 2008.

Source: Taken from 'MFI furniture retail arm bought for £1', E. Callan, FT.com, 12 July 2006; and 'Favell buy-out rescues MFI from administration', T. Braithwaite, *Financial Times*, 28 September 2008.

SUMMARY

The main points in this chapter may be summarised as follows:

Cost = amount of resources, usually measured in monetary terms, sacrificed to achieve a particular objective

Relevant and irrelevant costs

- Relevant costs must:
 - relate to the objective being pursued by the business;
 - differ from one possible decision outcome to the next.

- Relevant costs therefore include:
 - opportunity costs;
 - differential future outlay costs.
- Irrelevant costs therefore include:
 - all past (or sunk) costs;
 - all committed costs;
 - non-differential future outlay costs.

Qualitative factors of decisions

- Financial/economic decisions almost inevitably have qualitative aspects that financial analysis cannot really handle, despite their importance.

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→ Key terms

cost p. 41

historic cost p. 41

opportunity cost p. 41

relevant cost p. 42

irrelevant cost p. 42

past cost p. 43

outlay cost p. 43

sunk cost p. 47

committed cost p. 47

Further reading

If you would like to explore the topics covered in this chapter in more depth, we recommend the following books:

Atkinson, A., Banker, R., Kaplan, R., Young, S. M. and Matsumura, E., *Management Accounting*, 5th edn, Prentice Hall, 2007, chapter 6.

Drury, C., *Management and Cost Accounting*, 7th edn, Cengage Learning, 2007, chapter 9.

Hilton, R., *Managerial Accounting*, 9th edn, McGraw-Hill Higher Education, 2011, chapter 14.

Hornigren, C., Foster, G., Datar, S., Rajan, M. and Ittner, C., *Cost Accounting: A Managerial Emphasis*, 13th edn, Prentice Hall International, 2008, chapter 11.



REVIEW QUESTIONS

Answers to these questions can be found in Appendix C at the back of the book, starting on page 501.

- 2.1** To be relevant to a particular decision, a cost must have two attributes. What are they?
- 2.2** Distinguish between a sunk cost and an opportunity cost.
- 2.3** Define the word 'cost' in the context of management accounting.
- 2.4** What is meant by the expression 'committed cost'? How do committed costs arise?



EXERCISES

Exercises 2.7 and 2.8 are more advanced than 2.1 to 2.6. Those with **coloured numbers** have answers in Appendix D, starting on page 511. If you wish to try more exercises, visit www.myaccountinglab.com

- 2.1** Lombard Ltd has been offered a contract for which there is available production capacity. The contract is for 20,000 identical items, manufactured by an intricate assembly operation, to be produced and delivered in the next few months at a price of £80 each. The specification for one item is as follows:

Assembly labour	4 hours
Component X	4 units
Component Y	3 units

There would also be the need to hire equipment, for the duration of the contract, at an outlay cost of £200,000.

The assembly is a highly skilled operation and the workforce is currently underutilised. It is the business's policy to retain this workforce on full pay in anticipation of high demand next year, for a new product currently being developed. There is sufficient available skilled labour to undertake the contract now under consideration. Skilled workers are paid £15 an hour.

Component X is used in a number of other sub-assemblies produced by the business. It is readily available. 50,000 units of Component X are currently held in inventories. Component Y was a special purchase in anticipation of an order that did not in the end materialise. It is, therefore, surplus to requirements and the 100,000 units that are currently held may have to be sold at a loss. An estimate of various values for Components X and Y provided by the materials planning department is as follows:

Component	X £/unit	Y £/unit
Historic cost	4	10
Replacement cost	5	11
Net realisable value	3	8

It is estimated that any additional relevant costs associated with the contract (beyond the above) will amount to £8 an item.

Required:

Analyse the information and advise Lombard Ltd on the desirability of the contract.

2.2

The local authority of a small town maintains a theatre and arts centre for the use of a local repertory company, other visiting groups and exhibitions. Management decisions are taken by a committee that meets regularly to review the financial statements and to plan the use of the facilities.

The theatre employs a full-time, non-performing staff and a number of artistes at total costs of £9,600 and £35,200 a month, respectively. The theatre mounts a new production every month for 20 performances. Other monthly costs of the theatre are as follows:

	£
Costumes	5,600
Scenery	3,300
Heat and light	10,300
A share of the administration costs of local authority	16,000
Casual staff	3,520
Refreshments	2,360

On average the theatre is half full for the performances of the repertory company. The capacity and seat prices in the theatre are:

200 seats at £24 each
500 seats at £16 each
300 seats at £12 each

In addition, the theatre sells refreshments during the performances for £7,760 a month. Programme sales cover their costs, but advertising in the programme generates £6,720 a month.

The management committee has been approached by a popular touring group, which would like to take over the theatre for one month (25 performances). The group is prepared to pay the local authority half of its ticket income as a fee for the use of the theatre. The group expects to fill the theatre for 10 nights and achieve two-thirds capacity on the remaining 15 nights. The prices charged are £2 less than normally applies in the theatre.

The local authority will, as normal, pay for heat and light costs and will still honour the contracts of all artistes and pay the non-performing employees who will sell refreshments, programmes and so on. The committee does not expect any change in the level of refreshments or programme sales if they agree to this booking.

Note: The committee includes the share of the local authority administration costs when making profit calculations. It assumes occupancy applies equally across all seat prices.

Required:

- On financial grounds should the management committee agree to the approach from the touring group? Support your answer with appropriate workings.
- What other factors may have a bearing on the decision by the committee?

2.3

Andrews and Co. Ltd has been invited to tender for a contract. It is to produce 10,000 metres of an electrical cable in which the business specialises. The estimating department of the business has produced the following information relating to the contract:

- Materials:** The cable will require a steel core, which the business buys in. The steel core is to be coated with a special plastic, also bought in, using a special process. Plastic for the covering will be required at the rate of 0.10 kg/metre of completed cable.

- Direct labour:**

Skilled: 10 minutes/metre

Unskilled: 5 minutes/metre

The business already holds sufficient of each of the materials required, to complete the contract. Information on the cost of the inventories is as follows:

	<i>Steel core</i> £/metre	<i>Plastic</i> £/kg
Historic cost	1.50	0.60
Current buying-in cost	2.10	0.70
Scrap value	1.40	0.10

The steel core is in constant use by the business for a variety of work that it regularly undertakes. The plastic is a surplus from a previous contract where a mistake was made and an excess quantity ordered. If the current contract does not go ahead, this plastic will be scrapped.

Unskilled labour, which is paid at the rate of £7.50 an hour, will need to be taken on specifically to undertake the contract. The business is fairly quiet at the moment which means that a pool of skilled labour exists that will still be employed at full pay of £12 an hour to do nothing if the contract does not proceed. The pool of skilled labour is sufficient to complete the contract.

Required:

Indicate the minimum price at which the contract could be undertaken, such that the business would be neither better nor worse off as a result of doing it.

- 2.4** SJ Services Ltd has been asked to quote a price for a special contract to render a service that will take the business one week to complete. Information relating to labour for the contract is as follows:

<i>Grade of labour</i>	<i>Hours required</i>	<i>Basic rate/hour</i>
Skilled	27	£12
Semi-skilled	14	£9
Unskilled	20	£7

A shortage of skilled labour means that the necessary staff to undertake the contract would have to be moved from other work that is currently yielding an excess of sales revenue over labour and other costs of £8 an hour.

Semi-skilled labour is currently being paid at semi-skilled rates to undertake unskilled work. If the relevant members of staff are moved to work on the contract, unskilled labour will have to be employed for the week to replace them.

The unskilled labour actually needed to work on the contract will be specifically employed for the week of the contract.

All labour is charged to contracts at 50 per cent above the rate paid to the employees, so as to cover the contract's fair share of the business's general costs (rent, heating and so on). It is estimated that these general costs will increase by £50 as a result of undertaking the contract.

Undertaking the contract will require the use of a specialised machine for the week. The business owns such a machine, which it depreciates at the rate of £120 a week. This machine is currently being hired out to another business at a weekly rental of £175 on a week-by-week contract.

To derive the above estimates, the business has had to spend £300 on a specialised study. If the contract does not proceed, the results of the study can be sold for £250.

An estimate of the contract's fair share of the business's rent is £150 a week.

Required:

Deduce the minimum price at which SJ Services Ltd could undertake the contract such that it would be neither better nor worse off as a result of undertaking it.

- 2.5** A business in the food industry is currently holding 2,000 tonnes of material in bulk storage. This material deteriorates with time. In the near future, it will, therefore, be necessary for it to be repackaged for sale or sold in its present form.

The material was acquired in two batches: 800 tonnes at a price of £40 a tonne and 1,200 tonnes at a price of £44 a tonne. The current market price of any additional purchases is £48 a tonne. If the business were to dispose of the material, it could sell any quantity but only for £36 a tonne; it does not have the contacts or reputation to command a higher price.

Processing this material may be undertaken to develop either Product A or Product X. No weight loss occurs with the processing, that is, 1 tonne of material will make 1 tonne of A or X. For Product A, there is an additional cost of £60 a tonne, after which it will sell for £105 a tonne. The marketing department estimates that 500 tonnes could be sold in this way.

With Product X, the business incurs additional costs of £80 a tonne for processing. A market price for X is not known and no minimum price has been agreed. The management is currently engaged in discussions over the minimum price that may be charged for Product X in the current circumstances. Management wants to know the relevant cost per tonne for Product X so as to provide a basis for negotiating a profitable selling price for the product.

Required:

Identify the relevant cost per tonne for Product X, given sales volumes of X of:

- (a) up to 1,500 tonnes
- (b) over 1,500 tonnes, up to 2,000 tonnes
- (c) over 2,000 tonnes.

Explain your answer.

2.6 A local education authority is faced with a predicted decline in the demand for school places in its area. It is believed that some schools will have to close in order to remove up to 800 places from current capacity levels. The schools that may face closure are referenced as A, B, C and D. Their details are as follows:

- *School A* (capacity 200) was built 15 years ago at a cost of £1.2 million. It is situated in a 'socially disadvantaged' community area. The authority has been offered £14 million for the site by a property developer.
- *School B* (capacity 500) was built 20 years ago and cost £1 million. It was renovated only two years ago at a cost of £3 million to improve its facilities. An offer of £8 million has been made for the site by a business planning a shopping complex in this affluent part of the area.
- *School C* (capacity 600) cost £5 million to build five years ago. The land for this school is rented from a local business for an annual cost of £300,000. The land rented for School C is based on a 100-year lease. If the school closes, the property reverts immediately to the owner. If School C is not closed, it will require a £3 million investment to improve safety at the school.
- *School D* (800 capacity) cost £7 million to build eight years ago; last year £1.5 million was spent on an extension. It has a considerable amount of grounds, which is currently used for sporting events. This factor makes it popular with developers, who have recently offered £9 million for the site. If School D is closed, it will be necessary to pay £1.8 million to adapt facilities at other schools to accommodate the change.

In its accounting system, the local authority depreciates non-current assets based on 2 per cent a year on the original cost. It also differentiates between one-off, large items of capital expenditure or revenue, on the one hand, and annually recurring items, on the other.

The local authority has a central staff, which includes administrators for each school costing £200,000 a year for each school, and a chief education officer costing £80,000 a year in total.

Required:

- (a) Prepare a summary of the relevant cash flows (costs and revenues, relative to not making any closures) under the following options:
 - 1 closure of D only
 - 2 closure of A and B
 - 3 closure of A and C.

Show separately the one-off effects and annually recurring items, rank the options open to the local authority and, briefly, interpret your answer. *Note:* Various approaches are acceptable provided that they are logical.

- Identify and comment on any two different types of irrelevant cost contained in the information given in the question.
- Discuss other factors that might have a bearing on the decision.

2.7 Rob Otics Ltd, a small business that specialises in building electronic-control equipment, has just received an order from a customer for eight identical robotic units. These will be completed using Rob Otics's own labour force and factory capacity. The product specification prepared by the estimating department shows the following:

- Material and labour requirements for each robotic unit:

Component X	2 per unit
Component Y	1 per unit
Component Z	4 per unit

- Other miscellaneous items:

Assembly labour	25 hours per unit (but see below)
Inspection labour	6 hours per unit

As part of the costing exercise, the business has collected the following information:

- Component X.* This item is normally held by the business as it is in constant demand. The 10 units currently held were invoiced to Rob Otics at £150 a unit, but the sole supplier has announced a price rise of 20 per cent effective immediately. Rob Otics has not yet paid for the items currently held.
- Component Y.* 25 units are currently held. This component is not normally used by Rob Otics but the units currently held are because of a cancelled order following the bankruptcy of a customer. The units originally cost the business £4,000 in total, although Rob Otics has recouped £1,500 from the liquidator of the bankrupt business. As Rob Otics can see no use for these units (apart from the possible use of some of them in the order now being considered), the finance director proposes to scrap all 25 units (zero proceeds).
- Component Z.* This is in regular use by Rob Otics. There is none in inventories but an order is about to be sent to a supplier for 75 units, irrespective of this new proposal. The supplier charges £25 a unit on small orders but will reduce the price to £20 a unit for all units on any order over 100 units.
- Other miscellaneous items. These are expected to cost £250 in total.

Assembly labour is currently in short supply in the area and is paid at £10 an hour. If the order is accepted, all necessary labour will have to be transferred from existing work. As a result, other orders will be lost. It is estimated that for each hour transferred to this contract £38 will be lost (calculated as lost sales revenue £60, less materials £12 and labour £10). The production director suggests that, owing to a learning process, the time taken to make each unit will reduce, from 25 hours to make the first one, by one hour a unit made.

Inspection labour can be provided by paying existing personnel overtime which is at a premium of 50 per cent over the standard rate of £12 an hour.

When the business is working out its contract prices, it normally adds an amount equal to £20 for each assembly hour to cover its general costs (such as rent and electricity). To the resulting total, 40 per cent is normally added as a profit mark-up.

Required:

- Prepare an estimate of the minimum price that you would recommend Rob Otics Ltd to charge for the proposed contract such that it would be neither better nor worse off as a result. Provide explanations for any items included.
- Identify any other factors that you would consider before fixing the final price.

2.8 A business places substantial emphasis on customer satisfaction and, to this end, delivers its product in special protective containers. These containers have been made in a department within the business. Management has recently become concerned that this internal supply of containers is very expensive. As a result, outside suppliers have been invited to submit tenders for the provision of these containers. A quote of £250,000 a year has been received for a volume that compares with current internal supply.

An investigation into the internal costs of container manufacture has been undertaken and the following emerges:

- (a) The annual cost of material is £120,000, according to the stores records maintained, at actual historic cost. Three-quarters (by cost) of this represents material that is regularly stocked and replenished. The remaining 25 per cent of the material cost is a special foaming chemical that is not used for any other purpose. There are 40 tonnes of this chemical currently held. It was bought in bulk for £750 a tonne. Today's replacement price for this material is £1,050 a tonne but it is unlikely that the business could realise more than £600 a tonne if it had to be disposed of owing to the high handling costs and special transport facilities required.
- (b) The annual labour cost is £80,000 for this department. Most, however, are casual employees or recent starters. If an outside quote were accepted, therefore, little redundancy would be payable. There are, however, two long-serving employees who would each accept as a salary £15,000 a year until they reached retirement age in two years' time.
- (c) The department manager has a salary of £30,000 a year. The closure of this department would release him to take over another department for which a vacancy is about to be advertised. The salary, status and prospects are similar.
- (d) A rental charge of £9,750 a year, based on floor area, is allocated to the containers department. If the department were closed, the floor space released would be used for warehousing and, as a result, the business would give up the tenancy of an existing warehouse for which it is paying £15,750 a year.
- (e) The plant cost £162,000 when it was bought five years ago. Its market value now is £28,000 and it could continue for another two years, at which time its market value would have fallen to zero. (The plant depreciates evenly over time.)
- (f) Annual plant maintenance costs are £9,900 and allocated general administrative costs £33,750 for the coming year.

Required:

Calculate the annual cost of manufacturing containers for comparison with the quote using relevant figures for establishing the cost or benefit of accepting the quote. Indicate any assumptions or qualifications you wish to make.



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