CHAPTER 3 - Understanding the business environment

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3.3 The changing business environment

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

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

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

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

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

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

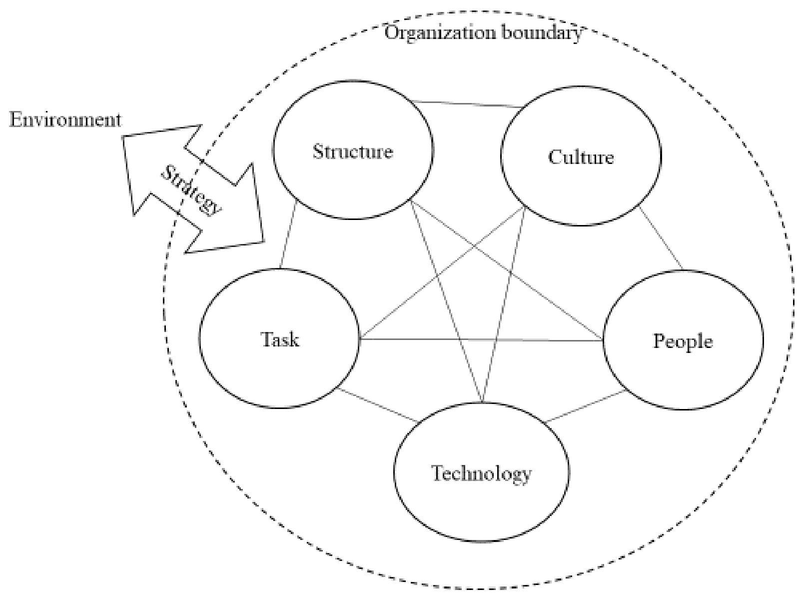

Figure 3.1 A contingency view of strategy and the environment.

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

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

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

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

3.4 Macro and task environment

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

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

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

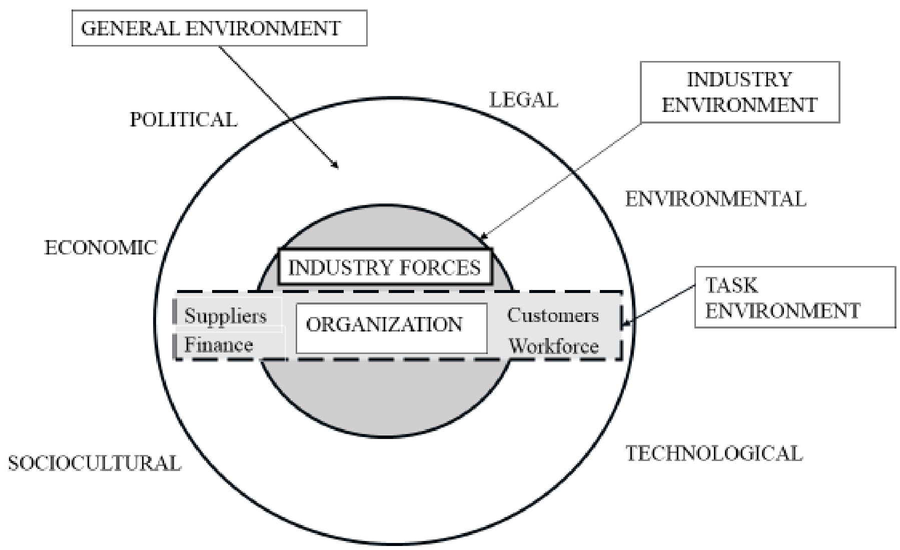

Figure 3.2 The business environment

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

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

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

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

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

3.5 Why undertake an environmental analysis?

Active reading. Note the varied reasons why it is essential to undertake an environmental analysis, and its link to identifying potential competitive strategies. Determining a competitive strategy based on a review of the environment would be linked to an outside-in, or positioning, approach to strategy development (see section 1.11). Also, note the specific aspects of the environment that could impact the profitability of the organization or change the business model.

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

Confirm or invalidate strategic plans

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

Identify trends that may affect the industry

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

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

Identify the drivers for change

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

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

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

Identify the differential impact of changes

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

Understand the likely impact on the profitability of the industry

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

Identify opportunities and threats

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

Changing the business model

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

3.6 The PESTEL Framework

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

Video link Environmental analysis - PESTEL

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

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

Political factors

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

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

Economic factors

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

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

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

Sociocultural factors

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

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

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

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

Technological factors

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

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

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

Environmental factors

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

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

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

Legal factors

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

3.7 PESTEL – an example for the agricultural sector

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

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

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

Political

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

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

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

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

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

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

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

Economic

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

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

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

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

Sociocultural

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

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

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

Technological

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

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

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

Environmental

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

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

Legal

The use of trade deals or trade wars often covers agricultural products. This issue is supported by comments made under the heading of political, as government policy that is crystallized into legislation can have an impact on the sector. For example, the common agricultural policy in

Europe places restrictions on specific activities, as well as protecting parts of the industry from outside competition.

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

Contribution of management accounting

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

Learning activity. Imagine that you are a farmer in your country of origin. Your farm is of medium size and has elements of arable and animal husbandry. How might the trends in the environment affect your business in the future, and how might management accounting aid in the review of your current strategy and the development of the future strategy? Remember that the underlying business model is to sell something that consumers want to buy for more than it costs to produce so that a profit can be made. Therefore, at a basic level, anything that potentially influences the demand, selling price, production levels, or costs could impact on the success of the business model.

3.8 Industry Analysis

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

Video link Industry analysis using Porter's five forces

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

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

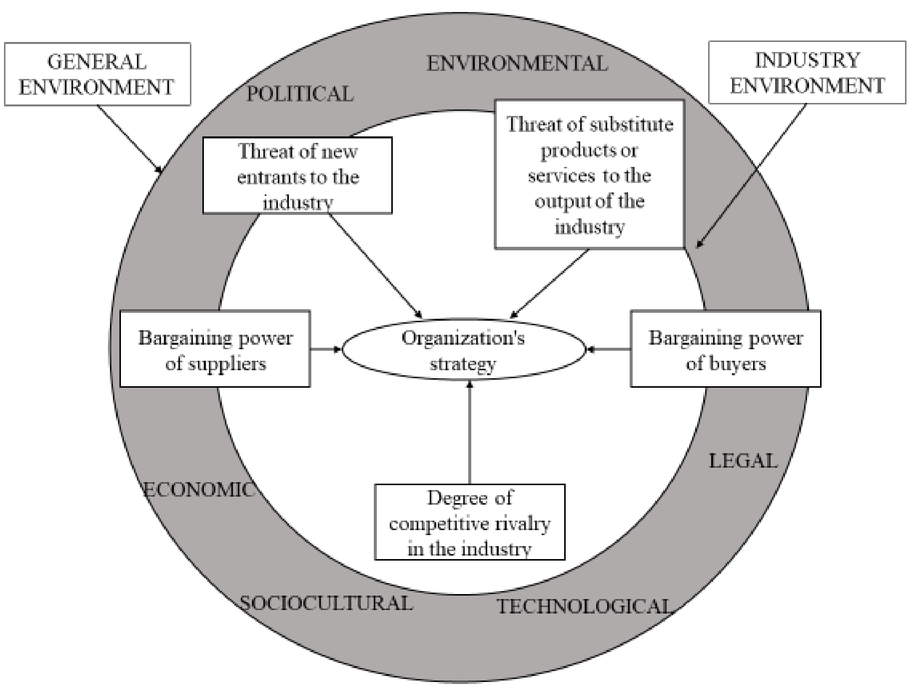

Figure 3.3 Industry forces impacting on an organization's strategy

The threat of new entrants or barriers to entry

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

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

Bargaining power of suppliers

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

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

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

Bargaining power of buyers

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

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

The threat of substitute products or services

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

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

Rivalry among existing competitors

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

3.9 An example of five forces – the pharmaceutical industry

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

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

The threat of new entrants to the industry

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

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

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

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

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

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

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

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

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

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

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

Bargaining power of suppliers

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

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

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

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

This situation highlights the need to understand the dynamics of the suppliers' industry sector, in this case, the market for raw materials, as well your own (manufacturing), and indeed the buyers' industry sector.

Bargaining power of buyers

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

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

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

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

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

Competitive rivalry

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

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

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

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

Threat of substitutes

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

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

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

Significance of industry analysis

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

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

3.10 Link between industries

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

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

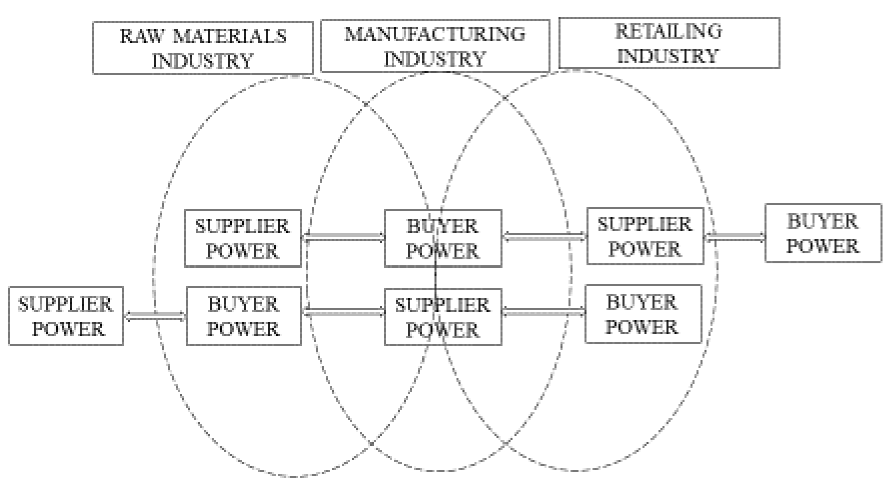

Figure 3.4 Linkages between industry sectors

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

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

3.11 Competitor Analysis

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

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

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

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

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

Cluster analysis

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

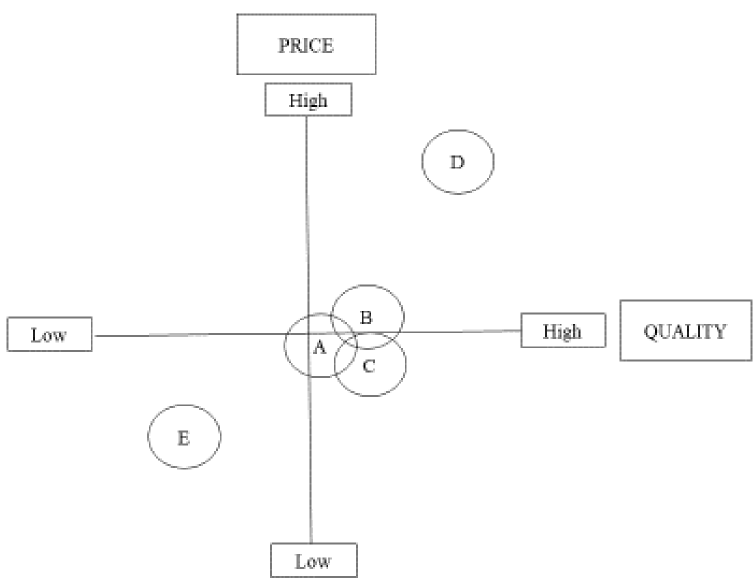

Figure 3.5 Cluster analysis for competitors

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

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

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

Competitor response profile

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

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

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

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

Competitor intelligence gathering

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

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

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

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

Sources of competitor information

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

Table 3.1 Typical sources of competitor information

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

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

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

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

3.14 Sources of environmental data

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

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

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

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

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

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

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

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

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

The value of information

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

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

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