

CHAPTER 3 - Understanding the business environment

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CHAPTER 3 - Understanding the business environment

3.1 Introduction

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

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

3.2 Learning outcomes

After studying this chapter, you will be able to:

- Appreciate how the business environment has changed in recent years
- Evaluate the need for organizations to respond to changes in the environment
- Discuss the significance of the different levels within which the business environment can be analyzed
- Critically evaluate the need to undertake environmental analysis
- Apply frameworks such as PESTEL and Porter's five forces model to analyze the environment of a given organization
- Critically evaluate the process of competitor analysis
- Discuss the significance of the concept of a business ecosystem for strategy development including the benefits and difficulties of managing the ecosystem

- Critically evaluate the benefits of scenario planning and discuss the process of building scenarios and their use
- Critically evaluate the contribution that management accounting can make to the activity of environment analysis within the strategic management framework

3.3 The changing business environment

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

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

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

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

structure, technology used, skill base required, materials used, or ways of working with others to satisfy customer needs.

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

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

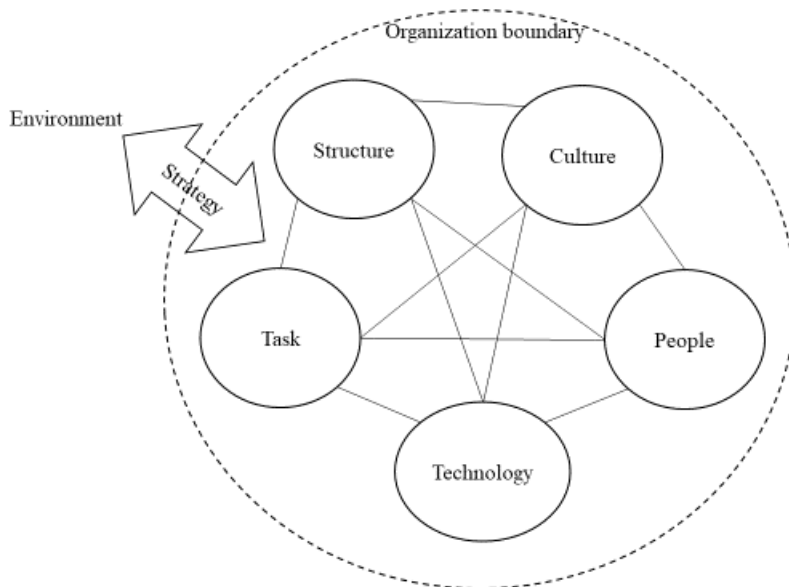


Figure 3.1 A contingency view of strategy and the environment.

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

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

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

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

3.4 Macro and task environment

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

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

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

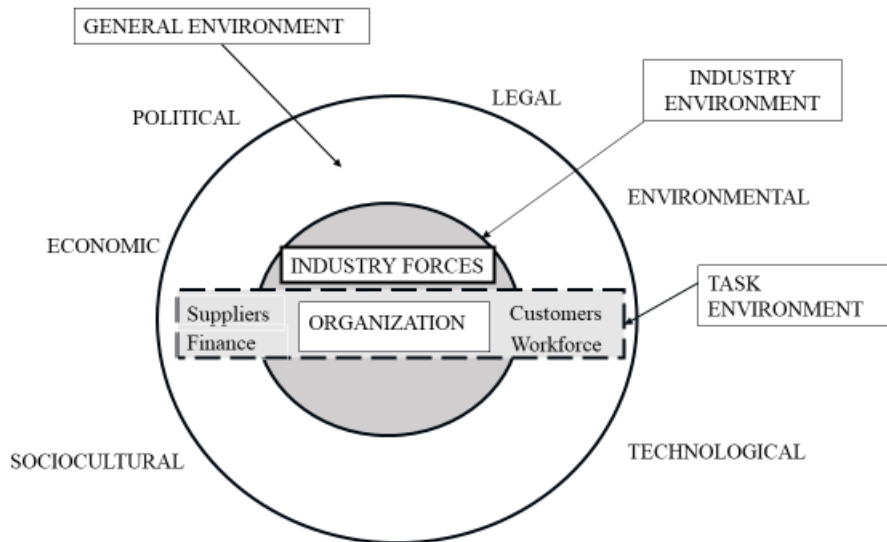


Figure 3.2 The business environment

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

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

Prescott (1986) suggests that managers should develop strategies to either adapt to changing environmental conditions or to proactively influence their environments. The strategy adopted by companies such as Amstrad and Microsoft and other organizations that developed new ways of

delivering computing power influenced the environment in which IBM operated. Organizations, Prescott argues, should focus on identifying the strategic variables that are significantly related to performance in their environment and adjust the strategies accordingly. Bourgeois (1980) notes that strategy can be subdivided into a primary strategy that relates to corporate strategy and concerns identifying opportunities in the general environment and secondary strategy, which pertains to business strategy and involves navigating within the task environment.

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

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

3.5 Why undertake an environmental analysis?

Active reading. Note the varied reasons why it is essential to undertake an environmental analysis, and its link to identifying potential competitive strategies. Determining a competitive strategy based on a review of the environment would be linked to an outside-in, or positioning, approach to strategy development (see section 1.11). 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)

[<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 firm 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](#)

[\[https://www.youtube.com/watch?v=IJRHyqN9EAM\]](https://www.youtube.com/watch?v=IJRHyqN9EAM)

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.

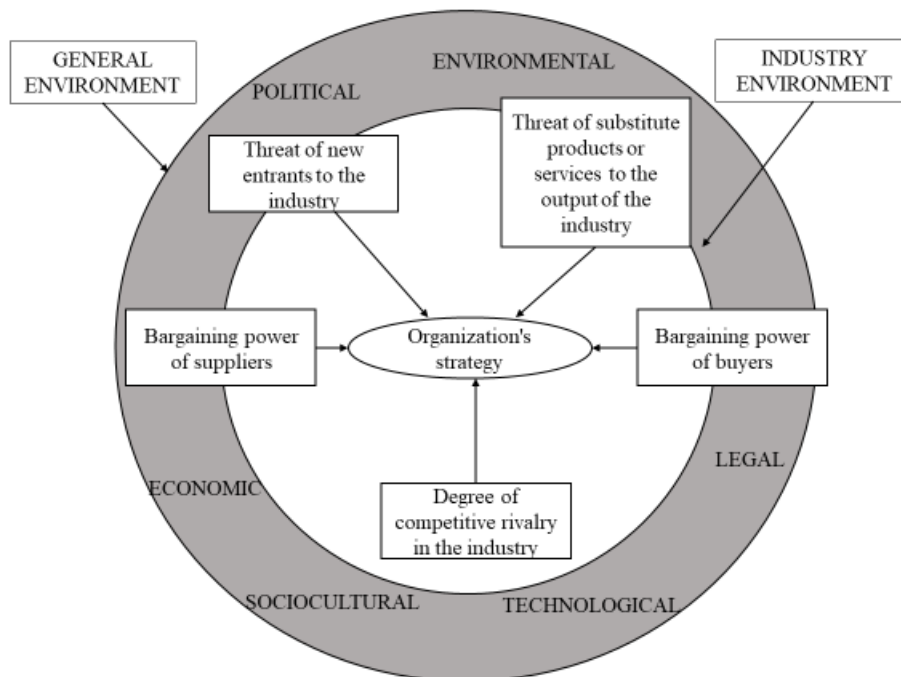


Figure 3.3 Industry forces impacting on an organization's strategy

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.

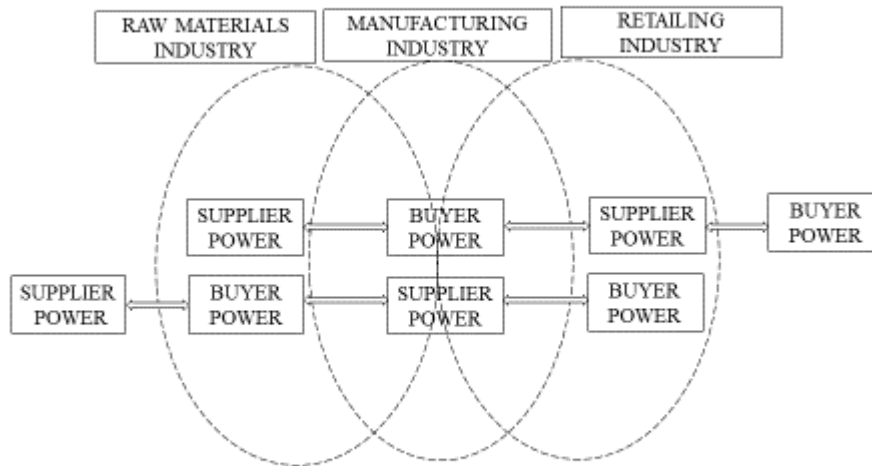


Figure 3.4 Linkages between industry sectors

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=pyZjimpBHua8)

[\[https://www.youtube.com/watch?v=pyZjimpBHua8\]](https://www.youtube.com/watch?v=pyZjimpBHua8)

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.

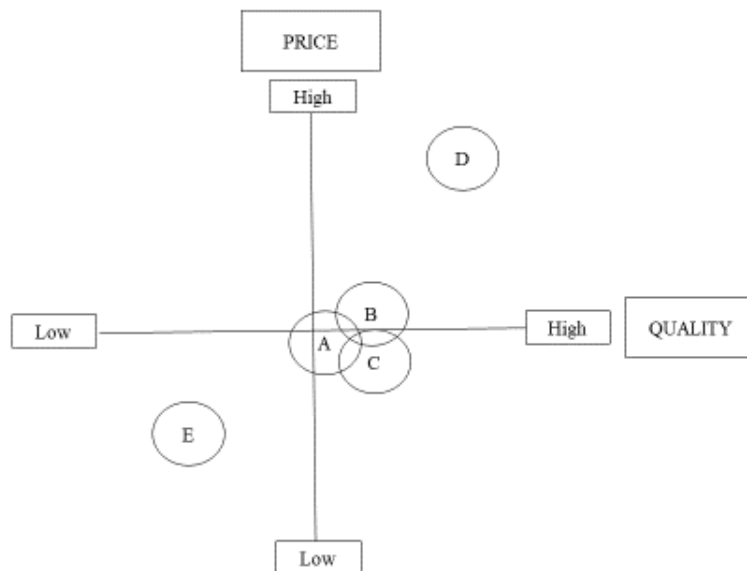


Figure 3.5 Cluster analysis for competitors

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.

3.12 Network organizations

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

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

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

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

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

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

The advantages to be gained include:

Lower transaction costs

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

Demand uncertainty

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

Customization and asset specificity

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

Task complexity

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

The emergence of the ecosystem

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

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

3.13 Business ecosystems

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

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

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

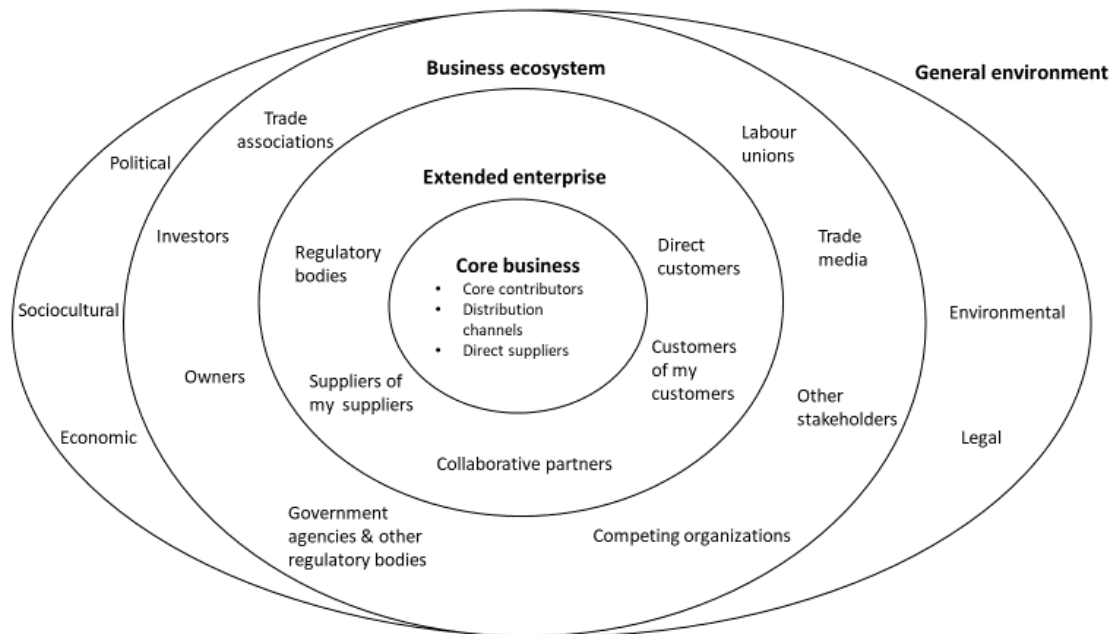


Figure 3.6 The business ecosystem

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

the wider impact that certain stakeholder groups have on their organization and, conversely, the impact that a strategic choice has on various stakeholder groups.

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

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

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

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

- The ability to develop new collaborations to address rising social and environmental challenges.
- They present opportunities to harness creativity and innovation to lower costs of production and service provisions or to enable members to reach new customers.
- They enable an acceleration of the learning process via collaborations, sharing of knowledge, skills, and expertise.
- They facilitate ways to address fundamental human needs and desires.

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

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

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

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

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

Internal and external ecosystems

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

More extensive external ecosystems are often developed from closed-loop systems due to the benefits that could be gained from broader participation. For example, a supermarket chain may work closely with a packaging supplier, designer, and supplier to develop a more sustainable way of packaging food so that both the packaging company and the supermarket gain a first-mover

competitive advantage in the marketplace. There are, however, arguments to suggest that as the supermarket industry sector operates on low margins, and is highly price-sensitive, that it is too expensive for one company to go it alone. There is the viewpoint that recyclable packaging may be more costly, and therefore eliminating the problem of non-recyclable packagings, such as single-use plastic, will only be solved by the industry working together. This issue may also be aided by government regulation and consumer groups; therefore, the benefits of an enhanced ecosystem encourage more collaboration between a wider group of participants. The acceptance of consumers also must be encouraged. Packaging protects, preserves, transports, informs, and sells the products. If less or no packaging is used, there is a trade-off between these elements, and the packaging industry argues that consumers must accept that compromises may be necessary if recyclable packaging is used. The challenge for the ecosystem is to work together to achieve the overall goal.

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

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

This winner takes all strategy often happens with new innovative technology, where in the early stage of the life cycle, competitors develop different standards. Competing organizations vie for supremacy to make their standard the industry standard. This competitive element can be problematic for collaborative organizations in that it creates compatibility issues. Do they back one standard only, or ensure compatibility with more than one? This dilemma means that they

must work closely with more than one central organization, for example, mobile phone app developers whose apps must work with Apple iOS, Google Android, Microsoft's Windows OS, HarmonyOS, and other operating systems. Does this situation mean that app developers are part of several organizations ecosystems — or is it better viewed as just one vast ecosystem relevant to the mobile phone sector?

Identifying ecosystem stakeholders

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

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

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

The IT industry represents some of the early examples of ecosystem development. If an organization develops an operating system such as Android, or iOS, and apps are developed by other parties that use the operating system, the provider of the operating system needs to ensure that as the product develops everyone in the ecosystem is considered, thus creating the need to collaborate and share information. Open-source software such as Linux is an example of a product

produced via the collaboration of many partners. And, of course, these products are developed by people situated anywhere in the world. The nature of the product means that organizations, particularly software companies, can recruit the best talent from anywhere as and when needed. The connectivity, often across different ecosystems, provides a degree of flexibility and responsiveness not previously enjoyed by organizations.

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

Ecosystem platforms

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

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

There are said to be three types of platform:

Aggregate platforms

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

posed, and solutions are invited with a reward for the best solution. These are often used by organizations running a competition as part of their promotional activities, many of which are run in conjunction with social media campaigns.

Social platforms

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

Mobilization platforms

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

Benefits of ecosystems

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

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

Ecosystems are removing many of the boundaries that constrained traditional business models. For example, the increasing use of advanced manufacturing technology, office automation, and more recently, artificial intelligence in business applications is changing the way humans and machines interact. This change in the human-machine interface has changed the way industries operate and the business models necessary to survive, such that they can be viewed as

ecosystems, often without the actors consciously setting out to create an ecosystem. Technology has also impacted on the producer-consumer interface, where consumers are now the active participants in the system rather than the passive recipient at the end of the chain.

The case of newspapers

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

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

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

3.13.1 Risks and regulation of the ecosystem concept

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|--|
| <p>Active reading. Note how redefining the business model impacts on the broader general environment and creates opportunities but also risks from the PESTEL elements.</p> |
|--|

Cybercrime

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

Old regulation - new business model

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

Rigid regulations may deprive society of value in the future

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

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

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

Impact on jobs, skills, and employment

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

Self-regulation

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

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

3.13.2 Governance of ecosystems and networks

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

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

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

Trust

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

Goal consensus

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

Number and size of organizations

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

The need for guidelines

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

Separate entity as overseer

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

3.13.3 Ecosystems and strategy

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

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

Monitor the environment

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

Analyzing the stakeholders

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

Key competencies

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

Seek out opportunities

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

Raise awareness

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

3.13.4 Ecosystem and management accounting

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

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

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

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

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

Techniques such as activity-based costing (see section 6.6) can lead to a better understanding of what drives costs and strategy models such as the value creation system (see section 4.9) aid the identification of where value can be added to the customer. It is helpful if the costing method adopted is consistent throughout the ecosystem so that a full understanding of the cost implication

can be gained. Inconsistent methods could lead to inappropriate decisions being made by members of the ecosystem. Ensuring that costing methods are consistent becomes significant when considered as part of the transfer pricing model.

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

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

3.14 Sources of environmental data

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

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

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

The common sources where this is possible is through contact with **customers** and **suppliers**, **manufacturers**, **intermediaries**, and **retailers**, with which the members of the organization come into regular contact. It is important not to underestimate the significance of monitoring internal

information, as a trend within an organization's customers could be indicative of a more general trend in the environment. For example, perhaps a particular demographic group within the customer base is beginning to migrate to different product groups. If the organization can spot this before their competitors do, it could provide a short-term advantage. Suppliers may be aware of factors affecting future supplies, development of new materials, sources of materials, or potential forthcoming legislation concerning the use of materials.

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

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

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

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

There is also the universal access to the **Internet**. The Internet provides a wealth of information, other than access to many of the sources mentioned above. Still, as with all other

sources, care needs to be exercised to check the reliability, credibility, and validity of the information provided.

The value of information

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

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

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

3.15 Scenario planning

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

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

Forecasting, scenario analysis, and strategic planning

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

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

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

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

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

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

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

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

3.15.1 Objectives of scenario planning

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

Enhancing understanding

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

Challenging conventional thinking

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

Improve decision-making processes

The experience of playing through potential strategic responses to a range of envisioned environmental changes can enhance the decision-making capabilities of the organization due to the practice of creating and playing through the scenarios. Creating scenarios requires the acquisition of information via research skills, the organizing of the information into a plausible narrative, communicating the story to relevant business units and participants, and analyzing and evaluating various scenarios. The opportunity to do this improves the sharing of ideas, the

discussion of potential impacts, and the development of strategic responses. These exercises can provide positive benefits within the effectiveness of the decision-making processes in the organization and highlight areas where improvements can be made. The very act of creating the scenario, and playing through potential outcomes, can have intangible benefits that emerge from organizational learning and staff development, which will manifest themselves in enhancing the skills required for decision making.

3.15.2 Benefits and issues of undertaking scenario planning

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

Enhanced perception and better observation of the environment

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

A structure for dealing with uncertainty

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

Integration of corporate planning function

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

Communication tool

Scenarios need to be communicated through the medium of a plausible narrative. The use of scenarios, and the dissemination to business units and managers within the organization, increase the awareness of potential changes in the environment throughout the whole organization, and possible strategic options that could be adopted. The creation and communication of the scenario

also enhance the ability of those involved in its preparation to communicate information clearly and succinctly, in a way that facilitates decision making.

Organizational learning

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

Improving the process of sensemaking within an organization

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

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

3.15.3 Issues to be aware of in scenario planning

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

Implausibility

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

The lack of quantitative data

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

High degree of subjectivity

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

Participant bias

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

3.15.4 Developing scenarios

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

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

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

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

3. Identify the major events, trends, changes that could emerge. The use of frameworks such as PESTEL and industry analysis can be used to generate potential ideas. It is crucial, however, not to become trapped by thinking solely about known and short-term factors. O'Brien (2004) noted that there is often a predominance of economic factors highlighted, and there can be a lack of imagination, resulting in future scenarios staying close to the current state.
4. Identify the critical uncertainties. Scenario planning is about learning to deal with uncertainties and therefore reviewing the events, trends, and so on, needs to be examined critically to identify the real uncertainties. Garvin and Levesque (2006) suggested identifying the critical focal issue, driving forces, and significant risks before designing the scenarios to encourage strategic conversations with real relevance to the organization.
5. Identify potential scenarios. There may be a range of ideas generated. These can be merged to create possible scenarios that can be developed into workable scenarios for consideration. There are different suggestions within the literature as to the number of scenarios that should be generated, but keeping it to a manageable number is the consensus view, probably around four or five. Constructing and evaluating scenarios takes time, resources, and effort, not just from those involved in their construction, but also on the part of the participants engaged in the strategic conversations that follow. In practice, therefore, the number of scenarios that can be constructed and considered may be limited, in which case it is vital to deal with scenarios that cover the main uncertainties that have been identified.
6. Conduct research and construct initial scenarios. Once the initial scenarios have been identified, research needs to be conducted to ensure that the constructed future is grounded on a solid observable start point. Scenarios must be plausible; otherwise, managers will not take them seriously. Therefore, undertaking research in their preparation is not just highly desirable; it is essential. Wilburn and Wilburn (2011) note that there are scenarios available from organizations, such as industry associations, government agencies, and consultants, that engage in future thinking that businesses can use. The use of scenarios prepared by industry experts avoids the time and resources required to research the preparation of original scenarios.
7. Check internal consistency and plausibility. The scenarios need to be plausible; otherwise, those asked to participate in the discussions concerning possible strategies to deal with the outcomes will not buy-in to the exercise. The potential cause and effect relationships also need to be checked for both internal and external consistency to ensure that the scenarios developed are plausible. Checking consistency involves making a judgment about whether the cause and effects included are reasonable and flow logically. The involvement of experts to review the

scenarios before dissemination within the organization is a useful and practical method of checking for consistency.

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

3.15.5 Schools of scenario planning

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

Intuitive logic

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

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

Trend-impact analysis

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

Cross-impact analysis

Cross-impact analysis is associated with the La Perspective Institute and is the use of quantitative and qualitative scenarios to which probabilities can be associated. This method is a process of developing a range of scenarios to which probabilities are assigned. The process enables potential

strategies to be developed and can aid the development of the best case, worst case, and most likely outcomes.

Backcasting or backward logic

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

3.15.6 Using scenarios

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

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

Roleplay

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

The use of critical incidents

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

Best-case and worst-case scenarios

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

Multi-attribute value analysis

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

Developing antifragility strategies

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

A resource-based view

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

This is where anticipating the time impact of events is useful as resources cannot always be increased, or capabilities enhanced, at short notice.

Develop strategies from SWOT

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

The use of real options

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

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

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

organizations, in thinking about what the world and the business environment will look like post-covid-19.

3.16 Summary

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

Evaluating the potential financial impact

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

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

Evaluating opportunities and threats and the strategies to deal with them

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

Interpreting environmental data of a financial nature

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

Evaluating financial strengths and weaknesses of competitors

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

Identifying benchmarks on the performance of key players in the industry

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

Monitoring trends from internal financial information

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

Assisting in the preparation of scenario planning and forecasting

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

3.17 Review questions

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

3.18 Case study activity 3 - HW Inc. environmental analysis

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

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

3.19 References

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