An Overview of Business Strategy Concepts and the IS/IT Strategy Implications

As discussed in Chapter 1, most organizations are today aware that information systems strategies must be developed within the wider context of the corporate and business strategy formulation and implementation processes. Further, it has become increasingly important, in the last decade, that investments made in information systems and technology throughout an organization are directed toward the achievement of business objectives and plans. This does not imply that IS/IT is only a means of implementing chosen strategies; IS/IT can also be an enabler of new business strategies, strategies that are not possible without the application of IT. However, in the past, a significant proportion of the money spent on information systems and technology has had little relationship to those objectives, which is one of the many reasons why the potential benefits from investments made in IT have frequently not been realized. Success in managing IS/IT involves both maximizing the return on the money invested in acquiring, processing and using information within an organization, and enabling the strategic use of information either to gain competitive advantage or to repel competitive threats.

Consequently, it is vital that business managers are involved in the process of developing information and systems strategies, which means that this process must be clearly understood by those managers. It must be related to their business issues and be conducted using tools and techniques that are familiar to them, in a language that they understand, completely avoiding the jargon that surrounds IT.

Formal approaches to business planning began in the 1950s and, since then, a wide range of approaches and planning tools and techniques have been developed. These continue to evolve in response to the increasingly
complex and rapidly changing business environment. In this chapter some of these well-established business strategy and planning concepts and techniques are briefly outlined. As each of the concepts or techniques is discussed, implications that can immediately be derived for the development of IS strategies are considered. The approaches adopted by organizations for the strategic planning IS/IT are discussed in more detail in the next chapter.

THE EVOLVING NATURE OF STRATEGY AND STRATEGIC PLANNING IN ORGANIZATIONS

All organizations have some form of strategy, whether implicit or explicit, and the essence of business strategy lies in creating future competitive advantages faster than competitors. Yet, formal strategic planning, as we know it today, is a relatively recent phenomenon and arose as a result of developments in program planning and budgeting developed during World War II. During the 1950s, a second stream of thought, pioneered at the Harvard Business School, highlighted the importance of having an overall corporate strategy to integrate the various functional areas.

Yet, as early as 1976, Ansoff et al. recognized the failure of strategic planning, at that time, to resolve the problems of the firm in the post-industrial era. They suggested strategic management, within which formal planning would be but one component of a much more complex socio-dynamic process that brings about strategic change in an organization.

Exploring the evolution of strategy and strategy planning in organizations, Gluck et al. developed a model to describe its increasing maturity. Although there have been many changes in the business world, particularly since 1980, the model describes how the core issues have evolved, along with the need for new approaches to developing and implementing strategies. The basic model is depicted in Figure 2.1.

In Phase 1, the focus is on cash flow and annual financial planning, and involves relatively simple techniques to develop medium-term budgets. These exercises are usually carried out internally, department by department, and consolidated. The focus of planning is to reduce everything to a single financial issue—meeting the budget.

At Phase 2, the focus is on trying to predict, or forecast, what is likely to happen within, say, a three to five-year planning horizon, usually by reference to historical performance, analysed and projected into the future using internal trends and external parameters such as economic and market research data. It forecasts sales and market growth and predicts the effect on income and expenses and changes to the balance
sheet. Plans, though, are still quantitative and internally orientated, focusing on the gap between what is targeted and the resources that are available.

Within Phase 3, the organization, for the first time, considers the external environment to gain a thorough understanding of the nature of competition in its industry, in order to assess and consider potential threats and position itself to gain advantage. The organization might need to revise its product portfolio to match demands in more attractive market sectors, or increase the value-added features of existing products and services, or significantly reduce its unit costs. Each of these situations implies the identification of new product development, sourcing or marketing options and their evaluation to find those that not only suit the organization, but also best satisfy the pressures and demands of the competitive marketplace.

By Phase 4, the organization is driven by innovation and becomes capable of creating its own business environment, at least to some extent. This phase implies that, while products and competitive positioning are clearly important, they are only so at a given point in time. In today's dynamic business environment, products quickly become obsolete and the only real source of competitive advantage is the
ability to respond consistently to changing markets with new products and ever-improved competitiveness. The organization's values, culture and structure will reinforce the processes and competencies required to develop and sustain a leading role in the industry thus enabling it to have significant control over its own destiny. Obviously, sustaining this leadership will require continuing innovation.

While some organizations are capable of a truly creative strategy, at least for significant parts of the business, they also have to monitor the competitive environment, forecast effectively and deliver an annual profit. Progressing to Stages 3 and 4 implies that 1 and 2 are handled effectively, so that strategic thinking can be converted to the required financial results. The major step change depicted in the move from Stage 2 to 3 reflects the reorientation to adopt an external perspective and obtain the new knowledge required by the organization, to assess realistically what it does and how well it does it in the context of its competitive environment. The model is not time dependent; unfortunately, some organizations still remain in Phase 1.

It is worth making a few observations about the evolving nature of strategic management issues based on this maturity model:

- The approach to IS/IT strategy development is often, despite the best of intentions, 'behind' the approach adopted for business strategy formulation. While the organization may well be managing overall in Phase 3 or even 4, the approach to IS/IT strategy may, in reality, still be in Phase 1 (the current project plan and annual IT budget driving the plans) or perhaps Phase 2 (IT management planning future resource requirements based on a forecast of likely needs). Where this occurs, the IT unit is often seen by the business as living in a world of its own' and unable to react to the rapidly changing environment. In many ways, the purpose of this book is to realign the processes and thinking of IS/IT strategic planning with the real-world pressures and requirements in Phases 3 and 4.
- During the early 1990s, many organizations actually regressed down this maturity curve as recession deepened and they were forced to focus on short-term financial survival. In the UK, government policies saw the introduction of privatization, devolvement to agencies and market trading (e.g. in the National Health Service [NHS]), forcing many organizations to plan on a much shorter time horizon, often based on one-year financial measures. As a result, many public and private sector organizations that had perhaps been planning for the long term now had to produce improvement in financial performance year on year. This seriously affected those investment plans, including IS/IT, that cannot often
easily deliver demonstrable improvements within a 12-month time horizon.

- During the 1990s, the business environment changed at a faster pace than ever before, creating increased uncertainty and making forecasting more difficult. Except in a few, relatively stable industries, it was no longer possible to interpret the past as a reliable indicator of future trends. Even though the period saw the longest sustained period of economic growth in history, increasing globalization, rapid technological advances and increasingly sophisticated customers meant that firms not adept in Phases 3 and 4 of the model suffered badly. Even household names such as Marks & Spencer in the UK and Sears in the US found the retail clothing market increasingly difficult to understand and predict. Since the 1980s, shareholders have been demanding more certain and higher returns, making strategic planning more difficult, given the increasing uncertainty about future forecasts. This has also, therefore, shortened the planning horizon causing management to focus on shorter-term, financial performance but also change strategies more frequently.

- It is not coincidental that the focus on creating distinctive brands and brand strategies has increased over the last 20 years. Brand management is aimed at achieving success in Phase 4—external recognition of real or perceived uniqueness, plus the clarity of strategy required to marshal and align all the internal resources and capabilities 'behind the brand'.

- In the late 1990s, the commercialization of the Internet and the reduced cost of information technologies offered many opportunities to create 'new' strategies—to reach new markets and offer new products and services. As is usual in such circumstances, it was difficult for many large incumbent companies to adjust their strategies to become more creative and less risk averse. Most of the 'new economy' developments were initiated by start-ups, the 'dot.coms', who had no legacy of business structure or existing IS/IT environment to inhibit them. But, as rapidly became clear, neither did most of them have the full set of organizational competencies, those acquired in Stages 1-3, to succeed in highly competitive markets and industries. However, the speed with which new competitors could emerge through innovative applications of IT has forced many, more conservative organizations to realize that astute investment in IS/IT can enhance a business strategy, or at least that a lack of investment could leave the organization at a serious disadvantage. While it is oversimplistic to state that the arrival of 'e-business' at last made senior management realize the importance of IT, it was only in
the year 2000 that companies' share prices were affected by whether or not they had an e-business strategy.4

**Strategy versus Planning**

Recent debates around strategy and planning have highlighted a misconception and confusion that exists in many organizations regarding the two terms.5 Mintzberg6 asserts that 'strategic planning' is not 'strategic thinking'. He writes, 'when companies understand the difference between planning and strategic thinking, they can get back to what the strategy-making process should be: capturing what the manager learns from all sources (both the soft insights from his or her personal experiences and the experiences of others throughout the organisation and the hard data from market research and the like) and then synthesising that learning into a vision of the direction that the business should pursue.'

Similarly, Hamel7 asserts that planning is about programming not discovering, that strategy making must be democratic and is not the sole preserve of senior managers. He wryly poses the question of how often has the monarch led the uprising? Given the creative nature of the strategy process, he notes that you 'cannot see the end from the beginning', a situation that is similar when embarking on developing an IS/IT strategy.

Porter suggests many organizations have confused operational effectiveness with strategy. While not rejecting the need for operational effectiveness, he argues that it is a necessary but not a sufficient condition. Operational effectiveness means performing similar activities better than rivals perform them. In contrast, strategic positioning means performing different activities from rivals' or performing similar activities in different ways.

This implies that 'strategy' is not the result of strategic planning but the product of a number of processes. Strategy can therefore be denned as: an integrated set of actions aimed at increasing the long-term well-being and strength of the enterprise relative to competitors.*

There are essentially three interrelated processes that can contribute to the establishment of such a strategy:

- **strategic thinking**—creative, entrepreneurial insight into the ways the enterprise could develop;
- **strategic planning**—systematic, comprehensive analysis to develop a plan of action;
- **opportunistic decision making**—effective reaction to unexpected threats and opportunities.
To achieve any or all of these, a thorough understanding of the business environment, pressure groups, stakeholders and the enterprise's capability is required. Having an effective combination of coherent planning, incisive thinking and astute opportunism is probably best described as *strategic management*, which includes not only setting the strategy but also implementing and adapting it.

Notwithstanding these arguments, organizations require a framework to guide strategizing and strategic decision making. Indeed, tools and techniques can be useful in provoking the thinking necessary to develop insights, visions and innovative strategies.

**THE STRATEGIC FRAMEWORK**

Many of the analysis techniques of strategy formulation are used to focus on a particular strategic issue such as the analysis of competitors, the strength of the existing portfolio of products or the relative merits of different courses of action. However, there exists a far broader context within which the techniques and tools are applied, described here as the 'strategic framework'. Any organization in Stages 3 and 4 of the above model will need to consider most aspects of this framework to succeed. The framework considers the factors involved in business strategic management in three layers (see Figure 2.2):

- the external environment;
- pressure groups and stakeholders;
- internal business strategizing and planning.

Each of these is considered briefly below, before some of the approaches and tools that can be used to analyse their impact and formulate appropriate strategies are outlined.

**External Environment**

Businesses or enterprises operate within a broadly-defined external environment, many aspects of which need to be thoroughly analysed, understood and interpreted early in the business strategy process. The six factors that are of enduring importance and relevant to most industries and organizations are considered here. These environmental factors are normally considered together, in the early stages of strategic thinking, using a PEST (Political, Economic, Social and Technological) analysis approach (legal factors are normally included with political factors and ecology with social factors in a
Figure 2.2 A strategic framework
standard PEST analysis). These are important because of the speed with which they are changing and the effect they have on an increasingly 'global' business marketplace. Careful monitoring of these factors may lead to significant business opportunities or identification of potential threats in time to take action to mitigate the effects. Some examples will serve to illustrate the need for analysis.

**Economic**

The swing in emphasis to monetarism and the economics of free market could not have been predicted before the end of the 1970s. However, today, this is a feature not only of the Western world but also of Eastern Europe, the former Soviet Union republics, China and other ex-communist countries. The opportunities for increased trade are undeniable, as are the opportunities for sourcing products from countries with significantly lower costs.

The impacts of Third World debt on the Western financial system and the vigorous performance of the newly-industrialized countries with their strong trading surpluses had led Western countries to focus their attention on the Far East and away from Africa and South America. However, during the 1990s, many of those 'tiger' economies suffered severe recessions, due mainly to financial and currency problems resulting from an inability to adapt to the demands of an increasingly 'free market' for trade. Protectionism in many of their home markets had concealed a lack of real competitiveness in earlier years. As a result, companies have looked to Eastern Europe and at an increasingly attractive Latin America, due primarily to political stability, for both markets and sources of supply—although the 2001 monetary crisis in Argentina highlights that the situation requires continual appraisal.

The effects of the relative strengths of different currencies, inflation rates, money market rates and tax legislation impose increasingly complex challenges on global business. They affect decisions on where to invest and develop new markets and where to take profits.

It was argued (by some!) during 2000 that, due to the commercialization of the Internet and the restructuring of industries that was predicted, the 'old economy' logic no longer prevailed and that the economic 'rules' had been changed. It seems this was due to 'new millennium euphoria', and not based on substantive evidence or analysis, given the rapid return to the old economy in 2001. However, investment in new economy stocks created a short-lived boom for high-tech companies, many of which invested too much in high-risk options. The licence fees paid by telecom companies for '3rd generation' mobile operations (so-called 3G) have left them with high levels of debt as income streams from
existing operations reduced. Others, like Marconi, reconfigured their business from 'old' to 'new' economy activities, with devastating results when the predicted explosive growth did not materialize.

**Social**

The social environment can exert a major impact on strategies and strategic options. For example, within the social environment, there is a growing awareness of the problems and opportunities afforded to organizations by the increasing numbers of retired people and their relative affluence. As the general population is living longer, there is a consequent demand on pensions and geriatric health-care services. On the other hand, this part of the population has a high level of disposable income, with few commitments. It is anticipated that a large proportion of children born in Western Europe in 1988 will live to be 100. The impact of this is going to be enormous. Governments will have to contend with supporting a large number of retired people from a shrinking taxable labour force. On the other hand, there is ample scope for changing the face of the leisure and consumer retailing industries to cater for the tastes of the older population. IT itself has now become a 'social factor', in terms of social inclusion or exclusion being affected by individuals' access to the Internet as both an information source and channel of communication. Management philosopher Charles Handy talks about the 'information haves' and the 'information have-nots' and the social implications of a group that are becoming increasingly marginalized. Many companies now have strategies for social responsibility. Vodafone Group's CEO has noted that, by extending the company's customer base, expanding geographically and developing innovative services, the company has achieved a global reach that brings worldwide responsibilities. 'Fulfilling our passion for excellence involves reaching the highest standard of social responsibility, just as much as providing outstanding service to our customers.'

**Political**

Although the European Economic Community had existed for 30 years before 1992, the Maastricht Treaty forming the European Union was one of the most significant changes to take place in Europe for many years, with the dismantling of trade barriers between member states and the removal of restrictive legislation. This has been followed by a synchronization of taxes on purchases, elimination of tariffs and, from 1 January 2002, a common currency across the majority of member states. Combined with the legislation that provides for free movement of
labour within the Union, the EU will soon be a market of sufficient buying power and size to be able to offer a real competitive threat to the US domestic market.

On the wider front, there is also a similar strengthening of economic ties between the USA and its North and South American and Pacific Rim trading customers. It is very important, clearly, that enterprises should take note of these developments in their strategizing.

The 1990s were a period of (relatively) political stability across the world, following the dramatic changes at the end of the previous decade. The future may not prove as conducive to global trade development if major 'new' economies become politically unstable, as is currently the case in Indonesia. The 11 September 2001 terrorist attacks in the USA have also resulted in further destabilization of the geopolitical environment and heightened levels of uncertainty.

Legal

In direct response to the impact of IT, many countries have introduced some form of Data Protection or Privacy Act, in an attempt to protect the interests of individuals from inappropriate use by corporations and governments of information about them (see Box 2.1 for an overview of UK legislation). However, the extent of coverage varies across countries.

The Internet has raised issues related to privacy as it provides unprecedented opportunities to profile the browsing and consumption habits of website visitors. In the USA, privacy advocates led an outcry over disclosures that DoubleClick, the biggest Internet advertising company, was quietly accumulating masses of personalized information on people's surfing and purchasing habits. Many companies do not realize that there are legal limits to what they can do with the data they collect.

The status and validity of 'paperless trading', via e-commerce, is an area where the laws of different countries have to cope with new situations and also need to be more consistent. Internet-based trading has created new legal problems regarding the point of transfer of ownership and where tax on purchases is to be paid and by whom. The music industry is the first to 'go to court' to resolve the increasingly sensitive issues of intellectual property and royalties for material sold (or otherwise) across the Internet. It is suggested that computer-based fraud is now frequent and is costing organizations billions of pounds—but detection is difficult, and successful prosecution has proved nearly impossible.

Ecological

The ecological lobby has become increasingly vocal throughout the world. The emergence of the Green movement and Green political
Box 2.1  Data Protection Act

The European Union's Directive on Personal Data, implemented in the UK as the Data Protection Act 1998, restricts the use of personal information and, in some cases, makes it illegal. The act limits the use of personal data by requiring 'data controllers' to process such information in accordance with eight data-protection principles. These principles provide that data must be:

- fairly and lawfully processed;
- processed for limited purposes;
- adequate, relevant and not excessive;
- accurate;
- not kept longer than necessary;
- processed in accordance with the data subject's rights;
- secure;
- not transferred to countries without adequate protection.

Personal data are any data relating to individuals, not only UK citizens. Such data include basic details such as names and addresses, perhaps collected when gaining access to a website or in a purchase transaction. E-mails can also be included as they may have registered domains and Internet protocol addresses identifying users' terminals, regarded as personal identifiers and, therefore, within the scope of the Act.

Parties in Western Europe are clear signs of an increasing awareness of the need to protect the environment. This has had substantial effects on such diverse activities as commercial whaling and the generation of power, with a swing away from nuclear power generation back to hydrocarbons (with the consequent problems of carbon dioxide and acid rain emissions) and an increasing emphasis on the search for alternative sources of power.

The more radical environmentalists or 'eco-warriors' extended their scope, in the late 1990s, to address social and economic issues. The Reclaim of the Streets movement brought the protest into urban areas to highlight both government and corporate neglect of the environment and people in the pursuit of economic goals. Tens of thousands of protestors lobbied the World Trade Organization summits and meetings of the Global Forum to demand action to stop environmental damage and exploitation of the people and resources of developing
countries by global corporations. The Internet was used to mobilize the protestors and organize the demonstrations. Technology has enabled protest movements to orchestrate campaigns around the world and become 'global' themselves in order to lobby against the adverse consequences of economic globalization. In the Philippines, the country where text messaging is most popular, the use of the technology by protesters is credited with helping to overthrow the country's former president, Joseph Estrada.

As well as trying to impose limitations on companies, these pressures can lead to increasing activity in research and development, and new business opportunities. Environmental groups argue that a more environmentally-conscious view of the world would create many millions of new jobs as well as 'save the planet'.

Technological

The technological environment, in general, is changing faster than ever before, creating innovative products and services and facilitating new ways of doing business and, in the process, making 'old' products obsolete more quickly. Consider the major changes in the information technologies in the past 15 years. These have included:

- Changes in telecommunications, including fibre optics, satellites and wireless networks, now enable companies and people to communicate far more quickly and extensively, particularly as bandwidth has increased. This has no doubt increased the intensity and speed of business activity as well as enabling more effective interchange and use of information.
- The unceasing improvements in price/performance of computers and software has meant that, for a few hundred pounds, anyone can have access to an immense variety of information resources and the ability to 'process' that information. This effectively 'empowers' the individual, who is able to carry out a greater range of tasks and communicate with far more people. Harnessed properly, this power can enhance an organization's strategic ability, creating agility in the workforce; mismanaged, it can lead to organizational chaos, and the misuse of time and resources.
- As computers become ever more portable, individuals are less desk-bound, and some organizations are questioning the need for offices at all. For many companies, the traditional concept of the office has been redefined as merely places to plug-in to a network or meet other people.
• The ability of individuals, as customers, to search for alternative product sources and the emergence of online buying groups, who aggregate the purchasing requirements of many customers, has undoubtedly increased the power of buyers in many consumer industries.

• The advent of digital television offers even further options; not only for commercial organizations but also for provision of services by public sector organizations to members of the communities they serve.

• Further major advances have occurred in the areas of document and image processing, new standards like XML (extendable Mark-up Language) will facilitate exchange of all forms of digital images and documents among all types of access devices including the videophones that will arrive in the next decade.

Signals from the external environment must be monitored constantly and interpreted quickly in order to be able to position the enterprise both offensively and defensively for the future. To assist management in obtaining and understanding the implications of such signals, many public databases and other online information sources are now available, providing hard data and commentary on many of the factors described. A key problem is often finding the appropriate sources for relevant, up to date, reliable information.

With very few exceptions, an individual enterprise can only react to its environment, and cannot, by itself, control or change the environment. However, by grouping together with others in the same industry or with a common interest, it is possible for the group to exert influence over its external environment either by direct action (e.g. the establishment of standards and protocols), or indirectly via trade associations that, through effective lobbying, can change or influence laws and regulations. In some cases, a large enterprise can shape the external environment to its particular requirements (e.g. by establishing de facto standards), thus creating significant, sustainable, long-term competitive advantage.

**Pressure Groups and Stakeholders**

The enterprise functions within the context of the external environment and also under the direct influence of two sets of offerees. These two groups are represented in Figure 2.2 and are categorized as *pressure groups* and *stakeholders*. Examples of the two categories are considered in Box 2.2. Pressure groups are characterized by making demands of the organization. They require that the enterprise acknowledges their existence and the effect they can have, and they expect appropriate responses from
Box 2.2  Examples of the influence of pressure groups and stakeholders

Pressure groups
1. **Shareholders**: can exert considerable pressure on companies in terms of how they conduct the business as well as what they do with shareholders’ funds. Annual general meetings are more frequently an opportunity for individual shareholders and shareholder groups to demonstrate their power by voting down proposals, rejecting nominated directors and strong questioning of company policies and objectives. Recently, small investors have questioned the justification for large pay rises and valuable share options for senior executives—who were ‘saved’ from censure by institutional shareholders. A bank had to change its policy on communicating account changes following an orchestrated campaign by discontented members. Some shareholder groups such as pension funds control significant votes and will only invest if they are assured of long-term prospects, based on properly developed long-term plans.

2. **Competitors**: are the most obvious pressure group, whose activities are designed to reduce each other’s success, but also in combination determine the overall economics and development of the industry in the short and long term.

3. **Customers/suppliers**: are obvious pressure groups, each exerting direct business pressure in its own particular way due to their mutual interdependence; each of them being part of the ‘value chain’ involved in bringing a product or service into the market. These are dealt with in more detail later in this chapter.

Stakeholders
1. **Shareholders**: who expect increased dividends year on year and an increased stock market valuation (i.e. income and capital growth, the former having become more important over the past few years to meet the cash-flow needs of pensions). There has also been a change in the type of shareholder. Institutional investors and pension funds still control significant blocks of shares, but, with privatization of nationalized industries taking place on a worldwide basis, there are now millions of private individuals who are shareholders. During the dot.com boom and bust of 2000, it was often small shareholders, trading online, who created or amplified market price fluctuations.

2. **Competitors**: are stakeholders to the extent they share an interest in the success of the industry overall, and the success or failure of an organization can influence the view of investors of the whole industry. In reality, successful industries need strong constituent firms.

3(a). **Customers**: who are constantly requiring higher-quality products or services from the enterprise at the same or lower cost, in order to improve their own financial performance.

3(b). **Suppliers**: who are always looking for an increase in the volume and price of the goods that they sell to or via the enterprise.
4. **Government:** exerts pressure in a number of different ways by framing legislation and then monitoring conformance. This includes monopolies and mergers, health and safety legislation, taxation levels and laws, product liability, and both industry regulation and deregulation. Pressure may also be exerted by other groupings such as the United Nations or the European Parliament and Commission, particularly in respect of international standards, trade embargoes and tariffs.

5. **Employees:** the pressure that employees can exert can take many forms, including the needs for comparability across job functions, job enrichment, personnel appraisals and evaluations, and less directly in terms of their overall attitude to work.

6. **Unions:** these exert pressure, particularly when it comes to grievances and working practices. This type of pressure was historically very high during the 1970s but has diminished, in the UK particularly, with the advent of much higher unemployment in the 1980s, and changes in the law. In other countries, unions are seen as more constructive and are often represented on firms' boards.

7. **The public:** can exert pressure, for example, through the boycotting of certain consumer items, and through the unpredictable nature of fashion. The impact of fashion goes beyond clothes to many other products, including foods, as was shown in the move to more organic food products in the 1990s. Consumer pressure inspired by Greenpeace caused Shell to change its plans to dispose of an obsolete oil rig.

4. **Government:** would expect to benefit from the success of the enterprise by way of increased taxation, overall economic growth, provision of more jobs, training for employees, etc. Equally, much of a country's infrastructure is now provided directly or indirectly by private enterprises and government depends on firms making sufficient profits to make those investments.

5. **Employees:** who expect to share in the success of the organization through improved financial reward but also via other demonstrations of success of the company such as pensions, additional holidays and other benefits. Their personal future depends on the success of the company.

6. **Unions:** who negotiate for better conditions of service, a better quality of working environment, including investments for safety of employees, more sick pay, more holidays and, of course, higher wages.

7. **The public:** the general public would expect to see benefits from the success of an enterprise. For example, a successful company in a small town might feel obliged to donate a community centre to the town for the benefit of the people living there. Many communities are dependent on the success of large firms for both economic viability and their social and recreational infrastructure. It is not just employees who gain but also the
8. **Financial institutions**: exert pressure by demanding increasing amounts of information to enable the increased level of analytical ability within the institutions. It is important for enterprises to meet the needs of these financial analysts in order to keep a reasonable stock market valuation and debt rating. This can be self-defeating: enterprises must perform to financial analysts’ expectations, or risk reducing their valuation and rating, putting more strain on them for ever-increasing performance.

9. **The media**: where business planning is concerned, the influence of the financial press is very strong indeed. This is possibly strongest in the UK, where the standard of investigative and analytical journalism within the financial media is probably the highest in the world. It is common for companies to report substantial increases in turnover and profit, but media-reported issues about the company’s long-term prospects can still cause negative effects on the company’s share price.

management to satisfy their particular interest. The interfaces with each of the pressure groups must be constantly monitored not only because they pose a potential threat if mishandled, but also because they offer opportunities that can be exploited to the advantage of the organization.

The stakeholders have a direct financial interest in the organization, and demand a fair share of the wealth created. All stakeholders expect some form of material and financial benefit from the success of the organization. It is a characteristic of those companies that have been most successful in the past that the rewards of their endeavours have indeed
been passed on, not just to the shareholders by way of increased dividends, but also through to the community at large and especially their customers, suppliers and employees. Increasingly, legislation has been introduced to protect the interests of some stakeholders, to ensure their fair treatment (e.g. investment customers in financial services).

It is important to note that some groups can be both pressure groups and stakeholders (e.g. shareholders, customers and employees). The most sophisticated planning mechanisms take account of each group and recognize that the signals can be those of divergent and often conflicting needs, depending on the environmental circumstances prevailing at the time. In a competitive environment, the company that understands the needs of external parties and reacts to or, better still, anticipates them most effectively will succeed in the longer term. All these external parties increasingly require businesses to provide more information to address their interests and hence become more accountable. Equally, following 'privatization', many public sector organizations now have to accommodate these external pressure group and stakeholder perspectives, as well as internal preferences, in their strategies.

**Business Strategy Formulation and Planning Processes**

Having considered the signals coming from the external environment and the threats and opportunities posed by the pressure groups, the organization has to identify, evaluate and decide the strategies it is going to pursue. It then has to establish how to achieve these strategies by planning for the required actions and by effective development and use of resources. The key components of a business planning process are considered below and their relationships are depicted at the core of the framework in Figure 2.2. The process as described here is highly structured and procedural, to aid understanding of what needs to be done. The limitations of this approach and the need for alternative, more 'flexible' versions have been outlined earlier, and how this can be achieved for IS/IT strategies is discussed in Chapter 3.

A key issue of any strategy process is to determine the scope. Should it cover the organization as a whole, or should the organization be considered in smaller, discrete parts where it may be more appropriate and easier to develop coherent strategies and plans? These organizational components are often called 'strategic business units' (SBUs). A business unit can be defined as: a unit that sells a distinct set of products or services, serves a specific set of customers and competes with a well-defined set of competitors.

Most major organizations have moved more toward business units and away from functional structures over the past 20 years. An advantage of
the SBU approach, as far as developing strategies is concerned, is that it encourages creativity and innovation, both of which are important aspects of Phase 4 in the maturity model described earlier. This usually results in better responsiveness to markets, greater operational flexibility and clear accountability for results.

Clearly, in the derivation and development of strategies, it is important to consider both the enterprise, as a whole, and the individual business units. This can be reconciled by considering the enterprise strategy as the combination of achievement of corporate objectives via the contribution of the SBUs. The strategy processes used also have to reflect the corporate/SBU relationships and the possible inter-SBU relationships.

Objectives
A key element in any business planning process is to set business or organization objectives. These are usually described by reference to profitability, growth, market share, customer satisfaction, new product development, employment, social responsibility, etc.

Objectives are not simply plucked out of the air, but reflect the values held by the organization, by management and by major stakeholders. These values are often expressed in terms of the 'mission' of the organization, which is usually a statement of its long-term aims and purpose. Examples of mission statements and objectives are considered in more detail in Chapter 4, as part of the process of identifying how IS/IT investment can be aligned to the business strategy.

The mission or vision statement may be relevant for many years, until stakeholder interests change. Objectives will change from year to year, and may evolve quite significantly over a period of time. The objectives will set specific measurable targets to be achieved in a given time period. It would seem more logical to set objectives following the 'situation analysis' stage described below, but, in most organizations, the objectives are set first, then the situation is reviewed in the light of those objectives. Later, the objectives may be amended if they appear unattainable or are insufficiently challenging. Often, however, the objectives are left unchanged in spite of evidence to suggest that they are inappropriate.

Situation Analysis
'Where we are now' consists of two essential elements, one looking inside the organization and one looking outside. The first concerns the current strategy and an understanding of the enterprise's strengths and weaknesses. This involves a thorough analysis of:
• the resources available within the organization in terms of their capability to make and deliver the products and services, both existing and those being developed;
• the financial health of the organization in respect of its debt, liquidity, assets;
• the employees, their skills, training, experience, motivation and the resulting business competencies possessed by the organization;
• the physical assets, their age, the technology employed, its usefulness;
• research and development, the proportion of turnover reinvested into researching new products and markets, the number of new products awaiting development, the quality of the past history of research and development (R&D) activity;
• the organization, its structure and relationships, attitudes and culture, and the effectiveness of the operational and management processes, and its ability to adapt to changing circumstances.

The second element involves analysis of the competitive environment so that the enterprise can quite clearly identify its position in the marketplace and possible future strategic options. This will involve looking at:

• market segments and market shares within those segments, to identify options for increasing the share of the market, increasing the total size of the market or targeting different segments;
• the organization's position in the product life cycles by considering products that are maturing or declining toward obsolescence, products where demand is still growing and those of future importance coming from research and development, and whether the product life cycles themselves need to be shortened or can be extended;
• an examination of all current and potential competitors to understand their current and potential strategies, their strengths and weaknesses in the various markets in terms of products, services, marketing, finance, people and processes;
• future competitive actions that may take place to introduce potential substitute products or whether the current environment enables new entrants access to the enterprise's chosen markets.

This type of analysis is often called SWOT (Strengths, Weaknesses, Opportunities and Threats). Then, using more creative thinking (e.g. brainstorming sessions) the enterprise searches for ways in which it can use its strengths to exploit opportunities, while addressing its weaknesses and defending against threats.
Once the organization has a good understanding of what it is trying to achieve by way of objectives, and exactly where it is by reference to its current strengths, weaknesses and analyses of the competition, then it still has to identify future strategies, both to avoid being at a disadvantage and to create advantages wherever possible. While, historically, these could mainly be derived from the knowledge of people within the organization, based on past experience, this has become increasingly limiting in recent years. Many organizations now seek to discover future options by undertaking scenario planning to identify 'discontinuities' and predict the potential implications or bring in outside experts to facilitate 'breakthrough thinking'.

These future possible strategies should be evaluated against a number of criteria, to enable both the most beneficial and most feasible to be selected. For example:

- the risks, both financial and managerial, and the likely responses of the main competitors;
- the degree to which the organization needs to create new capabilities to be offensive or improve control in order to be more defensive;
- whether the current organization structure is appropriate for achieving the intended strategies or if major reorganization is a prerequisite;
- the ability of the organization to implement the strategy in terms of competencies, resources, processes and culture;
- the implications for customers and other trading partners, since more aspects of strategy rely heavily on the intentions and capabilities of others;
- whether the organization requires or should create alliances or joint ventures to enable or secure the strategy.

It may sound obvious, but, in any evaluation of options, it is important to determine priorities and also decide which are not going to be pursued! Many strategies fail to explicitly prevent undesirable courses of action. And many others are too ambitious and create 'initiative overload' in the organization leading to poor implementation of many of the important components of the strategy.

Summary

In an ideal world, this strategy framework would be sufficient for the organization to use to address the planning needs at all levels and across
all functions in the organization. However, it is evident that such frameworks are not widely used, perhaps due to the high degree of formality implied in this approach. It need not be bureaucratic or prescriptive, but each of the elements should be addressed. Instead, it would appear that many organizations use a number of different strategy tools, but often without an overall framework, resulting in inadequate synthesis of the outputs from the various analyses and processes.

**STRATEGY IMPLEMENTATION**

Strategies are only a means to an end, to achieve anything they need to be implemented! This requires that adequate resources are obtained, and allocated effectively; that the appropriate organization and responsibilities are in place and that people are motivated to contribute to the achievement of the strategies.

As these strategies are being implemented, it is obviously important both to monitor performance and to control activities to ensure actions taken are producing the specific results that will lead to achievement of the overall set of objectives. The results of this performance measurement will be used in a feedback loop to refine the objectives of the organization, whether the strategies are being realized or not.

Other models of strategic management reflect this real world, in which strategy 'formation', based on an evolving situation, prevails over a strategy 'formulation' approach as described on page 81. A model developed by Johnson and Scholes\(^{14}\) perhaps describes these processes and how they relate most clearly (see Figure 2.3).

While, at any one time, an organization can use all its knowledge and experience to devise its intended strategy and plan for its implementation, things will not turn out as predicted.\(^ {15}\) Unexpected constraints or new options will occur, changes will be enforced by the actions of others, new opportunities will arise that could not have been predicted and some parts of the strategy will fail to be implemented successfully. By having the combination of processes, the organization will be more able to 'craft' its strategy,\(^ {16}\) such that a different but realizable strategy can emerge. The organization must also consciously accept that when aspects of the original strategy become unrealizable, it must stop pursuing them. This is often easier said than done in large organizations! Having a strategic management process that can adapt in this way to changing circumstances is not a substitute for initial strategic analysis and planning, it is a way of making it work! This approach also, perhaps, enables the talent of the people in the organization to become involved in its strategic
development, rather than merely used to implement a strategy devised by a small group of senior management.

**STRATEGY TOOLS AND TECHNIQUES**

In formulating strategy, there are many tools and techniques used in practice. In this section, some of those most commonly used in Phases 3 and 4 of the strategic management evolution (described in Figure 2.1) are introduced. Most of these techniques have been developed since the 1960s in response to the uncertainties and complexities of commercial and industrial environments. In reality, most of the techniques apply to Phase 3, since Phase 4 requires not just analysis and synthesis but also creativity, which few tools or techniques can produce. However, inspiration or creativity with no relation to the organization’s real situation will probably create problems, not opportunities!

As the various techniques are considered, the implications for IS/IT strategy formulation that can immediately be derived are discussed. Achieving effective alignment of IS/IT and business strategies will happen more easily if the thinking processes are intimately linked as early as possible in the derivation of the intended business strategy.
Portfolio and Planning Matrices

The Boston Consulting Group Business Matrix

The Boston Matrix (or Boston Square) is one of the earliest examples of the use of portfolio matrix techniques. It is essentially based on two precepts—a product life cycle and the relationship between market share and profitability. It also reflects the rationale of the 'experience curve', whereby the more times something is made the lower the cost will become due to continuing improvements in the process and the achievement of economies of scale. The experience curve is more relevant to manufacturing than service industries.

While the model applies to many types of product and many industries, it does not work in certain circumstances. For instance, in some commodity markets, there is a high degree of government intervention, which distorts the market by artificial control.

The product life cycle (shown in Figure 2.4) explains how the market for a product evolves over time from 'testing' the market acceptance through growth to saturation (maturity) and eventual decline according to customer demand. In a similar way, the types of customer who buy the products at different stages of the life cycle can be used to identify market segment strategies for products through time. Not all products follow the same cycle: some never get off the drawing board; others never gain market acceptance. Life cycles can be very different in duration. Some products, like whisky, are still successful, if declining, after more than 100 years. Mobile phones emerged in the early 1990s, were high growth for nearly 10 years, but the market (in the USA and Western Europe) is now maturing—most of the major manufacturers have announced plans to cease production, in the near future, of the current generation of mobile phones. Others, including many toys, go through the whole cycle in a few months. The model does not work well in cases where the industry is dominated by consumer fashions or fads, producing very short life cycles. Whole industries also go through life cycles of emergence, growth, maturity and decline, although, with improving economic conditions, new markets have opened up for products in decline in more advanced economies (e.g. cigarettes and electrical goods).

Relating the product life cycle to the market position produces the 2 x 2 matrix that plots market growth against relative market share (see Figure 2.5). The four cells in the matrix reflect two of the stages (growth and maturity) in the life cycle and the relative success of the product vis-a-vis competitive products. It is important to remember that the matrix considers relative, not absolute market share. In high-growth markets, demand exceeds supply and a price premium can be obtained. High-growth markets attract many competitors and, hence, it
Figure 2.4  Industry and product life cycles—information and systems focus (source: derived from an analysis in J.M. Higgins, Strategy Formulation, Implementation and Control, Dryden Press, New York, 1985, pp. 130–135)
is possible for many players to have profitable products with a relatively low market share due to the high prices obtainable. As markets mature, prices are depressed since supply exceeds demand and the less successful companies leave the market. Only those products able to compete on price, due to low costs of production or by providing features valued by customers, will still succeed. Maintaining a high relative share, by increasing actual share, is essential to both customers' perception of the product and achieving necessary economies of scale. The position of a product, or a whole business, on the matrix gives indications as to appropriate future strategies.

The 'stars' are products with high growth in demand and the best profit potential, provided a high market share is achieved. Star products generate significant revenue, but also require substantial investment in order to establish themselves in the markets and provide the production capacity or service delivery.

Products in the quadrant where market growth is high, but current market share is low, are called 'problem children' or 'wildcats'. These products require a significant investment but generate little cash in return. The cash is sourced from the cash cows and is used to develop and promote some of these wildcats, in the hope that they will achieve higher market share and become tomorrow's stars and future cash
Business Strategy Concepts and the IS/IT Strategy Implications

cows. Other wildcats should be disinvested, because they will never turn into stars and may even become 'dogs' straightaway!

When the demand slows down as the market matures, the product is well established and, although fewer new customers buy it, it generates repeat sales. At this point, the previous star products require less cash to be injected and should, given a strong market share, generate significant positive cash flow. These are called 'cash cows'. During this period, the firm endeavours to maintain a level of product and service quality and sufficient marketing to preserve its share of the market, but seeks lower costs of supply, production and distribution to maintain the net cash generation for as long as possible.

If a profitable market share is never achieved or market share is eroded as the product is superseded by new, better or cheaper products or by the effects of fashion, the product is becoming obsolescent and the company must be wary of putting more money into the product with a consequent reduced rate of return. These products are called 'dogs' and, ideally, should be disinvested or targeted more precisely at those sectors of the market where demand still exists.

The model emphasizes a few key issues in strategy:

- the need to manage products according to market opportunities and pressures, not internal factors;
- the need to reinvest net cash inflows into future products to ensure continuing sources of revenue;
- the need to have a complete and balanced portfolio if the business is to thrive in the long term.

Increasing pressure from shareholders to dispense a greater share of the profits (from the cash cows) in dividends has created problems for even successful companies, by reducing their ability to reinvest in the development of future products and services.

Although the Boston Matrix is a useful analysis and planning model, because it provides focus for key issues such as cash flow, market share and industry growth, it may oversimplify many of the factors involved in achieving business success. Its underpinning rationale, derived from manufacturing of products, is less valid in the service industries that now form the majority of US and European organizations. Growth rate and market shares are only two aspects of industry attractiveness and competitive position, respectively, and more variables need to be considered. A number of such matrices, their pros and cons and the detailed business and management issues implied by the various segmentations are described in detail by Higgins. Some are summarized here to give an overview of the different variables accommodated.
Other Planning/Policy Matrices

These all extend the number of variables considered and hence the options available, resulting in a $3 \times 3$ or $3 \times 5$ matrix, as shown in Figure 2.6. Some matrices consider more of the stages in the product and industry life cycles. As mentioned earlier, the Boston Matrix is only really useful in the growth and mature stages in the full four-stage cycle of emergence, growth, maturity and decline during which strategies must change. High-growth markets are inherently more attractive but other factors that make industries more or less attractive are: size, market diversity, existing competitive structure, prices, profitability, technology development effects, and legal, social and environmental factors. Market share obviously is a reflection of a company’s strength, but other factors are important such as technology position, people, brand image, financial structure, capacity and strengths in related markets.

The first stage in using any of the matrices is to understand the current position of the business unit or product—$x$ in Figure 2.6. Then, two options exist for growth, by (i) developing the industry, perhaps also to the benefit of others, by product or service innovation or by attracting
new types of customer, or (ii) gaining market share from competitors. Equally, strategies need to be considered to defend the existing position against industry decline or competitive pressure. In general, any strategy must enable manageable moves through the matrix—then, new options will open up as the business migrates over time. But, it is not realistic to jump dramatically across the matrix unless some major innovation is achieved that others cannot copy.

All of the matrices are useful in describing the current position of a business and its products in relation to the market and the position of competitors, and the consequent issues the strategy needs to address. They help management to select feasible options from those potentially available, both to improve the position and to counter threats from competitors. They also enable changing positions to be monitored, the causes and implications to be understood and the organization's resources to be allocated or reallocated to achieve the maximum overall benefits to its stakeholders.

Implications for IS/IT Strategy

Figure 2.4 shows typical aspects of the stages of a product life cycle, especially those key business activities that could be enhanced by more effective IS/IT deployment. Industries can also be considered as having a life cycle and most industries can be described as being in one of the four stages at any particular time (e.g. the car industry is 'mature', whereas mobile telephony is in 'growth', biotechnology is 'emerging' and agriculture in Western countries is in 'decline'). As strategies for a business will be different in emerging, growing, mature and declining industries, IS/IT investments should be targeted differently, as with other investments. For a particular product, investments in its promotion, distribution channels and production capacity would be for different purposes, at different stages of the life cycle and will vary in accordance with its market position:

- For a wildcat product (low market share in a high-growth market), the route to eventual success is likely to be through innovation in the general marketplace or selecting a clearly-focused niche in the market—a size of market segment that can be addressed effectively. Thus, the IS/IT strategy is likely to focus on product and/or process development or, alternatively, be used to identify potential customers, segment customer types and, then, ensure that effective information exchanges occur about the product/service with the chosen segment of customers, to enable exact specification of service and product requirements.
• **Star** products and businesses (strong market position in an attractive or high-growth market) imply a leading role for the company. Keeping ahead of, or at least in pace with, developing customer requirements and competing product offerings is vital to success, as is matching sales growth with market growth. Systems and information focus will be toward the customer—identifying customers and their requirements to achieve a better understanding of demand than actual or potential competitors. The systems might also be aimed at allowing growth in business, handling greater order volumes or variety of product mixtures, or types of customer service. The main emphasis will be on business innovation—to satisfy market requirements and differentiate the firm in that marketplace. Systems investment focus should therefore be to add value and cope with growth.

• **Cash cow** products and businesses (strong market position in mature, lower-growth markets) are to be 'milked', by defending the current position, ensuring that costs are lower than, or at least as low as, those of competitors and that demand is satisfied in the optimum way. Matching the details of supply and demand volumes is important to keep customers satisfied, as is organizing resources and processes to obtain maximum capacity utilization. Business productivity and control of customers and suppliers to defend a market position is the main aim—not to allow competitors to gain advantage—and systems will tend to focus on control of the business relationships and activities rather than innovation.

• **Dog** products and businesses (weak position in a low-growth or declining market) are unlikely to attract much corporate investment funding, unless it can clearly be seen to increase market share and/or improve deliverable profits. Divestment may be the eventual aim and, so, it is often undesirable to consider integration of IS strategy with the rest of the business. Alternatively, a niche market may be carved out by segmenting the products/markets. In general, IS/IT investment should follow the business direction—selective, strongly financially-justified investments to improve profit performance by reducing costs or securing customers. Very little innovative IS/IT use can be expected.

These suggestions may seem rather generalized, if only because the matrices themselves make no claim to precise investment guidelines—they are ways of helping understand situations, enabling the assessment of different options. If nothing else, they can help sharpen the debate between managers. During the industry evolution cycle, a firm will change its business focus from customers to products to customers, etc. as the cycle evolves, in order to achieve market growth and improved
market share (see Figure 2.7). Growth is more manageable if, at any particular time, either the product or customer base is relatively stable. Either existing products are marketed to a wider customer base or new products are developed for a known set of customer needs. Information systems focus can be expected to follow this pattern, being used to attract, and establish channels to, potential new customers and support the logistics of servicing those customers, or to enable the development and delivery of new, better or lower-cost products or services to achieve growth through existing market links. At no stage will the other parameter be ignored, but, at any one time, the emphasis is likely to be on product or customer ‘development’.

Figure 2.7 only shows products and customers, whereas the model can have a third dimension—distribution channels. The Internet has opened up electronic channels to all types of customer, including directly to end-consumers. Selecting the appropriate channel to serve target customer groups or for delivery of the product or service is a key strategic decision. The newer channels, call centres and the Internet are IS/IT based and the development and operation of these customer links is an integral part of both the business and IS/IT strategies. Managing the channel mix (e.g. in a bank with branches, call centre and online banking) is not just a matter of matching delivery to customers’ needs in each channel, but also requires decisions on the extent of cross-channel service integration to be provided.

Obviously, once a product or customer base has been extended, the scope of the firm’s coverage has moved. Once a wider range of products
have been developed for a known market, it probably means that a broader market is now available. Equally, given that a broader market for a restricted product range has been established, a wider variety of needs are known and can be economically satisfied, justifying further product investments.

Historically, diversification—new products to new customers—has usually proved unsuccessful, unless achieved in the steps above or by acquisition. More recently, two approaches have proved more successful. First, the establishment of 'superbrands', such as Virgin and Nike, has enabled organizations to develop both new products and target new market segments under the brand 'umbrella'. Second, organizations such as HSBC and the Prudential have set up separate new businesses to sell, exclusively, telephone or Internet-based banking products to customer segments where they are traditionally weak. In these cases, the IS/IT strategy is very specific to that business unit and would not, at this 'wildcat' stage at least, be linked to strategies elsewhere in the business.

**Competitive Forces and Competitive Strategies**

The portfolio models described on pages 87-91 were the main tools of strategic analysis in use in the 1960s and 1970s. They are still proving useful today, but other approaches developed during the 1980s, mainly by Porter, have had significant influence in strategy formulation over the last 20 years.

An enterprise exists within an industry, and, to succeed, it must effectively deal with the competitive forces that exist within the particular industry. For example, the forces in an emerging industry such as biotechnology or genetic engineering are considerably different from those of a growth industry, say leisure or financial services, or the more mature or declining industries such as automobiles or coal mining. In addition, the pressures of operating globally, as in the software industry, are very different from those in localized industries, like DIY retailing, where international competition is very limited at present.

The enterprise interacts with its customers, suppliers and competitors, but, in addition to these interactions, there are potential new entrants into the particular competitive marketplace and potential substitute products and services. To survive and thrive in this environment, it is obviously vital to understand these interactions and the implications, in terms of how to avoid being disadvantaged and to understand the opportunities to gain competitive advantage. Figure 2.8 outlines these five forces—buyers, suppliers, competitors, new entrants and substitute
products—and overlays some typical questions about the potential impact of e-commerce on these forces.

At any one time, one or more of the forces may be exerting particular pressure on the competing firms. The existing rivals may be competing viciously via a price war and/or aggressive in new products and services or advertising campaigns. Alternatively, competitors may be ‘cooperating’ to ward off an external threat. The buyers or suppliers may be powerful enough to bargain away much of the profitability available to the firm and its immediate competitors. Increasing buyer and supplier switching costs, making a change of relationship expensive, can reduce that power. New companies may be a threat in terms of new entrants to the industry because of low entry barriers or weak competitive rivals. Substitute products are always possible, not just in terms of replacement products or services but also as alternative ways for buyers to spend their money (e.g. holidays versus luxury goods).

If all the forces are exerting intense pressure at the same time, the company faces serious problems! But, if it addresses the competitive forces according to their potential impact now and in the future, it can establish a better business position than its rivals. Figure 2.8 suggests some ways in which IS/IT can affect these forces and this is considered in more detail on page 103. Table 2.1 briefly outlines the types of factors that determine whether the forces will have a major influence on a business.
Table 2.1  Factors affecting the impact of competitive forces

New entrants will be inhibited by: capital requirements; patents and specialist skills required; distribution channels available; achieved/required economies of scale and resultant cost advantages; number and size of existing rivals and intensity of competition; differentiation and brand establishment/loyalty; access to raw materials/critical resources, etc.

Substitute products I services (implies achieving a higher priority for customer spend):
- customer awareness of needs and means of satisfaction;
- customer sensitivity to value for money and ability to compare;
- existing loyalty of customers—impact of ‘industry’ promotion;
- ability to differentiate products, etc.

Competitive rivalry will be intensified by: market growth slow (or in decline); small number of similar sized competitors dominate; high fixed costs and/or high exit barriers for all rivals; overcapacity, and/or capacity increments are large units; commodity-like, undifferentiated products, etc.

Buyers’ power will be increased by:
- concentrated/few buyers making high volume and/or high value of purchases;
- low switching costs across suppliers;
- price sensitive and many alternative sources of supply;
- weak brand identities, products not differentiated;
- buyers capable of backward integration due to low ‘entry’ costs, etc.

Suppliers’ power will be increased by:
- few suppliers—high switching costs for rivals and suppliers deal with many small customers;
- potential substitute supplier/resources not easily available;
- supplied goods make up large part of firms’ costs;
- suppliers capable of forward integration or bypass to customers, etc.

Achieving long-term success in any competitive environment, according to Porter’s rationale, results from being the lowest-cost producer of the product or service or by differentiating it from those of competitors in terms of its value, as perceived by the customers. Lowest cost is normally associated with volume production (i.e. high market share), or by flexible manufacturing or distribution systems. These two strategies can either be
followed overall or by focusing on particular segments of the market—'niches'.

An example of these generic strategies can be seen by reference to Mercedes. The Mercedes limousine is regarded in most parts of the world as being the type of car that a successful businessman should be driving. The company has consistently advertised its cars in that way, with the emphasis always on high quality, high reliability and high price—Mercedes is differentiating itself from its competitors in the executive car market. However, within Europe, the Mercedes is probably the most common car to be seen in taxi fleets. Taxi operators are not known for their profligate expenditure on executive cars, but are usually very careful to assess the long-term costs of running their taxi fleet. In this regard, Mercedes comes out extremely well due to the emphasis of the company on high reliability, low maintenance costs and high resale value, thereby making their cars the most attractive, on average, for a taxi fleet operator. In this way, Mercedes is operating in the niche market of the taxi fleet operator by being the market leader using a low-cost strategy.

More recently, Mercedes has developed models to compete in the small car market, where price competition is fierce. It remains to be seen whether it can achieve success in differentiating its product in a price-sensitive mass market.

Some of the major requirements for an enterprise to be able to adopt the two basic generic strategies are shown in Table 2.2. The key aspects of each are quite different and would imply different organizational structures, types of people employed and management styles, resulting in quite different corporate cultures. The most common error that organizations make is to get stuck between strategies by not deciding on their market scope and basic source of advantage—low cost or differentiation. Consequently, costs are too high and prices cannot be sustained, leading to low margins.

**Implications for IS JIT Strategy**

These basic concepts of analysing competitive opportunities, threats and strategies have been used by a number of people as a basis for considering IS/IT and its potential impact. In the 1980s, Parsons, McFarlan, Cash and others used Porter's models to examine how IS/IT had and could impact certain industries and affect any particular firm in that industry, depending on its business position in the industry and its adopted business strategy. More recently, Porter himself has applied these models to explore the impact of the Internet on firms and industries. This implies that the opportunities and threats that IS/IT can offer and pose will vary over time in an industry, partly due to the role IS/IT can
### Table 2.2 Characteristics of generic strategies

<table>
<thead>
<tr>
<th>Generic strategy</th>
<th>Commonly required skills and resources</th>
<th>Common organizational requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall cost leadership</td>
<td>Sustained capital investment and access to capital</td>
<td>Tight cost control, frequent, detailed control reports</td>
</tr>
<tr>
<td></td>
<td>Process engineering skills</td>
<td>Structured organization and responsibilities</td>
</tr>
<tr>
<td></td>
<td>Intense supervision of labour</td>
<td>Incentives based on meeting strict quantitative targets</td>
</tr>
<tr>
<td>Differentiation</td>
<td>Strong marketing abilities and creative flair</td>
<td>Strong coordination among functions in R&amp;D, product development, and marketing</td>
</tr>
<tr>
<td></td>
<td>Product-engineering skills</td>
<td>Subjective measurement and incentives instead of quantitative measures (market-based incentives)</td>
</tr>
<tr>
<td></td>
<td>Strong capability in basic research</td>
<td>Amenities to attract highly-skilled labour or creative people</td>
</tr>
<tr>
<td></td>
<td>Corporate reputation for quality or technological leadership</td>
<td>Looser, more trusting organizational relationships</td>
</tr>
<tr>
<td></td>
<td>Strong cooperation from distribution channels</td>
<td></td>
</tr>
</tbody>
</table>

play and partly due to the economic and competitive situation of the industry. But, as with product innovation, IS/IT innovation can stimulate new industry growth or, in some cases, hasten the decline of certain industries. While the arrival of Amazon.com has had a serious impact on traditional book retailers, the total sales of books have increased significantly. In some cases, IS/IT impact can be immediate and obvious but, in others, the effects are secondary and require other changes in business economics and social behaviour or parallel developments in other fields before they become fully effective. This is the case
with e-retailing in 2002, the predicted effects being dependent more on costs of distribution and changes in shopping preferences and habits, than on the ability to browse and purchase online—the demise of online grocer Webvan being indicative of this.

Industry Analysis

Both Parsons and McFarlan address this area by posing questions: 'Can IS/IT ...?', suggesting that management should ask questions regarding how IS/IT could affect the essential industry ingredients:

- the products and services;
- markets, distribution channels and customer behaviour;
- economics of production, distribution or servicing.

Obviously, if IS/IT can have a major effect on any of these, the implications for all the competing firms are significant, and management must consider, in more depth, how those effects will or could manifest themselves.

1. How can/could IS/IT affect the nature and value of the product or service and its life cycle?

- Financial and business information services such as Dun & Bradstreet and Reuters have developed new services for commercial organizations to interrogate directly, as have brokers and banks, enabling new ways of trading shares and securities and making new types of bank account available to consumers.
- Online journals are rapidly replacing printed versions. The new products can be customized to meet the needs of particular groups and provide links to topic coverage across editions. Search engines, based on new sophisticated algorithms, can greatly speed up inquiries. Consequently, many university libraries are now mainly network access points to electronically-published papers.
- Life insurance companies can develop new insurance and pension policy types, providing complex investment combinations from concept to the target market in weeks rather than months. This can render older products uncompetitive very quickly, creating problems of long-term commitments to supporting obsolete products.
- Many recruitment services now operate exclusively via the Internet. Job applications can only be submitted electronically
in many cases, even if the job advertisement is posted in the traditional media. The initial response and filter of applications is often done via computer systems, rather than people—an essential feature given the global reach of online job adverts and the potentially high volume of interest!

In general terms, the questions to be asked are: can IS/IT generate a new product or a new line of business, or enable, or be used to add additional features or services to increase the product's value—as perceived by the consumer/customer—to change the basis for purchasing? This is generally more feasible if the product has a very high information content.

2. How can/could IS/IT affect the demand for products and services, segment markets more effectively, extend them geographically, or provide new distribution channels to reach the market?

- Well-known examples are the new 'direct' financial service companies such as First Direct and Direct Line insurance; and, more recently, the online-only banks such as Egg, Cahoot and IF are able to offer consumers financial products by telephone and the Internet, removing the need for branches and intermediaries. By doing so, they have a significant cost advantage over traditional rivals and are also able to gather information from customers to understand their needs better. In particular, younger customers are attracted to these 'modern' products and services, whereas they would probably not consider the traditional services offered by the same companies.
- Feeny\textsuperscript{23} cites a number of examples of successful online marketing, including Amazon's prompting customers about new books, based on their profile of previous purchases. Dell not only offer a product configuration service online, plus product purchasing, but also configurable support services for corporate customers.
- Most auction-based markets had been revolutionized over the past 20 years by IS/IT, even before the arrival of the Internet. The effects on share dealing, securities and currency markets are well known—parochial markets are now global and the firms dealing in those markets are no longer dependent upon the services of specialist or 'licensed' traders. Much of the trading is actually done by the computer systems, implying that the systems are causing market behaviour!

The use of the Internet has produced new kinds of auction, both consumer and commercial, thereby changing the buying and selling
processes for many products and services, not just 'information' products. Euronext, the result of the merger of the Amsterdam, Brussels and Paris stock exchanges, has launched exchange-traded wine futures while BordeauxIndex.com and WorldwineXchange.com have developed derivative products. Electronic marketplaces or trading hubs now exist in most industries and are forecast to handle a large proportion of trading transactions over the next 10 years.

Again, the typical questions to be asked are: Can IS/IT enable us to reach more, or more appropriate, customers or to match our different products/services to customers more appropriately or enable the product or service to be distributed in new ways? Or can we use IS/IT to get closer to the marketplace rather than deal through intermediaries? These questions are considered again, in more detail, in the context of the industry value chain and the role of information in Chapter 5.

3. How can IS JIT affect the cost base of the key processes in the industry or change the balance in the trade-off between flexibility and standardization?

- An obvious example is the publishing industry, where the use of IS/IT from the basic preparation of material by authors to the final printing process has dramatically changed the basic economics of producing newspapers, journals, magazines and books. The revolution in newspaper production is well documented. Journalists can produce stories remotely and transmit them electronically, the edition of the paper can be set on 'desktop' publishing systems and transmitted for printing to as many locations as necessary. Not only has the production cost base been dramatically altered, so have the economics of distributing the newspapers. The revolution in book production may not be so obvious but, given the reduced set-up time per book, the economic batch runs become much smaller, enabling:
  - lower-selling books to become profitable;
  - more books to be available on the market due to lower launch costs;
  - the ability to respond to demand changes more quickly and accurately.

- Automated warehouses, linking physical goods access to logistics and inventory systems, enable some wholesaling companies to stock much wider ranges of goods and respond to customers' orders more quickly and anticipate changing demand earlier. Delivery routes and order profitability can also be optimized. Tracking systems enable carriers to identify the exact location
of any consignment at any time and provide more accurate delivery information to the customer. Much of this can be made directly accessible by customers over the Internet. • Digitization of documents and images has enabled the automation of many back-office processes in information-intensive industries, such as insurance. When combined with workflow technology, both productivity and customer service can be improved in handling both new business applications and approvals and claims. This has kept costs down and allowed the organizations to deal with business volumes barely foreseen 10 years ago.

Once more, these are only examples, but they should prompt the following types of question: Can IS/IT enable the product/service to be produced more economically or enable production and associated logistics to be integrated to produce greater flexibility of resource use? Or can improved logistics and control change the basic working capital structure of the industry? Or can IS/IT enable a higher quality of product or service to be offered at a much lower cost than traditionally?

This first level of 'interrogation' of IS/IT potential in the industry focuses on products, markets and economics and considers options available to all the firms in the industry and, importantly, to potential new entrants, including start-up companies, who can exploit new technology to develop and sell new products or services, or create new channels that address the needs of some or all the industry customer base, or both. Gaining an advantage at this level is difficult for others to counter except by copying or by risking even more dramatic and effective innovation. Consequently, many of the anecdotes of sustained success derive from companies who have fundamentally changed one of these aspects. These changes are irreversible in that, if the factors for success in the industry and the relevant capabilities required by companies wishing to succeed in the industry are fundamentally altered, the competitive game will have a new set of rules!

**Analysis of Competitive Forces to Identify IS/IT Opportunity and Threats**

Each of the five forces described on page 96 should be examined by questioning whether IS/IT can affect the nature and degree of impact that force has on determining the future of the industry or the balance of power of the firms in the industry. These factors were outlined in Table 2.1.

In the airline industry, all competitive forces have been and are still being affected by the use of IS/IT, as described in Table 2.3. IS/IT has
Table 2.3 The airline industry: how IS/IT has affected competitive forces

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. <strong>How can IS/IT build barriers to entry?</strong></td>
<td>By increasing IT entry cost for reservation systems (£20m+)&lt;br&gt;By tying in distribution channels (travel agencies)&lt;br&gt;By sharing capacity and ticketing costs via alliances and integrated systems</td>
</tr>
<tr>
<td>2. <strong>How can IS/IT build in switching costs for customers?</strong></td>
<td>By linking purchasing and remittance systems to reduce overheads of customer&lt;br&gt;Discount/volume packages to discourage piecemeal purchase</td>
</tr>
<tr>
<td>3. <strong>How can IS/IT change the basis of competition?</strong></td>
<td>Lower costs: optimize yield per aircraft&lt;br&gt;Differentiate service: reconfiguring aircraft due to demand&lt;br&gt;Niche/focus service into high yield sectors (e.g. business travel)&lt;br&gt;Low-cost/low-price ‘no frills’ service with online direct booking, bypassing agents</td>
</tr>
<tr>
<td>4. <strong>How can IS/IT change the balance of power in supplier/customer relationship?</strong></td>
<td>Agent is constantly aware of seat availability of competing airlines&lt;br&gt;Airline can readily promote unsold capacity via chosen agents or direct to customers via online booking with variable pricing based on sales patterns</td>
</tr>
<tr>
<td>5. <strong>How can IS/IT generate new products/services?</strong></td>
<td>Integrated travel package to high mileage business customers, bypassing agencies&lt;br&gt;New routes/schedules to cater for demand</td>
</tr>
</tbody>
</table>

had a considerable impact on all forces in the industry because of the nature of the ‘product’, how it is purchased and the information needed to be exchanged in order to complete a transaction. Other industries, such as financial services and publishing, are even more information intensive in that the product itself is information. Even in other industries, where the bases of competition are not as dependent on information as airlines, travel, financial services and publishing, one or more of the
forces has been significantly impacted by an enterprise using IS/IT quite deliberately to achieve a competitive advantage.

Over the last 20 years, food supermarkets have built barriers to entry through Electronic Point of Sale (EPOS) systems linked to purchasing and logistics—the size of the investment and control of the supply chains reducing the potential for new entrants. More recently, via loyalty cards, Tesco and other retailers have increased consumer switching costs as well as obtained valuable information on buying patterns, enabling both higher leverage over suppliers and the tailoring of store layout and product mix to the local market. In addition, by building basic financial products through the loyalty cards they have become new entrants in the financial service industry. Finally, the same infrastructure has facilitated a move into online e-tailing, extending the range of options to the customer, and limiting the scope for new entrants or substitute services to gain a foothold.

The Internet has changed the competitive landscape in many industries and new business and industry models are beginning to emerge. In general, three effects seem to happen across most industries. Buyer power increases as more choice becomes available online, through portals and search engines; buying groups, normally based on a common interest, have emerged to produce collective rather than individual buying power. Both disintermediation (cutting out existing intermediaries by selling direct via the Net) and reintermediation (new firms providing information-based services connecting buyers and a range of sellers) can occur through the industry supply or value chain. As mentioned earlier, trading hubs, auctions and e-market places are expected to have a major influence over both selling and procurement processes in the next decade and may lead to restructuring in some industries. Combined with the inherent global reach of online trading, actual and potential competitors are no longer restricted by geography; these changes imply a wider view of the competitive issues has to be taken. The response in most cases is to tighten the links, especially information sharing, between the sellers and their customers to increase switching costs and prevent ‘gaps’ appearing that new entrants can exploit.

For any firm in any industry, the questioning process, according to Porter and Millar and others, should proceed in two stages. First, what forces are determining the future of the industry and our potential success? Who dominates the industry and by what strategy? For example:

- Who might enter the industry, why and what would the effect be?
- What substitute products might affect the market for existing products?
• On what basis are we currently competing and how might that change?
• What leverage do suppliers exert and how could the control of key resources affect success?
• How much power and discretion do buyers (customers) have and how will this change market/product possibilities?

As indicated in Figure 2.8, the potential of IS/IT to cause these changes is increasingly important in the analysis. However, these are all business questions, the result of which may be that only one or two of the forces are critical at any particular time. Once that has been established, more specific IS/IT questions should focus on these areas of concern—both opportunities and threats—to identify the available options. A final stage should then be to reverse the thinking process by looking at the other, less critical, forces to identify whether IS/IT could change their importance in the future. Cash takes this view and suggests a general set of actual or potential implications. A modified version of his analysis is presented in Table 2.4. While this analysis dates from the 1980s, the options and issues it suggests have become even more relevant today.

**Generic Business Strategies**

Companies that succeed in an industry in the long term need to outperform the competitors, either by achieving lower costs or by differentiating themselves in the view of the customer, enabling them to obtain a price premium. Some companies, for a period of time at least, can achieve both. For instance, Kodak in the 1960s and early 1970s achieved this in the colour film market and IBM in the 1970s with mainframe computers. Most companies, however, have to strive for one advantage or the other, at least in the short to medium term.

The other critical decision is to define the extent of the market within which the company wishes to gain that advantage. The scope can be defined as 'industry wide', implying that the company must have a range of products to meet the requirements of the majority of potential customers. Ford and General Motors in the car industry are good examples, as are the big four UK banks in the financial services industry. Other companies choose a segment of the marketplace, focus on a particular niche to obtain an advantage by matching their products and services to the needs of a subset of the potential customers. BMW, Volvo, Jaguar and Mercedes are all examples of companies focusing in the motor industry. The UK's Giro Bank, while offering similar services to the major banks, has tended to focus its services on the lower-income end of the consumer market.
<table>
<thead>
<tr>
<th>Key force impacting the industry</th>
<th>Business implications</th>
<th>Potential IS/IT effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threat of new entrants</td>
<td>Additional capacity</td>
<td>Provide entry barriers/</td>
</tr>
<tr>
<td></td>
<td>Reduced prices</td>
<td>reduce access by:</td>
</tr>
<tr>
<td></td>
<td>New basis for competition</td>
<td>- exploiting existing</td>
</tr>
<tr>
<td>Buyer power high</td>
<td>Forces prices down</td>
<td>economies of scale</td>
</tr>
<tr>
<td></td>
<td>Demand higher quality</td>
<td>- differentiate</td>
</tr>
<tr>
<td></td>
<td>Require service flexibility</td>
<td>products/services</td>
</tr>
<tr>
<td></td>
<td>Encourage competition</td>
<td>- control distribution</td>
</tr>
<tr>
<td></td>
<td></td>
<td>channels</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- segment markets</td>
</tr>
<tr>
<td>Supplier power high</td>
<td>Raises prices/costs</td>
<td>Differentiate products/</td>
</tr>
<tr>
<td></td>
<td>Reduced quality of supply</td>
<td>services and improve</td>
</tr>
<tr>
<td></td>
<td>Reduced availability</td>
<td>price/performance</td>
</tr>
<tr>
<td>Substitute products threatened</td>
<td>Limits potential market and profit</td>
<td>Increase switching costs,</td>
</tr>
<tr>
<td>Intense competition from rivals</td>
<td>Price competition</td>
<td>of buyers</td>
</tr>
<tr>
<td></td>
<td>Product development</td>
<td>Facilitate buyer product</td>
</tr>
<tr>
<td></td>
<td>Distribution and service critical</td>
<td>selection</td>
</tr>
<tr>
<td></td>
<td>Customer loyalty required</td>
<td>Supplier sourcing</td>
</tr>
<tr>
<td></td>
<td></td>
<td>systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Extended quality control into suppliers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Forward planning with supplier</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Improve price/performance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Redefine products and services to increase value</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Redefine market segments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Get closer to the end-consumer—understand the requirements</td>
</tr>
</tbody>
</table>
The role of IS/IT in enabling and supporting each of the fundamental generic strategies—low cost and differentiation—will be considered first. The essential business characteristics of these two strategies were described in Table 2.2.

**Low-cost Strategy**

Cost leadership strategies require the organization to identify the lowest-cost approaches to the direct activities of the business, minimize the indirect/overhead expenses and provide management with detailed reporting on all aspects of fixed and variable costs incurred and their recovery. Low cost is achieved through structure and conformity and ‘value engineering’ the processes of the business, plus accuracy in control and measurement of performance, and early identification and action when variances occur from expected results—a ‘systems’ environment. Traditionally, IS/IT has been employed process by process, often causing inefficiency between processes. If that inefficiency is moved into the customer and passed back to the supplier, then the low cost may be offset by other problems. But, again, IS/IT offers potential solutions. Black and Decker, for instance, achieves low costs by moving stock into dealers early in the product season (e.g. lawnmowers) and does not want returns! Dealers, however, may well misjudge demand and either end up with too many or not enough to satisfy their customers. Black and Decker did not want dissatisfied customers and provided a network for dealers to exchange shortage/surplus stock information, which the company would then help in redistributing—anything to avoid returns! Ryanair, the no-frills airline, uses the Internet to support its low-cost strategy. It sells over 90% of seats over the Internet, bypassing more expensive channels such as call centres and travel agents.

In such an environment, systems will be required to deal with basic business information processes efficiently and link them together effectively, not necessarily to produce a highly-integrated information resource. Flexibility in systems increases their cost of development and operation; simple systems, often standard packages implemented without change, are more cost-effective and force user adherence and conformity. Integration can reduce the opportunities to improve the efficiency of any particular process as technology offers further, specific cost savings. Information is not seen as a key resource for exploitation, but as an overhead cost to be processed efficiently with minimum additional IS/IT overhead! Integration produces added-value potential but incurs overheads. Electronic commerce, for example, will probably provide cost advantages if it is used to avoid processing paper—orders, invoices, statements—(i.e. more efficient transaction handling). It also enables
invoices to be rendered unnecessary by triggering funds transfer at a
certain period after goods receipt (to be reconciled later). The relative
costs to both customer and supplier of paperwork processing and debtor
funding can be optimized. This is linking two systems together to produce
greater efficiency in both. Similar relationships can also be continually
improved by better systems within the organization.

Differentiation Strategy

The majority of organizations have to follow a differentiation strategy,
since, theoretically at least, only one company can have cost leadership of
a product or service at any one time. The essential emphases are innovation
and creativity, market orientation and people-driven rather than systems-driven management controls. For instance, incentive schemes
will be market or sales based, not production based. Often, key com-
ponents of differentiation will be the creation of strong brand and cor-
porate images and close, mutually beneficial links with distribution
channel firms. The strategic use of IS/IT will focus on enabling new
things to be achieved or existing things to be done better. That is not
to say that opportunities to use IS/IT to reduce cost will be ignored.

In the 1980s, pharmaceutical distributor McKesson differentiated itself
in serving drugstores by taking over many of the systems aspects of
running a small business—stock control, ordering, sales analysis, pre-
scription insurance processing, etc. These systems became most effective
when the drugstore dealt with only one supplier! Other distributors took
the matter to court, crying foul over 'one supplier agreement'. The drug-
stores supported McKesson, denying that they were under any obligation
to buy only from McKesson—they just preferred to!

While basic business process systems will need to operate efficiently in
dealing with the bulk of transactions and basic calculation and reporting
requirements, the value of having flexibility to extract information from
an integrated database or comprehensive data warehouse will drive the
systems toward sophistication and user tailoring rather than standard
solutions. Even where major packages such as ERP or CRM software
are implemented for core processes, it is likely that additional function-
ality will be needed to address the organizational subtleties that lead to
differentiation. If mismanaged this can, of course, lead to unnecessary
spending on IS/IT.

The opportunities for strategic advantages will derive from asking such
questions as how can IS/IT help:

- find out more about customer requirements?
- monitor customer perceptions of service?
Business Strategy Concepts and the IS/IT Strategy Implications

- enable rapid and accurate response to customer queries?
- provide a range of delivery options to meet customer needs?
- reduce new product introduction lead times?
- enable knowledge sharing across the organization to facilitate innovation?

Companies that achieve greatest success realize that costs must be controlled and value must be added. For IS/IT this means that, in any organization, cost-reduction and value-adding opportunities will exist—but the driving forces will be different depending on the prevailing generic strategy.

Niche/Focus Strategy

Within a market niche, an organization will need to adopt a differentiation or low-cost strategy to achieve long-term success in that niche. All that has been said in the previous two sections will then apply. However, in addition, IS/IT may be a competitive weapon in identifying and then establishing a strong hold on a particular niche.

An example quoted by Meyer and Boone is of a relocation service firm that developed systems to enable them to provide comprehensive services to people who were moving house due to company relocation in New England (i.e. a market sector of ‘enforced moves’). The service not only located suitable housing but could satisfy other specific requirements such as schooling, leisure facilities and mortgage arrangements. Not only was it a service to buyers, but also to sellers where houses on offer could be channelled towards ‘enforced movers’, who would be likely to be more reliable purchasers. The total service advantage to an individual both buying and selling was significant. Companies were keen that employees used such a service to minimize the delays and stress involved in moving employees around locations. The service would not have been possible, at an economic service cost, but for a comprehensive system linked throughout the office network. On the Internet, many estate agents now provide similar services.

In general terms, the uses of IS/IT to achieve success in a limited subset of a general market will be in:

- identifying the target market, and developing a unique base of information about the selected market and its needs; and/or
- establishing a specialist process via systems to produce a clear cost advantage or distinctive customer value proposition vis-à-vis general market servers; and/or
linking the organization via systems into the business processes of customers to increase switching costs and establish potential barriers to re-entry from general market servers.

A RESOURCE-BASED VIEW OF STRATEGY

It was stated earlier in the chapter that these planning tools have evolved since the 1950s and are continuing to evolve. Until the 1990s, the approach to defining strategies was based on establishing objectives and then denning how to achieve them—the traditional 'ends-ways-means' approach. In the 1990s, many strategic thinkers, building on the work of Wernerfelt,29 Barney30 and others, started to develop new ways of considering strategies. Is there value in the concept of looking at means, then ways, then ends; that is, denning what resources are available to the enterprise as a basis for denning what can be achieved by the enterprise? Or, equally, consideration of the ways the organization does things uniquely or exceptionally well—its abilities or competencies—may lead to denning more appropriate ends or the procurement and development of improved, more valuable resources.

Over the past few years, the approach to strategic management has evolved toward a balance or reconciliation between competitive positioning and resource or competence-based strategic development. While many of the tools and models described earlier in this chapter enable organizations to understand their competitive environment and strategic options, the resulting strategy is essentially reactive. As 'strategic thinking', as opposed to strategic analysis or planning, began to emerge, the suggestion was that longer-term success would result from a realignment of the organization's resources and capabilities to match the demands of the environment. This implies a closer examination of an organization's assets, skills, knowledge processes, culture, etc. and how each of those attributes needs to be realigned. In some cases, the mismatch was considerable and radical realignment was necessary and, in the early 1990s, 're-engineering the business' became a hot topic. Business re-engineering is not a strategy, it is the means of changing strategies in response to a changing environment, where continuous or incremental change is insufficient. Unfortunately, many organizations only require changing radically because they have not been adjusting continuously over time. It is clearly difficult to achieve radical change successfully in an enterprise that has not changed for a considerable time. Either by incremental, continuous realignment or radical change, organizations are essentially trying to establish a set of competencies that will deliver future success. To be successful in Stage 4 of the maturity model by sustaining advantages,
can create (see Figure 2.1) an organizational need to develop a unique set of resources or competencies that others cannot easily acquire or replicate. Inherent in this argument is that the knowledge an organization possesses is both a resource and a source of competence. The term 'knowledge management' emerged in the last decade and, while it is not a 'technical' issue, it implies an extended role for IS/IT in creating organization capabilities.

Creating a sustainable advantage in that environment, through some unique business capability, requires a further form of assessment. Porter's generic strategies are a starting point, since he argues that 'low cost' or 'differentiation' provide that sustainable advantage. However, these concepts do not seem to address all the options available and also leave many questions about how lowest cost or differentiation can be achieved.

**Competencies and Competitive Advantage**

Based on the concept of resource-based strategies, Treacy and Wiersma\(^1\) suggest that there are 'three paths to market leadership', each of which require different sets of competencies and in each of which IS/IT has a critical role to play. That is not to say that there are only three routes, although the three—'Operational (or Process) Excellence', 'Customer Intimacy' and 'Product Leadership'—probably cover a significant range of the possibilities. They are simple yet useful concepts in enabling business managers to define medium-term business strategy and establish an appropriate IS/IT strategy. They are a way of expressing quite succinctly a necessary alignment between internal capabilities and ambitions and the requisites for success in a particular environment, at a certain time (see Figure 2.9):

1. **Operational Excellence**—enabling products and services to be obtained reliably, easily and cost-effectively by customers. This implies a focus on business processes to outperform others and can deliver both low costs and consistent quality of customer satisfaction. Treacy and Wiersma quote examples such as Dell Computers, Wal-Mart and Federal Express as leaders in operational excellence in their industries. In all cases, the companies' information systems investments are a critical component enabling business simplification and efficient processes that are highly integrated throughout the core activities of the business. An example of such a strategy is General Electric (GE), which effectively reinvented the supply chain for white goods with new information systems. Instead of encouraging dealers to hold stock of GE's products by offering discounts for bulk
purchase, GE refuses dealers purchases for stock, but provides demonstration models, against which customers can order for next day direct delivery through GE’s ‘Direct Connect’ system. GE holds all the stock and dealers can order any model online, on behalf of the customer. Dealers are now effectively paid commission on sales made rather than items purchased. This enables GE to encourage customers to buy the latest models rather than the often older models stocked in large quantities by dealers. The system has helped smaller dealers to compete more effectively with large discount warehouses, enabling them to meet more of the customers’ needs, and has reduced stock holdings in the supply chain by about 12%. Also, since GE has to arrange delivery, it gathers useful consumer data. The direct insurers, led by Direct Line, have had a dramatic impact on the general insurance industry by simplifying the processes for selling policies and handling claims. By carrying out most transactions by telephone (and now online) and having integrated systems, it has both reduced costs and hence premiums and improved customer satisfaction with the responsiveness and efficiency of the service.

2. Customer Intimacy—targeting markets very precisely and tailoring products and services to the needs of particular customer groups. The purpose here is not just to ‘satisfy’ but to ‘please’ customers by understanding their needs and meeting them on every occasion. This can obviously be expensive but it can build long-term customer loyalty. Examples quoted include Home Depot, a DIY retailer whose purpose is to ‘solve the consumer’s home-repair problems’ rather than merely sell products, and Kraft and Frito Lay in consumer
packaged goods, who both offer an extensive range of products to match the preferences of many different types of consumer. Their information systems enable a retail outlet to tailor the 'product offer' to the locality through 'micro-merchandising' programs affecting product range, promotion, pricing and store layout. Within such a strategy, information systems will focus on collecting and analysing customer information, covering not merely purchases but also other relevant attributes and feedback on products and services. This enables careful segmentation of the marketplace and targeting of the desired segments. In almost all the examples quoted, deciding who not to sell to, especially those who buy merely on price, is as important as targeting desired customers. In the UK, an example of customer intimacy is RS Components, who sell by mail order electrical and other components to engineers. The 'customers' are the engineers, not the organizations they work for, and RS effectively provide a problem-solving and rapid delivery service, for which the engineer, and consequently his organization, is happy to pay a premium. The extra cost is easily offset by the time the engineer saves in determining what he or she needs to buy and where to get it.

3. **Product Leadership**—continuing product innovation meeting customers' needs. This implies not only creativity in developing new products and enhancing existing ones, but also astute market knowledge to ensure that they sell. The strategy involves delivering a continuous stream of new products and/or services, where what is new is valued by the customers. Johnson & Johnson are quoted as a good example of a 'product leader', and a particular instance quoted is its contact lens business, where it pioneered the introduction of disposable lenses. The rapid gain of market acceptance and market share were due not only to the innovative product itself but to new systems to control the manufacturing and distribution of the product, which is more akin to fast-moving consumables than traditional eye-care products. 3M has traditionally followed a product leadership strategy in the adhesives and coating market, and the story of Post-it notepads is now legendary—how a 'failed' new adhesive became the basis for a best-selling product—what would we do without it?

Although these three competence-based strategies are not the only routes to success, they can be used to:

- Understand and agree the main direction, rationale and focus of the business's strategy. Although Treacy and Wiersma quote examples of
companies succeeding in more than one dimension, most organizations can be successful by excelling in one of them. Most strategies imply ‘majoring’ on one of these areas for the next stage of development—probably one to two years ahead. At the same time, the business must not become uncompetitive in the other two. Action may well be needed to (say) ensure that its processes do not become markedly less effective than those of its competitors while it develops its new products, or costs will increase too quickly. Alternatively, it must not dissatisfy its customers while making major improvements in operational effectiveness. Figure 2.10 attempts to show this in terms of the relative degree of competence required to achieve advantage (prosper), sustain its position (succeed) or avoid merely fighting for survival.

- Gain consensus and agreement among the business management about what has to improve and why, which can be critical in establishing the ‘themes’ behind both the business and IS strategy, as described in Chapter 3. The set of planned investments on IS/IT should relate to overcoming deficiencies in existing capabilities and to developing the organization’s future competencies. Otherwise, the organization will be unable to link the priorities for IS/IT investment to other business-development initiatives and change programs that are essential to achieving the strategy.

These aspects of strategic management have significant implications for the overall role of IS/IT, which can be a differentiating competency or may be an essential ingredient to support, enable or enhance other
competencies. As mentioned in Chapter 1, the development of an 'IS capability'—a combination of competencies and resources—that can be instrumental in creating, delivering and sustaining advantage is discussed in later chapters.

SUMMARY

It is vital that the IS/IT strategies and plans be linked directly to the objectives and strategies of the business unit and of the corporation as a whole. There are now a number of examples where IS/IT strategy formulation and planning takes place within the same process as corporate strategy formulation and planning, and, indeed, the entire strategy process is now fully integrated. However, the evidence, as quoted in Chapter 1, is that this applies to a minority of organizations, as yet.

Each of the tools and techniques described above has been shown to have value in the various strategy development and planning processes. If there are going to be close links between IS/IT and business strategies, then these same tools and techniques should have direct relevance in IS/IT strategy formulation and planning, if only because they enable business managers to become positively and actively involved.

Traditionally, IS/IT was seen as an instrument of implementation of strategy. In many of its uses, it is still exactly that; however, as described in Chapter 1 and shown in Figure 1.5, IS/IT now has to be considered as an input to business strategy, in terms of its potential to change this strategy or create new strategies. It must be remembered that the same IS/IT-based opportunities may also exist for competitors and, therefore, IS/IT can constitute a threat, just like a new competitive product.

The next task is to establish that context for IS/IT strategy more coherently. Chapter 3 will develop models and approaches to IS/IT strategy development—but all those models and approaches recognize the need to link effectively to the business strategy, its determination and management, both to achieve alignment of the strategies and to take advantage of the strategic opportunities IS/IT can create.

ENDNOTES