Strategic approach to operations management

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Strategic Approach to Operations Management
Senevi Kiridena and Prakash J. Singh

Learning objectives

After reading this chapter you should be able to:
- understand and interpret the concept of operations as part of organisational strategy and related analytical perspectives
- understand and interpret the notion of competitive advantage and the nature of generic competitive strategies pursued by organisations
- understand and appreciate the strategic role of the operations function and its contribution to the sustainable competitive advantage of the organisation
- understand and describe the role of competitive priorities in operationalising strategy
- discuss the concept of trade-offs as applied to key decisions and actions regarding the operations structure and infrastructure of an organisation
- demonstrate your ability to apply the conceptual understanding developed as above to support managerial decisions and actions.

Box 5.1: Management challenge: strategic operations options for Delta-tech
Delta-tech, a small privately owned company based in New South Wales (NSW), Australia, was founded in 1947 to supply speciality consumables to the local heavy
function contribute to the long-term well-being of an organisation? As discussed in Chapters 3 and 4, operations managers are constantly engaged in making decisions and initiating actions. These could be about locating new facilities, adding new capacity, introducing new technology, upgrading existing plant and equipment, running a second shift, scheduling staff and jobs, improving skill levels of people, resolving workforce issues or looking after the welfare and safety of staff. Some of these undertakings could be tactical in nature and of a more routine type (for example, some of the activities discussed in Chapter 4). Others are substantial, with profound long-term impacts on the whole business—those of strategic significance (such as the topics covered in Chapter 3). These decisions and actions often revolve around identifying trade-offs, prioritising issues, and making informed judgements and choices.

Consider, as examples, the cases of a hospital looking to buy new diagnostic equipment, a retail chain introducing a new technology-based stock replenishment system, or a manufacturing organisation looking to acquire a new enterprise resource planning system. These initiatives seem all too familiar, but they are significant decisions that affect an organisation’s capacity to serve its purpose, and if not made with due diligence, could have major consequences. Furthermore, the decisions and actions of operations managers are guided, influenced and constrained by a multitude of factors that are internal and external to the organisation. These include the annual budget of the business unit, marketing’s goals, top management’s expectations, the skill levels of staff and the organisational culture, to name a few internal factors, and then such external factors as changing customer needs, technological advancements, competitors’ actions and regulatory requirements. These decisions and actions, collectively and cumulatively, shape the structure and character of the operations system as well as its capacity to respond to market needs which, in turn, determine the competitive success of the organisation. Therefore, it is imperative that current or aspiring managers develop a sound understanding of the dynamics of these managerial endeavours along with their outcomes and the organisational settings in which they take place.

The strategic approach to operations management takes on this challenge. It examines the role and contribution of operations in ensuring the long-term competitive success of the organisation. It also deals with the issues that affect and approaches that enhance its competitiveness. In summarising these ideas, consider the operations function as the ‘heart of the organisation’. This is where most of the organisation’s people work, where most of its financial assets are deployed, and where the outcomes of cost, quality, delivery performance, flexibility and other key outcomes are decided.

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Introduction

In the first two chapters of this book, we emphasised the importance of operations in successfully running a business. Now, we turn to further exploring the strategic role and significance of operations. How does the operations...
The connection between operations and business strategy can be summarised into two ideas. First is the idea that operations is the part of the organisation that primarily delivers the business strategy. This implies that operations outcomes are not an end in themselves, but are indeed nothing more nor less than a means towards an end: the end being organisational success in achieving its goals. Second, outstanding outcomes from operations, meaning 'being really good at operations management' can allow for new business strategies. Businesses that achieve ‘operations excellence’ can use this capability as a competitive weapon in the marketplace. For these reasons, it is clear that in order to be an effective operations manager, one must be able as part of that role to orient the operations decisions and priorities to both serve and drive the business strategy.

The notion of ‘strategic approach’ stems from the central concept of strategy, which will be briefly explored first in this chapter, along with other general perspectives of strategy. This is followed by a brief discussion of the notion of competitive advantage and associated concepts that form the foundation of contemporary strategy studies. The strategic approach to operations management is explored in the next section with some detailed discussions of the core concepts such as competitive priorities, strategic operations decision areas and trade-offs. The chapter then presents some significant findings of recent research into the practice of operations strategy highlighting the challenges faced by practising managers in operationalising the above concepts. It concludes with a summary accompanied by a brief response to the management challenge presented at the beginning of the chapter.

**Box 5.2: Toll Holdings**

Toll Holdings was founded in 1888 by one Albert E. Toll who used horse-drawn carts to transport coal in Newcastle, Australia. It languished as a trucking company until 1986 when a group of managers led by Paul Little bought it for $1.5 million. In the space of twenty years, Toll Holdings has become by far Australia’s leading transport and logistics service providing company. It was listed on the Australian stock market in 1993. Today, it is worth about $9.5 billion, generating revenues of $7.6 billion, and healthy net profits.¹

In terms of its operations, Toll Holdings employs more than 27,000 people, and operates a network of over 670 sites in over 17 countries across the Asia-Pacific region. Toll provides a range of services such as: transport via road, rail, sea and air; warehousing and distribution (it has a capacity of three million square metres of warehouse space); port management, port services, container and general stevedoring; and passenger and freight airline services. With its business heavily involved in the automotive, beverage, food and retail, ports, relocation and resources sectors, it has strategically put in place a logistics model to provide an integrated service. The model, aimed to achieve supply chain excellence for customers, involves ownership and management of transport and logistics assets such as ports, railways, warehousing, road fleets and air capacity; use of smart technology and operational expertise. As such, Toll has become a highly vertically integrated organisation that is able to provide complete transport and logistics service solutions to its customers.

So, how has Toll managed to grow so fast? An important element of Toll’s growth has been through astute acquisitions. Since 1986, Toll has made 52 strategic acquisitions of transport and logistics businesses including TNT, BHP Stevedoring, BHP Transport and Logistics (NZ), Freight Australia, Patrick Corporation and Virginblue Airline. These acquisitions have mostly been in Australia, and some in New Zealand. In 2006, it acquired Singapore-based SembCorp Logistics, since rebranded as Toll Asia, in a concerted effort to expand its operations in the greater Asian region.

While a large proportion of the growth is due to acquisitions, the company has focused on organic growth as well. For example, for financial year 2006, organic growth contributed $382 million to revenue, while acquisitions accounted for $765 million.² Organic growth in Toll’s case has been through providing additional value-added services to its existing customers, as well as vigorously pursuing new customers in the various industry sectors that it serves in.

Going forward, Toll faces many significant challenges. Some of these are:

- Consolidating its operations. As a result of the large number of acquisitions, up to 30 different business units form the structural basis of the company. It is in Toll’s interest to ensure that all these business units benefit from centralised corporate resources and minimise unnecessary duplications. Given that the transport and logistics industry is capital intensive and technology driven, integrating these disparate systems from all the acquired entities has been a challenge. Given that some of Toll’s recent acquisitions are very large, simply replacing Toll’s systems in place of the acquired entities systems may not be as simple and straightforward as it has been when smaller entities were acquired.

- Concerns about market concentration and reduction in competition. The transport and logistics sector has gone through radical rationalisation in the past 20 years or so. Indeed, Toll has been a major protagonist in this. As a result, competition has lessened and market share has become concentrated in the hands of a few powerful players. As a consequence, regulators, in this case the Australian Competition and Consumer Commission (ACCC), took a dim view of further rationalisation. This means that opportunities for Toll to continue to grow through aggressive acquisitions are likely to become limited. Indeed, Toll has had to restructure itself to meet some of the regulators’ concerns that it was becoming too powerful a player in the industry. Toll will need to be able to deal with concerns of regulators as it becomes a ‘big’ player in the industry.

- Challenges of pursuing organic growth. Given that growth through acquisitions may be limited, Toll will need to carefully think about other opportunities. Organic growth within the local market may be one solution to this problem. The Australian and New Zealand freight and logistics market is estimated at over $66 billion per annum, of which $33 billion currently remains in-house,
providing opportunities for Toll. Further, in Australia, it is anticipated that the size of the freight business will double in size over the next 15 years, creating opportunities for companies like Toll to be able to offer transport and logistics solutions. But, as is well known, organic growth can be a long, arduous and slow process. Toll would need to develop new skill and mind sets for this form of growth.

- Potential pitfalls in pursuing international expansion. Another obvious source for growth is to expand internationally. Many of Toll’s existing customers import and export products. So far, Toll has used collaborative relationships with other transport and logistics providers that assist Toll in providing some of these functions. However, Toll is now expanding its operations to areas in this region. Its purchase of a Singaporean operator will give Toll market entry into Singapore, Thailand, Malaysia other several other countries in the region. Further, its network of 32 distribution centres in China will assist them to provide logistical support to Australian importers. But, the social, cultural, economic and political circumstances in these countries are unique and quite different to Australia. Many other firms have not been able to successful cope with these challenges. Toll will need to develop capacity in these aspects if it is to successfully expand internationally.

- Operational challenges. As with any corporation, Toll needs to ensure that its operations are as efficient as possible. So far, it appears to have successfully managed to do this. However, there are issues, especially macro-environmental ones, that could be significant challenges. First, the high fuel prices have emerged as a significant cost impost and risk factor. For the first time ever, fuel costs have exceeded labour costs in relation to long-haul road freight business. Second, Australian industries are having to endure infrastructure-related capacity constraints. Also, there are skills shortages in many of the professional and trade skills areas. Finally, productivity improvements in many areas relevant to Toll have plateaued (e.g., container movement rates at major ports increased from about 26 containers per hour per ship in the late 1990s to about 45 in the early 2000s – this has not changed recently). Toll will need to develop innovative ways of dealing with these issues, many of which are not under its direct control.

Paul Little (estimated personal worth close to one billion dollars) and his colleagues have developed a fantastic business based mainly on a strategic model of rapid expansion through aggressive acquisitions, supported by organic growth. Now that Toll Holdings has become a ‘big’ business and market leader in its industry, it will be interesting to see how they go about dealing with the set of relatively new challenges that it faces.

Notes

Strategic Approach to Operations Management

Strategy: general organisational perspectives

Strategy underpins virtually all managerial undertakings. Whether you are performing the role of a front-desk customer service supervisor, back-office accounts administrator, team leader on the production floor, departmental manager or a general manager, your decisions and actions are conditioned by and/or contributing to the strategic behaviour of the organisation in some way. When you join the workforce, you carry with you a certain set of skills, knowledge and experience, as well as some predispositions as to what the world around you is about. When you discharge your duties or engage in your day-to-day work, you make decisions, take actions, relate to your colleagues and perhaps interact with customers in a certain manner. Those engagements are guided by the expectations of your role (as a team leader, department manager or the chief executive officer) as well as your own understanding and interpretation of information and events. These undertakings, especially those of senior executives and those that affect what organisations do in terms of which markets they serve, how they compete in each market and the way they create or deliver products and services, will eventually determine the overall well-being (the survival, growth and returns) of an organisation. So, what is this concept of strategy all about?

The roots of ‘strategic thought’ can be traced far back into history to when people used a variety of approaches to succeed on military fronts, in politics and lately in sports. Over the years, the idea of and the perceptions about strategy have continued to evolve. The migration of the strategy concept into the business domain could be seen as a significant milestone in this progressive journey. The concept, as applied to organisations, has been greatly influenced and shaped by the ideas of the early management scholars and industrialists of the 20th century: Igor Ansoff (1965), Alfred Chandler (1962), Peter Drucker (1954), Edith Penrose (1959), Phillip Selznick (1957) and Alfred Sloan (1963).

Defining strategy: reconciling multiple view points

There have been numerous attempts to develop a widely acceptable definition of strategy. But some authors see those as futile efforts because of the sophisticated nature of the concept and the dynamic organisational settings in which it is applied. It is virtually impossible to arrive at a single universal definition of strategy that captures all viewpoints and fits all situations. Nonetheless, we witness a core set of characteristics resonating whenever the term is used and interpreted by scholars and practitioners alike. For example, aspects like long-term goals or purpose, pervasiveness, direction and guidance, resource
allocation, coordination and control have been portrayed as the key elements that characterise the concept from its very inception. Therefore, we aim at a working definition that will serve the purpose of this chapter. Let us begin with a brief historical overview that captures the following three complementary, overlapping and, in some ways, competing schools of thought.

The early conceptualisations of business strategy and policy, which had their roots in the military practice and economic rationalism, emerged as a formal school of thought with the contributions of a number of writers, as acknowledged earlier. For the convenience of comparison, we call this the classical school of thought. The predominant long-standing consensus within this school is that strategy is a set of important decisions derived from a systematic decision-making process conducted at the highest level of an organisation. Accordingly, strategy fell within the responsibility of senior managers and the staff planners who provided analytical support to them. Within the classical school, profit maximising was the key objective of the organisation and it relied on long-term rational planning for achieving that objective through such means as the efficient allocation of resources and controlling through the structure of the organisation. As implied in these interpretations, the strategy process was also conceived as a top-down, controlled, and concerted exercise that resulted in executable strategies.

However, since the inception of a strategy concept within the business domain, numerous other propositions have appeared, both supplementing and challenging the doctrines of the classical school. These contributions emerged as alternative approaches to formal planning, and we shall call this the traditional school of thought. Notable aspects associated with this school of thought are a shift in emphasis from prescriptions towards descriptions of strategy (Mintzberg, 1978; Mintzberg and Waters, 1985) and viewing strategy as positioning of the organisation in a target market so as to avert or negate the threat of competitive forces (Porter, 1980). For example, Mintzberg (1978) suggested a definition of strategy emphasising the patterns in a stream of decisions: ‘when a sequence of decisions in some area exhibits a consistency over time, a strategy will be considered to have formed’ (p. 935).

The third, which we call the contemporary school of thought, consists of processual and evolutionary models of strategy as well as integrational frameworks. For instance, Farjoun (2002), by synthesising and extending the ideas of the previous schools of thought, defined strategy as the ‘planned or actual coordination of the firm’s major goals and actions, in time and space, that continuously co-align the firm with its environment’ (p. 570). The central theme in scholarly discussions within this school appears to be the implicit or explicit integration of multiple perspectives, a notable movement away from the previously held fragmented (reductionist) views, towards more holistic frameworks. It also reflects a shift in thinking about the strategy process towards synthesising the prescriptive and descriptive approaches into organic forms that emphasise organisational culture and learning. Proponents of integrative and organic models point out the deficits of fragmented and mechanistic approaches to conceptualising strategy. These models, they argue, are not robust enough to reflect the highly complex and increasingly dynamic attributes and behaviour of the individuals, markets and organisations that form the basis of strategy.

All in all, the above developments represent a shifting identity, perception and treatment of the strategy concept from a science-like (mechanistic-prescriptive) through an art-like (emergent-descriptive) to a craft-like (integrative-organic) perspective.

As previously stated, we settle for a succinct working definition of strategy. Based on the works of Frey (2006), Hax (1990) and Hambrick (1980), we assert that:

Strategy is the coherent, unifying and integrative patterns of decisions and actions that determine and/or shape the course of an organisation in its pursuit of sustainable competitive advantage - particularly in terms of identifying and exploiting opportunities, anticipating and dealing with competitive forces and other relevant changes in the business environment, avoiding or minimising unnecessary risks as well as allocating resources and developing organisational competencies.

Thus, strategies could be proactive as well as reactive. They deal with the positioning of an organisation within a particular market and may reveal the desired future status of an organisation. They could exist in the more explicit forms of documented statements, plans, policies, procedures and so on, or implicitly reside in the heads (mental models) of those who make key decisions for the organisation. Similarly, the organisational processes through which strategies develop could also vary, depending on the type of business, the size of the organisation and a number of other factors that will be introduced later.

**Strategy and the organisational hierarchy**

Organisations evolve over time, for instance, from small, owner-operated start-up businesses to large global corporations. One way of dealing with the increasing level of sophistication that accompanies growth of an organisation is organising it based on formal structures that are usually built around the systems logic. Along a similar line of thought, strategies are also conceptualised in a hierarchical order. As such, strategies may exist at corporate, business unit and business function levels, depending on the size and type of an organisation. For example, for a large multinational corporation, strategies at corporate, strategic business unit and functional levels that deal with the key issues of varying scope can be conceptually organised as shown in Table 5.1.
Table 5.1 Strategy hierarchy based on organisational structure

<table>
<thead>
<tr>
<th>Hierarchical level</th>
<th>Key questions</th>
<th>Key issues [examples]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>What business should we be in?</td>
<td>Investment/divestment (portfolio of businesses/investments). Resources acquisition/allocation.</td>
</tr>
<tr>
<td>Business unit</td>
<td>How should we compete in each business?</td>
<td>Scope of business activities. Positioning (product-market postures).</td>
</tr>
<tr>
<td>Business function</td>
<td>How can we contribute to competitive advantage?</td>
<td>Market intelligence/segmentation. System design/technology choice. Investment evaluation/budgeting.</td>
</tr>
<tr>
<td>(marketing, operations, finance etc.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Those organisations that exist as a single business unit may only depict business unit and business function level strategies. Even smaller enterprises that are usually not organised along strict functional specialisations would simply have strategies in the emergent form meaning that most of the time, they reside within the heads of the key decision-makers (for example, entrepreneurial owner-managers). Furthermore, strategies at upper echelons of the hierarchy are intended to serve as an umbrella that guides strategies at the lower echelons, in a cascading style.

**Strategy: content, process and context**

Strategy has traditionally been studied in terms of process, content and context (though, in reality, they are all intertwined). This means examining the ways in which strategies are formed, their outcomes in various forms and the organisational settings in which they form, along with the interactions among those elements.

In specific terms, the content of strategy covers three aspects: the overall goals of the organisation, the scope of strategy and the nature of specific strategies. The goals of the organisation, which can be formally expressed in the form of objective statements or revealed as part of unfolding strategic intent, may also imply desired performance levels. The scope of strategy indicates the span of control and the degree of pervasiveness of strategies pursued at each level. For example, studies of corporate level strategy have typically focused on such issues as diversification, strategic alliances and geographical expansion. The actual strategies formally agreed upon or emerged as patterns in decisions and actions may be studied in numerous forms, such as programs, action plans, strategic archetypes or stages of growth and evolution.

The *process* refers to the mechanisms through which strategies are formed, be they deliberate or emergent, and the way they are realised through implementation via structure, control and change or performance management etc., or as witnessed in the form of a more subtle and evolutionary progression of events.

The *context* of strategy or the organisational setting in which strategies are formed relates to the internal and external organisational contextual factors that shape the content and process of strategy. Anecdotal as well as empirical evidence suggest that strategy process is contingent upon such diverse contextual factors as the nature of the business (product-market aspects), level of competition, organisation size, stage of organisation development or maturity, organisational culture, as well as the personal profile or attributes and the leadership styles of the key decision-makers involved.

Finally, another important aspect that some authors consider the 'linchpin' of strategic management is *organisational performance*. The link between strategy and performance has been the subject of research over a long period of time, and the majority of findings support a strongly positive relationship between the two. It has also been found that the way strategies are formed under the influence of a multitude of internal and external contextual factors does affect the effectiveness of strategies in achieving superior organisation performance.

**Box 5.3: Flight Centre Limited**

Flight Centre Limited is Australia’s largest travel agency business. It has over 1500 stores in nine different countries with about 8000 consultants and support staff. Its sales revenue was about one billion dollars, and total transactions were close to eight billion dollars in 2006. It is currently listed on the Australian Stock Exchange with a market capitalisation of about $1.8 billion.

The company was founded in 1981 by Graham Turner. Prior to this, he ran a successful budget bus travel company in Europe called ‘Top Deck’. By 1990, Flight Centre had opened stores in New Zealand, the UK and the US. Operations in the latter two countries were closed in 1991 as a result of travel downturns associated with the first Gulf War. The company expanded to South Africa in 1994 and Canada in 1995. The UK and US operations recommenced in 1995 and 1999 respectively. Further international opportunities in Hong Kong, India and China have been pursued in the last few years.

Flight Centre’s business model has been described as follows:

‘Flight Centre revolutionised the retailing of international air-travel in Australia by shifting to a model where profitability was driven by volume rather than margins. Initially they built a price advantage by bypassing ticketing wholesalers, seeking out less well-known airlines, and also by arbitraging price differentials across markets.”
As the company grew rapidly, it established different brands to cater to different parts of the travel market. For example, FCm Travel Solutions caters to the corporate market. Similarly, Student Flights and Overseas Working Holidays target the student market. Campus Travel is aimed at the academic and university markets. Flight Centre also runs businesses in the discount holiday organiser segment with brands such as Escape Travel, travelhere.com and quickbeds.com. Other subsidiaries that make up the group include the luxury holiday company Travel Associates and retail cruise specialists Cruiseabout.

For each of these market segments, the subsidiaries provide highly customised services. For example, FCm Travel, which caters to the corporate travel market segment, claims to work closely with clients to manage all aspects of their travel needs, including account management, software configuration and pricing options. FCm works in partnership with travel-related service providers such as airlines, hotel chains and car hire companies nationally, regionally, and internationally so that every aspect of travel is covered fully.

After many successive years of strong growth in revenues and profits, Flight Centre suffered its first ever decline in annual profit in 2005. The stock market punished the company severely with the share price decreasing by 57 per cent from its peak in 2002. Flight Centre was the second worst performing stock in the Australian Stock Exchange's list of top 200 companies. The stock market was reflecting not only concerns about the company's management but also its long-term prospects.

The concern about management related to the confusing leadership of the company. Graham Turner, the founder and long-term CEO, stood down from his position in 2002 to take the position of Executive Chairman. He hoped to focus on long-term strategies. A senior manager from the group was appointed as CEO, with his main job being to take care of day-to-day operations. However, this did not pan out as planned. In 2005, Turner eventually resumed his previous role as the CEO.

From a strategic sense, the company faces some major challenges. Most of these challenges are a consequence of the disintermediation (i.e., the removal of intermediaries in a supply chain) occurring in the travel industry as a result of the Internet. Many travellers are organising their travel by dealing directly with suppliers by going through their websites instead of going through travel agents. In order to deal with this, Flight Centre has created several portals, including quickbeds.com, escapetravel.com.au, flightcentrehotels.com.au and studentflights.com.au. Its flagship website flightcentre.com has been one of the most popular Australian travel agency websites for several years. However, the Internet-based travel industry business is highly fragmented and Flight Centre has had difficulty gaining visibility and traction for its brands in this medium. Reflecting this trend, several airlines including Qantas have announced that they will drastically cut, and in some cases, pay no commissions to travel agents for sales of tickets. To make matters worse, the company has recently been preoccupied with attempts to take it out of the stock market and into private ownership. This attempt involves Turner, who retains 18 per cent of ownership and a private equity firm. So far, the attempt has been unsuccessful, leading to further decline in its stock price. At a time when the industry is undergoing considerable change, there is little doubt that these ownership-related issues are disruptive to the running of the company. All these 'troubles' that the company is facing have caused considerable angst amongst shareholders of the firm, leading one financial analyst to put a sell recommendation on the stock in a report titled 'Flightless Centre'.

Competitive advantage and generic strategies

Competitive advantage rests on an organisation's ability to outperform other similar product and/or service providers in a particular market through consistently offering better products and services in better ways than its competitors do. As the statement suggests, there are three major parties involved in this field of competition:

1. the organisation – its resources, capabilities and value systems, etc.
2. the market (customers) – its structure and needs
3. the competition – its make-up and intensity.

Manoeuvring the forces generated by the interests of these parties for the advantage of the organisation is a huge challenge and there is no one best way of dealing with it. The current practice suggests that different organisations with varying resource bases, capabilities and value systems may pursue different strategies to serve different markets and still be successful and remain competitive.

However, during the formative stages of strategic management as a field of study, it was believed that an organisation could enhance and sustain its competitiveness through the efficient deployment of resources alone. This view would have certainly been influenced by the mass production mentality prevailing at the time. The idea was that high volume or large batch production of standard goods resulted in lower costs or prices. Dramatic
shifts later witnessed in the business environment showed that the challenge was much bigger than that. Organisations were now facing deregulated markets, changed customer preferences and increased competition (particularly against the backdrop of the post-World War II success of Japanese organisations).

Today, it is widely agreed that the competition is also about choosing the right markets and business activities, wisely exploiting new market opportunities, matching organisation capabilities with market needs as well as configuring business processes and mobilising resources in a way that averts or negates competitive threats. This contemporary view is informed by what were originally proposed as two quite contrasting perspectives on the sources of competitive advantage: market-based and resource-based views.

**Market-based view of competition**

The market-based view has its primary focus on the external environment (market/industry dynamics) and attempts to position the organisation so as to gain full advantage from market imperfections or heterogeneity. The essence of this approach is carefully choosing what to do and what not to do, and then supporting the chosen activities through appropriate investments and allocation of resources, etc. According to Michael Porter (1996), strategic positioning is ‘performing different activities from rivals’ or performing similar activities in different ways’ (p. 62).

Porter (1980) identified five basic competitive forces that determine the attractiveness of an industry with respect to the profit-earning potential of an organisation located within that industry. He advocated that organisations should learn how to cope with and influence these forces in order to remain competitive. Despite other more recent advancements in the field of strategic management, Porter’s five forces model (as depicted in Figure 5.1) is still considered to be a useful analytical tool for understanding positioning advantage and industry dynamics.

**Resource-based view of competition**

The resource-based view of competitive advantage is built on the premise that organisations’ heterogeneous and relatively immobile resource endowments are the primary determinants of competitive advantage. The resource-based approach to competition involves identifying the organisation’s internal resources and capabilities, assessing their profit-earning potential and exploiting those resources and capabilities for the sustainable advantage of the organisation. Market intelligence and technology foresight, customer interaction and strategic partnering, organisational culture and learning, internal resources and dynamic capabilities are all considered to be the key elements of the resource-based approach. The notion of core competencies as a key source of competitive advantage further reinforces the central argument of the resource-based view.

Thus, competitive advantage is more about being different than being on top of the productivity frontier, be it resource-based or market-based. If you can avoid head-on confrontation with your rivals and still win the customers to grow your market share, then that would often be considered the smartest way to outperform your competition. This may look hypothetical, but there are businesses, big and small, that thrive on this approach. For example, this is just what organisations are trying to achieve when they focus on differentiation or focus strategies, as will be discussed later in this section.

**Box 5.4: IKEA: different from the rest**

IKEA makes both its tangible offering and the service experience for consumers different from others with whom it competes. IKEA operates a truly global supply chain, sourcing its products in low-cost countries and moving over 10,000 stock keeping units (often called ‘SKUs’ meaning items that it sells) around the world from over 40 source countries through a global set of warehouses to some 150 stores in most major regions of the world.

With only a small number of distinctive stores in even major cities, IKEA offers a unique shopping experience. IKEA is uniquely positioned, with inexpensive, yet modern design and styling built into its products. The supply chain is focused on efficiency and low cost in order to support the ‘inexpensive’ part of the value proposition. Even the flat-packed goods and the self-assembly are in-sync with
the rest of the strategy. Communication with customers is the same the world over:
catalogues, which are not usually seen by consumers as ‘junk’ mail to be thrown
away, but rather to be kept and used as needed.

IKEA has a lean culture, and people are respected, rewarded and promoted for
what they achieve, not what their job title is. The lean culture is symbolised and
led by the global CEO, who even as one of the world’s richest men, flies the world
in economy class!

IKEA’s stores are an experience themselves, not just a place to go and do a
simple shopping transaction. Women in particular, who IKEA know are the most
important people in those categories of goods, love the IKEA experience. IKEA does
very extensive and detailed market research to support every one of its marketing
moves, store design, etc.

In summary, IKEA’s business strategy, operations and supply chain, culture and
market orientation are all driving a unique point of strategic difference that has led
to lasting market success and profitability.
See www.ikea.com

Market-driving vs market-driven organisations

The marketing and strategy literature captures two types of market orienta-
tion reflected in the strategic behaviour of organisations: market-driven and
market-driving. Market-driven organisations seek to gain a competitive
edge by understanding and best catering to current or future market needs.
This is achieved through the careful analysis of markets and accommodating
the voice of customers. Established multinational corporations like Nestlé,
Proctor & Gamble and Unilever fall into this category (Kumar et al., 2000).
However, the competitive behaviour of these organisations is driven by cur-
rently held best-practice models, implying that market-driven organisations
rarely attempt to change the existing structure of markets or the competi-
tive norms. This approach can be static, too reactive and inadequate in an
increasingly competitive business environment. A more dynamic and inno-
vative approach may be warranted.

In contrast, market-driving organisations seek to proactively influence the
market and competitor behaviour by manipulating the existing norms
to their advantage. Organisations like Amazon.com, IKEA and Starbucks
have been hailed as prime examples of market-driving organisations (Kumar,
et al., 2000). These organisations often capitalise on opportunities created
by shifting customer preferences and technological breakthroughs that re-
define industry boundaries and existing patterns of competitor behaviour.
Informed by particular market orientations, organisations may pursue
alternative approaches to competition and customer value creation, as well
as the design of operations systems.

Generic competitive strategies

Porter (1980, 1985) originally proposed three generic competitive strat-
egies that organisations should choose from for creating and sustaining
competitive advantage, namely, cost leadership, differentiation, and focus.
He warned of the perils of losing focus by being everything to everyone and
called it the ‘stuck-in-the-middle’ situation.

Cost Leadership, the most common form of generic strategy, attempts to
outperform competition through offering the lowest price based on efficient
cost structures. Primarily, this can be achieved through structures and pro-
cesses that reinforce economies of scale and steeper learning curves where
standardised products (with acceptable quality) in high volumes succeed in
large markets. Other sources of cost leadership may include low-cost material
and labour, efficient distribution networks and process technology. However,
if there is more than one organisation pursuing this strategy in an industry,
competition could be head-on and sometimes fierce, particularly when barri-
ers to entry are relatively weak. But it is anticipated that organisations can still
earn above-average returns as long as there is a sizeable market to maintain
scale economies for each competitor. Wal-Mart is an example of a successful
competitor in this space, with Kmart being less successful. Coles and Wool-
worths supermarkets in Australia attempt to achieve low cost positioning.
We note that such organisations often communicate their positioning as
‘everyday low prices’.

Differentiation, as a generic strategy, aims at winning customer loyalty
through the perceived uniqueness of product/service offerings. Within this
approach, the options or the bases for differentiation could be many and
varied depending on the capabilities of the organisation and the character-
istics of the target markets. This strategy, which is primarily based on the
economies of scope, attempts to move away from competing based on price
by delivering a unique value proposition appealing to those customers who
are assumed to be less price sensitive compared to those catered to through
the previous approach. This allows the organisation to enjoy a higher margin
of profit on those differentiated products/services. Within this approach,
head-on confrontation is minimal, because the competition is fought among
specific value propositions. BMW, Porsche, and Rolls Royce fit this category,
as does Chanel perfume.

Both of the above approaches rely on relatively large markets and treat
them rather indiscriminately, whereas the third generic strategy focuses on
small niche markets. The segmentation could be based on geographic, demo-
graphic or speciality needs and the aim is to cater to each small customer
base more efficiently and effectively than other competitors do. Focus strat-
egies are quite popular among small organisations operating in geographically
isolated markets or those organisations serving market segments that large

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strategy is concerned with the ways of achieving and sustaining competitive advantage as acknowledged in the previous section, operations is the part of the business that can actually make it happen - by way of creating and delivering products or services that satisfy customer needs. Of course, people in the operations area would like to become aware of new market opportunities, information about competitors' product or service offerings and, more importantly, customer needs, when designing products and services. Similarly, customers would like to know what an organisation has to offer, particularly the utility and attributes of alternative product or service offerings available in the market when they make a purchase decision. Therefore, the dynamic role played by marketing in the whole process of linking customers and markets to operations is indispensable. So is the role of finance, which manages the all-important flow of funds. However, our attention in this chapter will be limited to the strategic role of operations.

As pointed out in Chapter 1, the operations function holds the ownership of the core transformation processes and manages the vast majority of the value-adding activities taking place within an organisation. It also accounts for the bulk of an organisation's resources, be they people, facilities, technology or knowledge and skills. It is through the diligent and skilful deployment of these resources and capabilities (as embedded in various organisational activities), guided and conditioned by strategy and organisational values, that an organisation creates and sustains its competitive advantage. However, historically, the role of operations in contributing to the competitive advantage had not been well recognised at the corporate level. It was through the relentless efforts of Professor Wickham Skinner from the Harvard University, who pioneered the cause of manufacturing policy, later known as 'manufacturing strategy', that this issue was first brought to light. Skinner laid the foundation for the whole body of knowledge that we share today as 'operations strategy'. Skinner's work, elaborated and further refined by his colleagues Robert Hayes, Steven Wheelwright and Roger Schmenger (Hayes, 2002), articulated the link between operations decisions and corporate strategy, as well as the nature and the significance of strategic decisions and actions that fall within the domain of operations. Some of the concepts he introduced will be discussed in this chapter, along with other more recent developments in the area.

The strategic approach to operations: key concepts

Earlier in the book, we introduced operations as one of the three main functional areas of an organisation. Now, we claim that it is, in fact, more than that; operations is the critical mass of any organisation - be it a profit-seeking enterprise, public sector agency or a not-for-profit entity. If business-level organisations are unable to serve or not interested in catering to. Within this strategy, market penetration can be achieved through either low cost or differentiation. Focus is all about specialisation in some form. The essence of Porter's ideas is summarised in Figure 5.2.

There are many examples to illustrate the applications of generic strategies: no-frills airlines, budget motels and generic-brand products all follow cost leadership. Products and services that carry reputed brand names (could be as diverse as consumer electronics, clothing, footwear, personal care and industrial goods), leading consultancy, financial and law firms, business class air travel, up-market restaurants, luxury hotels, are all examples of organisations following differentiation strategies.

Your local professional or legal practice, hairdresser, as well as most small businesses serving niche markets may follow a focus strategy.

Although the exclusivity of the above strategies is no longer held strongly in practice, they still have significant implications for designing and managing operations systems, as will be revealed in the next section of this chapter.

Strategic operations decision areas

Operations systems consisting of facilities, plant and equipment, as well as people and processes, could be classed as socio-technical systems. Business decisions regarding the design and operation of such systems deal with hardware-related issues such as the location of facilities, choice of technology and capacity of plants, as well as such soft issues as management and control
Table 5.2 Strategic Operations decision areas

<table>
<thead>
<tr>
<th>Structural decisions</th>
<th>Infrastructural decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>System capacity: planning, addition...</td>
<td>Operations planning and control: policies/procedures</td>
</tr>
<tr>
<td>Facilities: location, layout</td>
<td>Organisation: structure, culture</td>
</tr>
<tr>
<td>Process positioning/vertical integration</td>
<td>Workforce: attributes, skill levels</td>
</tr>
<tr>
<td>System design/process selection</td>
<td>Quality: systems, practices</td>
</tr>
<tr>
<td>Technology: choice, acquisition</td>
<td></td>
</tr>
</tbody>
</table>

of business processes, training and motivation of employees, development of capabilities, and implementation of new technology.

You might have already noticed that the scope of these decisions and actions is, in part, what sets apart a functional strategy from its business and corporate level counterparts. Skinner classified these decisions into two categories: structural and infrastructural, as listed in Table 5.2. Over time, these decisions, often conditioned by business-level strategy, current skill levels of employees, organisational values and managerial styles, etc., shape the character and capabilities of the operations system, which will eventually determine its ability to support the business-level strategy. In addition, most of these decisions are considered to be irreversible, meaning that it would be very costly to fix any problems caused by a poor decision at a later stage.

Operations' contribution to competitive advantage

Businesses may enhance their competitiveness, vis-à-vis competitors, in a number of ways: improving productivity, application of advanced technology, developing new knowledge and capabilities, through product and process innovation, and the list goes on. But most of the contemporary discussions revolve around the concept of customer value creation. Potential customers evaluate alternative products or services that are available in the market based on their utility, a term that comes from economics. Utility as a value determinant reflects the benefits derived from consuming or possessing a product or service. Customers (business or retail) all have their own particular utility functions, meaning their own sets of tastes, preferences and values, and their own position of a unique purchasing power, disposable income, etc.

For example, for some customers, it could be the superior quality of the product and customer service that matter most when making a purchase decision, whereas for others, it could be the quicker delivery of the product or service and convenience. Yet another group of customers would be happy with a reasonable level of functional value offered by a product, but make their purchase decision primarily based on the (lower) price and availability. This does not necessarily mean that customers who make their purchasing decision based on one or two key value determinants are ignoring all other attributes. They still expect other attributes of a product or service to be satisfactory. This is just a way of acknowledging that markets exist in a set of market segments, across which the dimensions that are valued by customers differ. We assume that within a market segment, consumer tastes (and hence utility functions) are similar, and between market segments, they are significantly different.

Hill (1989) coined the terms ‘order qualifiers’ and ‘order winners’ to illustrate this concept. Order qualifiers are the product or service characteristics that help them to go onto a customer’s short-list, whereas order winners are those characteristics that are perceived by potential customers as superior to competitors’ offerings and hence convince them to buy the product or service. Qualifying characteristics are necessary but not sufficient for a product or service to gain entry into a market and stay there. Both order qualifiers and order winners are market specific and do change over time. Therefore, Hill argued that organisations must identify order-winning and order-qualifying criteria for each market they target or serve and develop and sustain those product and service characteristics on an ongoing basis.

From an operations perspective, customer value is defined as a function of performance-related parameters of a product or service, such as quality, delivery speed, service level, etc., and the price at which they are delivered. For the benefit of those who are adept in quantitative analysis, the relationship between those parameters can be expressed using the following formulae (Melnyk and Denzler, 1996):

\[
\text{Customer Value} = \frac{\text{Performance}}{\text{Price}}
\]

\[
\text{Customer Value} = \frac{f[\text{Quality, delivery, flexibility, service, etc.}]}{\text{Price}}
\]

As such, organisations can enhance customer value by way of improving product or service performance in terms of one or more of the value determinants, reducing the cost of delivering a certain level of performance or some combinations of both. In Porter’s (1996) terms:

it [the organisation] must deliver greater value to customers or create comparable value at a lower cost, or do both ... delivering greater value allows a company to charge higher average unit prices; greater efficiency results in lower average unit costs'. (p. 62)

This depicts the essence of operations' contribution to competitive advantage! Operations can greatly contribute to both the numerator and denominator of the above expression to drive value creation as will be further discussed in the next section.
In practice, customer value is created through various activities undertaken as part of the transformation process, which, in turn, is the core of any operations system. Therefore, an organisation’s ability to deliver customer value in the forms discussed above depends, to a large degree, on the capabilities and other characteristics of its operations system.

**Competitive priorities**

In line with the generic competitive strategies discussed earlier and considering the concept of value creation introduced above, operations’ contribution to competitive advantage can be ratified using the notion of competitive priorities. In essence, competitive priorities establish the conceptual link between business-level and business function-level strategies.

Building on Skinner’s (1969) original work that defined manufacturing task and based on their own earlier work, Hayes and Wheelwright (1984) articulated four competitive priorities: cost, quality, delivery and flexibility, as strategic preferences or the ways in which an organisation chooses to compete in the market (you may readily recognise that these priorities relate to the key value determinants outlined earlier). Later contributions by a number of other authors have expanded this list, while some have adapted and interpreted the concept in slightly different formats. The widely cited competitive priorities, along with illustrative examples, are presented in Table 5.3.

If differentiation at the business-unit level is achieved through positioning, as discussed before, differentiation at the functional level is achieved through the operationalisation of those competitive priorities. This means, by choosing to configure the operations system to support a particular set of competitive priorities, an organisation can offer a customer value profile that is unique or rare within a target market. However, the appropriate set of priorities must be determined based on a sound understanding of the characteristics and needs of target markets and the profile and capabilities of operations processes.

**The concept of trade-offs in operations**

An organisation may not opt to or be able to maximise customer value along all of these dimensions simultaneously, due to a variety of reasons. This proposition is often explained using the concept of trade-offs. Most organisations have limited resources in terms of money, staff and time, etc., which they strive to utilise wisely so as to maximise the return on investment for the whole business. Thus, when it comes to investing in operations systems, it often becomes an issue of choosing between alternatives, for example, hiring extra tellers at the bank branch office and training existing staff or increasing the research and development budget and upgrading plant and equipment – and all of these things add cost. These compromises are central to managerial decision-making, although most of the time, managers may commit to them intuitively. So, the general argument is that most organisations are not in a position to invest in improving all aspects of their operations so as to excel in all dimensions of quality, delivery, cost and flexibility, etc., simultaneously.

A deeper understanding of this trade-offs concept can be developed through examining the inherent technical limitations associated with the design of operations systems. For instance, an operations system designed for producing high-volume, low-cost products may not be able to offer the flexibility required to produce customised products. That explains, in part, why fast-food outlets like McDonald’s cannot and do not offer the full menu services available at up-market restaurants (or vice-versa), even if they would like to do so. McDonald’s does not generally customise to specific customer needs, (e.g., ‘please cook it medium-rare’), which other restaurants do.
Box 5.5: Trade-offs in action

Let's examine the classic example of producing custom-made wooden furniture vs standard furniture. Customised furniture typically targets high-value markets and competes based on superior quality (craftsmanship) and flexibility (customisation). For such products, high quality and flexibility are order winners, while price could still be an order qualifier (competitive prices).

The production of customised furniture requires an operations process with sufficient flexibility, for example, consisting of general-purpose machines or tools, highly skilled workforce (craftpersons) and may use high-quality material (more expensive varieties of wood). In contrast, standard furniture usually caters to low-value markets where price and availability act as order winners and consistent quality would be an order qualifier. Therefore, to be able to offer the lowest possible price, standardised furniture is best produced in high volumes using machinery and equipment that provide the advantages of scale economies (mass production, semi-skilled labour, automation, etc.). This type of production allows for planning of resources ahead of time and standardised furniture-making processes so that a limited choice at the lowest possible price with a short, predictable delivery time can be offered.

Now, if one wants to produce both custom-made and standard furniture on the same system, would one be able to maintain the same level of performance with regard to price, quality and delivery time? The answer is probably not, and that is because the production system designed for one product type may not have the specific types of facilities, capabilities and resources demanded by the other, as well as the flexibility required to deal with the resultant patterns of demand. As a result, service levels may suffer, become more prone to missing delivery targets and find it difficult to maintain consistent quality. Perhaps, one might end up not doing anything exceptionally well – ‘stuck in the middle’. This would likely result in wins in both segments of the furniture market to the specialists, who are only trying to do one thing particularly well.

This does not necessarily mean that one should give up one option altogether in favour of the other. Rather, it highlights the need to consider and address the trade-offs at the early stage of designing operations systems, so that one can come up with the most desirable product-process configuration – a plant within a plant.

In fact, much of the work of the early writers such as Skinner, Hayes and Wheelwright focused on this trade-off issue and their solution to it – the ‘focused factory’ concept. Skinner (1974) advocated a focused approach to capability development along one or two carefully selected priorities, based on their relative importance in supporting the desired business strategy. However, empirical evidence has since led a number of scholars to challenge this proposition. In particular, puzzled by the post-World War II success of Japanese manufacturing organisations on multiple dimensions, researchers looked for new ways of exploring and explaining the trade-offs concept. They also came up with a few alternative answers.

Technology and the trade-offs concept

One quite plausible explanation was the application of technology. It is widely agreed that technology helps to deliver customer value by positively influencing the determinants of quality, speed, flexibility and cost. But more convincingly, advanced process technologies such as flexible manufacturing systems (FMS) are known to have improved quality and flexibility, while at the same time driving down costs. Today, the applications of technology in the new product development area (rapid prototyping, engineering analysis, concurrent engineering, and other design concepts and technologies) and their contributions in the areas of quality, time-to-market, etc., are quite obvious. Improved decision-making, reduced inventory levels and quick response times achieved through the deployment of information technology and enterprise resource planning systems, etc., are other technology applications that have helped many organisations to achieve world-class or best-practice levels of performance on multiple frontiers. However, technology can easily become a management cop-out if not selected and introduced wisely.

If one takes a comprehensive contextual view of technology, it can be argued that products are, in fact, physical manifestations of technological capabilities which, when combined with other resources and organisation-specific routines, will generate the unique (core) competencies required to support a portfolio of products and services (with order-winning characteristics) that create a sustainable competitive advantage for the organisation.

Box 5.6: Value creation: a metaphorical analysis

Using a large tree as a metaphor, Prahalad and Hamel (1990) drew an interesting parallel between the roots of the tree and the core competencies of an organisation: the corporation, like the tree, grows from its roots; core products (trunk and major limbs) are nourished by competencies and engender business units, whose fruits are end products’ (p. 81). Let's extend this analogy a little further in an attempt to paint a more complete picture of the value creation process at the organisation level.

First, if we look at the root system in terms of sub-roots and rootlets that draw nourishment from surrounding soil, we can also account for the capabilities and resources. If the main roots represent core competencies, then the sub-roots and rootlets would represent capabilities and resources. Then, we can draw a reasonable comparison between the plant-specific features of the root system: the site, spread, penetration capacity, etc. and the organisation-specific attributes of the core competencies; their ability to contribute to unique value propositions.

Second, we may treat the organisational activities that create products and services as equivalent to the organic or chemical processes such as photosynthesis that convert the nutrients and other intakes (such as water and energy from sunlight) into food that fuels growth and fertilisation that produces fruits.
However, it appears that a minor adjustment to the analogy is needed in order to fully appreciate the major contributors to the value creation process. Although it might not be the ideal metaphorical analysis, we would like to compare the leaves and other green parts to the productive elements of the business unit, ones like the operations system, where the actual value-adding takes place. This would perhaps help us to illustrate how different activities that use particular combinations of capabilities, resources and organization-specific routines create value with varying degrees of success. Then we can see why organizations of different type located in different places, produce different types of products or services with different attributes and appeals to different groups of customers with varying tastes.

The 'sand cone' model

Taking a logical and cumulative approach to capability-building is considered to be another useful way of minimising or even eliminating the trade-offs effect in operations. This proposition, put forward by Ferdows and De Meyer (1990) as the ‘sand-cone’ model, explores the complementarities that exist among priorities, and argues that existing capabilities in one area can reinforce capability building in the other area if they are developed in a particular sequence. Comparing the operating practices of organisations in Europe, North America and Japan, Ferdows and De Meyer suggested that this order should be quality, dependability, speed or flexibility and cost as illustrated in Figure 5.3.

A number of other authors have further explored various aspects of this trade-offs model through both conceptual analysis and empirical studies, and have made valuable contributions to enhancing our understanding of the dynamics and limitations of the concept. Overall, though the findings do not appear to be conclusive, there is general consensus on and empirical support for the cumulative model. These insights are particularly useful for operations managers in their choice and prioritisation of improvement programs so as to build capabilities that support business-level strategies over time.

Defining operations strategy

We have already explored the role of operations and its contribution to competitive advantage. If the strategic role of operations is to contribute to the organisation’s competitive advantage through creating superior customer value, then, operations strategy is about the ways the organisation develops and deploys its resources so as to create a unique customer value proposition. Now, let us consider some of the formal definitions and associated interpretations available in the literature towards carving a definition of operations strategy that is suitable for our purpose.

The early conceptualisations of operations strategy that drew upon the central ideas of Skinner (1969, 1971, 1974) were heavily biased toward the top-down planning approach to strategic management prevailing at the time. However, the potential pitfalls of adopting such a biased view were brought to light soon afterwards, and the subsequent work of a number of authors recognised the emergent aspects of operations strategy as well. For instance, Wheelwright (1984) emphasised that the ‘pattern of structural decisions over time’ constitutes the manufacturing strategy of a business unit’ (p. 85) and ‘not what is said or written in annual reports or planning documents’ (p. 30).

Hayes and Wheelwright (1984), in their four-stage framework, clearly articulated the big-picture scenario for understanding the evolving strategic role of operations within an organisation. The framework identified four stages (Table 5.4) on a continuum starting with a ‘most passive and least progressive’ to a ‘most aggressive and progressive’ roles (p. 396).

While, for numerous reasons, the operations function of an organisation may occupy a particular position on this continuum at a given time, the most innovative and pioneering organisations have thrived on a stage-4 type contribution from operations. For example, most of the organisations mentioned earlier in this chapter as examples of market-driving organisations have developed their innovative business models based on operations’ strengths; a stage-4 type contribution. By comparison, business models of leading market-driven organisations mentioned would, arguably, reflect a stage-3 type contribution from operations. This means that organisations, in general, should strive to move up the ladder towards achieving a stage-4 type contribution from operations.

While acknowledging the challenge of reconciling multiple perspectives and varying interests, we offer the following definition:

Operations strategy is the conditional and consistent patterns of decisions and actions regarding the operations structure and infrastructure of an organisation that determines and/or shape the resources, capabilities and work routines of its operations system in supporting a set of competitive priorities (explicit and/or implicit) agreed upon at the business-unit level.

We propose this as a working definition that falls in line with the broader view of organisation-level strategy presented earlier in this chapter. Thus, the
### Table 5.4 Stages in the evolution of operations’ strategic role

<table>
<thead>
<tr>
<th>Stage</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage-4: Externally Supportive pursue an operations-based competitive advantage</td>
<td>Anticipate the potential of operations practices/technologies. Operations is involved in marketing/engineering decisions. Long-range programs to acquire capabilities ahead of needs.</td>
</tr>
<tr>
<td>Stage-3: Internally Supportive provide credible support to the business strategy</td>
<td>Operations investments are aligned with business strategy. Changes in business strategy are translated to operations. Longer-term operational issues are systematically addressed.</td>
</tr>
<tr>
<td>Stage-2: Externally Neutral achieve parity with competitors</td>
<td>Industry practice is followed. Planning horizons for operations fall in line with business cycles. Capital investments as the primary means of achieving competitive advantage.</td>
</tr>
<tr>
<td>Stage-1: Internally Neutral minimise operations’ negative potential</td>
<td>Use of external experts to solve operations issues. Internal management controls as primary means of monitoring operations performance.</td>
</tr>
</tbody>
</table>

(Source: Hayes and Wheelwright, 1984)

emphasis on patterns of decisions and actions, as against programs and action plans, implies both deliberate and emergent perspectives of strategy. Also implied in this definition is the role and scope of operations strategy that establish its link to the business unit-level strategy. For instance, within a more formal and systematic approach to strategy, an agreement on competitive priorities is reached at the business unit-level. As part of this exercise, operations should articulate its strategic contribution to business unit-level strategy (preferably, in terms of the four-stages above) and garner the support of other functions for the same. This will then serve as the overarching framework for guiding decisions and actions within operations that support capability building as well as value creation based on agreed competitive priorities.

**Box 5.7: Strategy as patterns in decisions and actions**

Lexcon, a leading manufacturer of a certain building services product in Australia, with an annual turnover exceeding $A70 million, is currently undergoing healthy growth. Its products are competing against reputed brands, mainly those of the Southeast Asian manufacturing giants. The products are competing based on superior quality (including technical capabilities and product features) and customer service backed up by a strong after-sales product support and an extended warranty scheme.

In the absence of an explicit business strategy or an operations strategy in the documented form, its overall strategic direction is set by the Managing Director (MD) and other directors. In the past, senior managers’ decisions and actions have been guided by the future business scenarios established and agreed upon at the monthly business development meetings (BDM). However, decisions and actions regarding structural and infrastructural aspects of operations could be initiated at any level of the business from the MD to the supervisors.

For example, the MD initiated a major decision to relocate and upgrade the company’s facilities/plant and was personally involved in the execution of this over a period of 18 months. The Manufacturing Manager (MM) took the initiative to purchase a new production line after realising that manufacturing’s capacity to fulfill future demand (as indicated by sales targets established at the BDM) was inadequate. This initiative then progressed in collaboration with the Research and Development Manager (RDM) to the stage where it was sanctioned by the MD after considering a formal capital expenditure proposal. Another decision to create a new staff position at the warehouse was initiated by the Logistics Supervisor (LS) and slowly progressed in an interactive fashion with support from the Logistics and Procurement Manager (LPM) until formal approval was granted by the MD. Yet another decision to change the inventory control policy was initiated by the LS and was actioned soon after the agreement of the LPM.

None of these initiatives appeared to have been informed by an explicit understanding of the role of competitive priorities or the concept of trade-offs discussed earlier in this chapter. But the company’s strategic decisions and actions set out a clear pattern in which actions and decisions of varying scope and significance were progressed in a fairly orderly manner. The consistent success (performance) and continuing growth of the business also suggest that this approach has so far worked well for this company. Nonetheless, a few recent initiatives undertaken by the MD (hiring of three senior managers from outside to lead the finance, marketing and operations functions and engaging an external consultant to look into strategic issues) indicate that this company is moving towards embracing a formal planning approach to strategy.

**Operations strategy: content, process and context**

If operations strategy is defined as above, then we can conceptualise the content, process and context of it in the same way as we did with the organisation-level strategy. Operations strategy content is about the types of strategies (policies, choices, plans and actions) deployed by the operations function in supporting the competitive strategy of the business. Literature on operations strategy content deals with two key aspects: the choice of competitive
priorities and the strategic decision areas as introduced earlier. However, compared to organisation-level strategy, operations strategy may be less explicit in that it often does not exist in documented form. Instead, operations strategies are often captured as consistent patterns in decisions and actions (such as improvement initiatives and capital investments) regarding the operations structure and infrastructure of an organisation.

The process aspect of operations strategy has traditionally been examined using the top-down rational planning model popularised by the business strategy scholars. This formulate-then-implement type approach starts with identifying operations objectives that support overall business goals and evaluation of current capabilities and resources, along with an assessment of their ability to meet those objectives. It then attempts to find ways of bridging any gaps between the current and expected levels of operations performance so as to meet the set objectives. This approach corresponds to the popular SWOT (strengths-weaknesses-opportunities-threats) analysis used in the development of business unit-level strategy. Strategies so developed are realised through the allocation of additional resources, improved practices and restructuring of the operations system so as to improve the fit and alignment with business as well as other functional strategies. Underlying this whole process is a series of interrelated decisions and actions that revolve around identifying trade-offs, setting priorities, making informed judgements and choices which form part of the core of managerial undertakings. An emergent view of strategy formation recognises the consistent patterns in these decisions and actions as operations strategy.

Operations managers make such decisions situated within the larger context of the organisation and its business environment. That means their decisions and actions are conditioned by what is happening within the business (for example, goals and expectations of other functional areas such as marketing and finance) as well as outside the business (for example, competitor initiatives and changing market needs). Therefore, it is important that operations decisions and actions are internally consistent and coherent on their own, as well as across other functional areas, and are aligned with the overall business strategy. Ideally, they also need to be congruent with and contingent upon the specific, but often evolving organisational settings. Further, compared to organisation-level strategy development, the scope of operations management decision-making is limited and the impact of some external forces would be less relevant, due to the expectation that they should have already been dealt with at the business-unit level.

Nonetheless, strategy formation in practice is not an orderly, logical and neatly hierarchical process. On the one hand, managers (operations, marketing or general) are always alert to what's happening outside the organisation - be it competitor moves, regulatory pressure or market opportunities. On the other hand, their work is constrained by a multitude of internal factors - be they budgetary provisions, top management's expectations and personalities, workforce character, organisational culture and so on. There is also the possibility that managers may act in self-interest. Moreover, managers act under pressure of sometimes conflicting demands. For instance, developing operations capabilities for the long haul is a noble goal of operations strategy, but this has to be weighed against increasing pressure to maximise the short-term bottom-line performance, and often against the backdrop of fierce competition. So, managers' decisions are either consciously or subconsciously affected by a large number of factors. In practice, it's a case of having an articulated and agreed operations strategy and 'chipping away' in real time, or as some operations managers have expressed it: 'In real time its one step forward, half a step backwards, maybe a step sideways and then hopefully another step forward...'

To fully benefit from having a concept of operations strategy, it needs to be widely discussed while it is being formulated, including by general managers and marketing managers, and then it needs to be widely disseminated or published so that all and sundry can commit to playing their part in implementing it.

Finally, like its business-level counterpart, operations performance is measured in terms of its ability to support an agreed set of competitive priorities. Typical measures include product or service quality, delivery speed and reliability, productivity, inventory turnover, new product development cycle time (time-to-market) and the number of order change requests accommodated. The strategic approach to operations management advocates the development of performance measures to reinforce both short-term and long-term objectives of operations, activity-based costing in place of traditional cost accounting as well as performance management systems that incorporate a whole enterprise perspective. One should clearly focus the measurement on what is important to the strategy, meaning particularly the order winners!

**Operations strategy in practice**

Despite all the intellectually compelling arguments supporting the concept of operations strategy and the prescriptive guidelines available for its formulation and implementation, it still appears that many operations managers are not adept at the operationalisation of these concepts. Possible reasons for this lack of adoption and diffusion of scholarly contributions among practitioners are many and varied.

Many operations management scholars identify the way operations systems have evolved over the past as a major cause of this problem. Deep-rooted issues covering aspects as diverse as people and their attitudes, operations structure and infrastructure and organisational practices have been
Entrepreneurial initiatives as operations strategy

There are many organisations (particularly smaller firms) that are successful but have not shown themselves to have adopted major improvement programs, a coherent set of specific organisational practices or a rational planning approach to strategy. Most of the time, small organisations operating in niche markets are rarely organised around functional specialisations and they do not usually have specialist staff and other resources required for formal planning. They are also not likely to embrace the off-the-shelf solution packages, given their financial capacity and the scale of operations. Their competitive success is best described by their innovative capacity and behaviour that is primarily driven by the entrepreneurial characteristics or culture and personal aspirations of their owners.

These observations reflect the alternative manifestations of what we called the ‘content’ of operations strategy, and the challenges associated with the development and deployment of a universal model of operations strategy. Therefore, it is imperative that our conceptual understanding of operations strategy is supplemented with an exposure to what is available in the form of empirical evidence in the area.

Operations strategy process in practice

Similar results have also been reported in some recent empirical studies into the process of operations strategy. Swamidass et al. (2001), captured three evolving alternatives to the popular top-down planning approach used in operations strategy development, namely, a coherent pattern of actions, major improvement programs and the pursuit of core operating capabilities. For instance, a consistent pattern of incremental decisions and actions represented stepwise but focused investments in the operations system aimed at meeting specific competitive priorities. Barnes (2002) found that operations strategy is formed through a complex process of managerial interpretation under the influence of a range of individual, cultural and political factors. Kirdena (2005) developed a process model of operations strategy capturing four key phases and multiple modes of initiation and progression of strategic decisions and actions. The study revealed that strategic initiatives are triggered by factors as diverse as the personal aspirations of owners and managers, operational problems, market opportunities, and technological breakthroughs.

These findings provide useful insights into the complexities associated with the strategy formation process, highlight the pluralistic nature of the successful strategies pursued by different organisations and explore the influence of a range of internal and external contextual factors on the strategy process and its outcomes.

Specific organisational practices as operations strategy

Other empirical studies have examined the use of specific organisational practices such as benchmarking, continuous improvements or incremental innovations, outsourcing or off-shoring, quality function deployment, workforce empowerment, gain-sharing and the adoption of advanced technology as the basis for enhancing competitiveness. For instance, several publications reporting on the operations strategies of manufacturing organisations in Australia and New Zealand have focused on aspects like continuous improvement, specific operations practices and the adoption of new technology and their contribution to operations performance. Most of these specific organisational practices are too narrowly focused and do not appear to substantially address operations strategy in a wholistic and meaningful way.

Major improvement programs as operations strategy

Many empirical studies have shown that a formal documented operations strategy is far from reality. A quite obvious trend evident in the recent past is that many organisations indiscriminately adopt major improvement programs (such as total quality management, just-in-time or lean operations, and six-sigma) rather than taking a comprehensive and systematic approach to formulating and implementing an operations strategy as advocated in many textbooks. Consequently, a new stream of research has begun to examine the choice of major improvement programs, or best practices and their contribution to operations performance. This is clearly a shift away from following the popular formal planning route or the tracking of consistent patterns in operations decisions and actions as the basis of operations strategy. The popular improvement programs that have proved their potential through the experiences of high-performing world-class organisations are assumed to be internally consistent, but the challenge still remains with the selection of those off-the-shelf type programs so as to align with the overall business-level strategy and to fit with the unique organisational settings. Moreover, authors like Hayes and Pisano (1994) and Skinner (1988) have questioned the whole notion of using the so-called best practices and techniques in place of a comprehensive operations strategy.

comprehensively treated in the works of leading authors like Hill (1989), Skinner (1985) and Hayes and Wheelwright (1984). Another widely held view is that the currently available models of operations strategy and associated prescriptions do not adequately reflect what is happening in practice: they are too simplistic, too rational and highly abstract, and, therefore, not very useful to practising managers. With a view to providing some insights into the alternative forms of operations strategy in practice, we turn now to key findings of recent research in the area.
Summary

Strategies are consistent patterns in decisions and actions of those who assume leadership positions in organisations. They help steer an organisation towards achieving its long-term goals and, therefore, shape the future status and success of the organisation. They can be developed and implemented through formal (planning) efforts or emerge as consistent patterns in decisions and actions that are conditioned by a variety of internal and external organisational contextual factors.

The strategic approach to operations management recognises the pivotal role played by dynamic capabilities and the significance of organisation-specific combinations of organisational resources, work routines, value systems, etc., in delivering a unique value proposition that is perceived by customers as superior to competitor offerings. A normative approach to strategic management of operations advocates the identification, agreement and definition of competitive priorities based on target markets at the business-unit level. The heart of this hierarchical planning approach is developing and deploying operations capabilities for supporting the agreed competitive priorities. Underlying this approach are managerial decisions and actions regarding the operations structure and infrastructure of the organisation. Moreover, the dynamics of this approach are underpinned by the intricacies of the internal and external organisational context. Alternatively, an emergent view of strategy recognises the significance of consistent patterns in decisions and actions as the basis of studying operations strategy.

The current practice indicates that organisations successfully pursue alternatives to the formal planning approach, such as the choice of major improvement programs, pursuing specific organisational practices, consistent entrepreneurial behaviour of individuals, etc. Irrespective of the particular approach taken, there are some core themes that represent the strategic approach to operations management. It has a unifying objective: developing operations resources, capabilities and work routines that inform and support long-term organisational goals; it deals with decisions and actions regarding the operations structure and infrastructure of an organisation. The success or otherwise of these endeavours is reflected in operations performance: outcomes focused on short-term profit as well as long-term capabilities that ensure the sustainable competitive advantage of the organisation. Overall, they articulate the operations' strategic contribution to business-levels strategy.

With this knowledge and understanding, let us revisit the management challenge presented at the beginning of this chapter. Our aim is to identify the strategic operations implications of a key business decision. Moving from small-scale technology-based manufacturing to full-scale production poses a significant challenge for operations. Let us work out the new business scenario first. With this move, Delta-tech's target market would change, most probably, from the current niche markets to a differentiated (high-value) broader market. Obviously, given its innovative capacity and superior products and services, Delta-tech would not want to compete based on cost alone. Delta-tech's new business model will be substantially different from the current one and perhaps it will be competing against the multinationals that provide similar products and services. Can Delta-tech successfully launch and sustain this new business model? It depends, to a large degree, on how successfully operations can take on the challenge and marketing could lead it from the front.

The processes and systems for manufacturing in high volumes are quite different to the current low-volume system. For example, a full blown manufacturing facility would, most likely, consist of automated production lines run by semi-skilled operators aimed at high levels of outputs. So, would the current capabilities, resources and work practices that have worked so well so far for the company also ensure the success of the new venture? Perhaps more importantly, can (and should) Delta-tech duplicate the current creative and free-flowing organisation culture in the new venture? Should Delta-tech expand the current site or locate the new facility elsewhere? If Delta-tech happens to be competing against large multinationals, can the company still treat price as a low priority for winning orders. Would the new facility deliver the scale economies required to compete against new rivals? Do these mean a change in the current competitive priorities? There are many more questions, and we might not be able to answer all of them comprehensively here. However, the benefits, if the venture becomes successful, are quite obvious and some of the pitfalls are already apparent. Given the size of investment involved in this kind of a venture, we need to undertake a more systematic and detailed analysis of the issues presented above, before making a final commitment. We should also note that Mr. Palmer has so far made most of the key decisions affecting this business based on his intuitive judgements. But this time he is a little unsure of what exactly he should be doing. The kind of material covered in chapter would hopefully help him make good decisions.

Discussion Questions

1. Identify the core dimensions that characterise the concept of strategy and use them to arrive at your own definition/interpretation of strategy.
2. Identify the key strategic issues meant to be dealt with at each of the three levels of the organisational hierarchy and give examples for each.
3. Would the consistent patterns in strategic decisions and actions be considered as important determinants of organisational performance? Explain.

4. Compare and contrast the market-based and resource-based approaches to competitive advantage and explain why a combined approach would be beneficial.

5. If competitiveness reflects an organisation's relative position vis-a-vis its competitors, briefly describe the role of operations in enhancing organisation-level competitiveness.

6. Briefly describe how competitive priorities can be used to guide strategic operations decisions and actions in achieving and sustaining a competitive advantage.

7. Describe the notion of trade-offs as applied to strategic operations decisions and discuss the ways in which their (negative) impact on operations can be minimised.

8. Identify and briefly describe the three alternatives to the formal planning model of operations strategy. To what extent do you think they represent current practice?

9. Discuss the operational implications of the stakeholder approach to value creation.

10. Explore the web sites (or other available sources) of several leading local organisations and examine their business models to determine if they are pursuing a market-driven or a market-driving approach to competition.

Further readings and references


Processes and Systems in Operations Management

Daniel Prajogo, Prakash J. Singh and Danny Samson

Learning objectives

After reading this chapter, you should be able to:

- understand the meaning of processes and the role they play in organisations
- appreciate the characteristics of generic process types
- realise how various standard operating system layouts result from the generic process types
- understand how ‘people management’ and technology affect process design considerations
- understand how processes can be analysed and measured
- recognise the scheduling issues associated with different process types.

Box 6.1: Managerial challenge: call centre processes

Brisbane City Council is the largest local government in Australia. It provides traditional civic services to close to one million people. These services include water supply, sewerage treatment, refuse collection, pet registration, library facilities, public health services, public transportation, roads and parks maintenance, city planning, building services, etc. The council spends over $1.5 billion on these services and employs over 6000 workers.

At the insistence of then Lord Mayor Jim Soorley, who had become frustrated with the council’s inability to respond in a timely manner to ratepayers needs,