

Operations strategy – developing resources and processes for strategic impact

Introduction

For some business managers, the very idea of an ‘operations strategy’ is a contradiction in terms. After all, to be involved in the strategy process is the complete opposite of those detailed and day-to-day tasks and activities that are associated with being an operations manager. Yet, at the same time we know that operations can have a real strategic impact. For many *enduringly* remarkable enterprises, from Amazon to IKEA and from Apple to Zara, the way they manage their operations resources and processes is central to long-term strategic success. This is why it is the prime purpose of this book to demonstrate how managing operations strategically can make all types of firms better, or different, or both, from their competitors. But just as revealing is that when companies do stumble, it is often because they have either taken their eye off the operations ball, or failed to appreciate its importance in the first place. More generally, all enterprises, *and all parts of the enterprise*, need to prevent strategic decisions being frustrated by poor operational implementation. And this idea leads us to the second purpose of this book. It is to show that the principles of operations strategy can be deployed in *all* parts of the business, *all* functions of the business, and *all* its extended supply network – and that, by using these principles, any type of enterprise will benefit. This is the first chapter of the book, and we look at both these meanings of operations strategy and how all parts of the business can use four perspectives on operations strategy to establish a connection between strategy and operational processes and resources.

KEY QUESTIONS

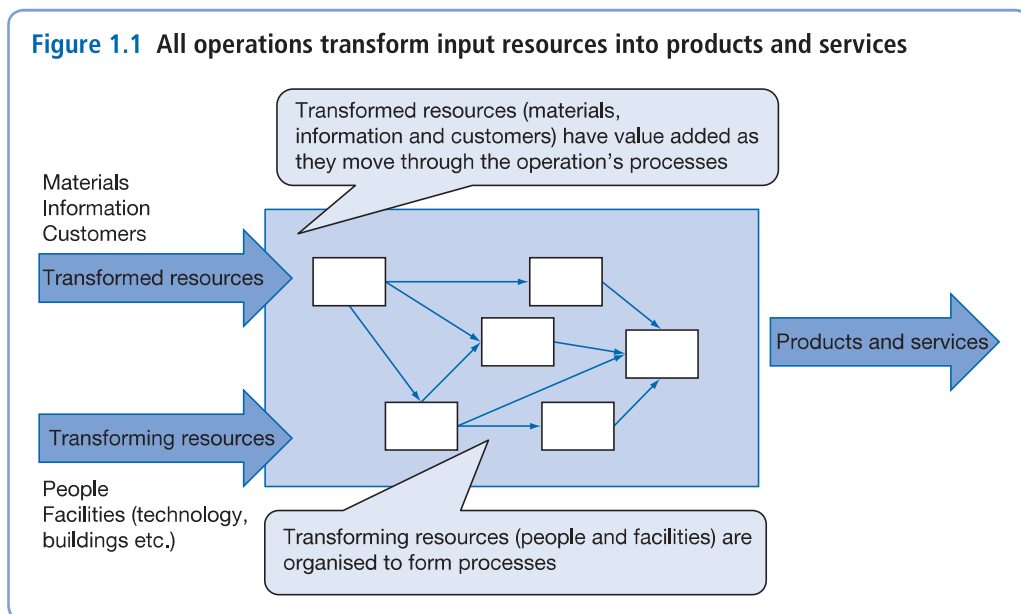
- *Why is operations excellence fundamental to strategic success?*
- *What is strategy?*
- *What is operations strategy and how is it different from operations management?*
- *How should operations strategy reflect overall strategy?*
- *How can operations strategy learn from operational experience?*
- *How do the requirements of the market influence operations strategy?*
- *How can the intrinsic capabilities of an operation’s resources influence operations strategy?*
- *What is the ‘content’ of operations strategy?*
- *What is the ‘process’ of operations strategy?*
- *How is operations strategy developing?*

Why is operations excellence fundamental to strategic success?

‘Operations’ is the part of the organisation that creates and/or delivers its products and services. Every organisation, whether a hotel, hospital consultancy, supermarket, games developer, government department, in fact any type of organisation, has an operations function, even if it is not called that.¹ This is because every organisation tries to add value by producing some mix of products and services for external or internal customers. It does so by transforming inputs into outputs that satisfy some customer need. This idea is called the ‘input-transformation-output’ model of operations. Some inputs are actually changed or ‘transformed’ (usually by a combination of physical materials, information and customers). So, predominantly, a television factory processes materials, a firm of accountants processes information, while a theatre processes customers. Other resource inputs do the transforming. These are usually classified into the physical facilities (buildings, machines, equipment, computers etc.) and the people, with their skills, knowledge and experience. Transforming resources are allocated to various activities in various parts of the operation. Transformed resources move through these activities until they are transformed into a mix of products and services. The arrangement of transforming resources and the way in which transformed resources move through them, are called ‘processes’ (see Figure 1.1). So operations managers are responsible for managing two interacting sets of issues:

- 1 Resources – what type of materials, information, people (as customers or staff), technology, buildings and so on, are appropriate to best fulfil the organisation’s objectives.
- 2 Processes – how resources are organised to best create the required mix of products and services.

Or, to put it more succinctly, do we have the right resources and are we using them appropriately?



Note that most operations produce both products *and* services. But some, such as an aluminium smelter, mainly produce products with only a peripheral service element. Others, such as a psychotherapy clinic, produce almost pure services. Yet, the idea of the transformation model applies to all types of operation, manufacturing and service, for-profit and not-for-profit, those with external customers and those with internal customers. Hotels produce accommodation services, financial services invest, store, move or sell us money and investment opportunities, and manufacturing businesses physically change the shape and the nature of materials to produce products. Although these businesses are from different sectors (hospitality, banking, manufacturing, etc.), they share a very similar set of issues and problems. In fact, there are often bigger differences *within* economic sectors than *between* them. Note also that the transformation model describes functions other than the operations function. Marketing, finance, information systems and HRM all transform inputs into outputs (usually services) to satisfy customer needs. Sometimes these customers are external, sometimes internal. But the principle holds true: all parts of the business and all functions of the business are, in a sense, ‘operations’.

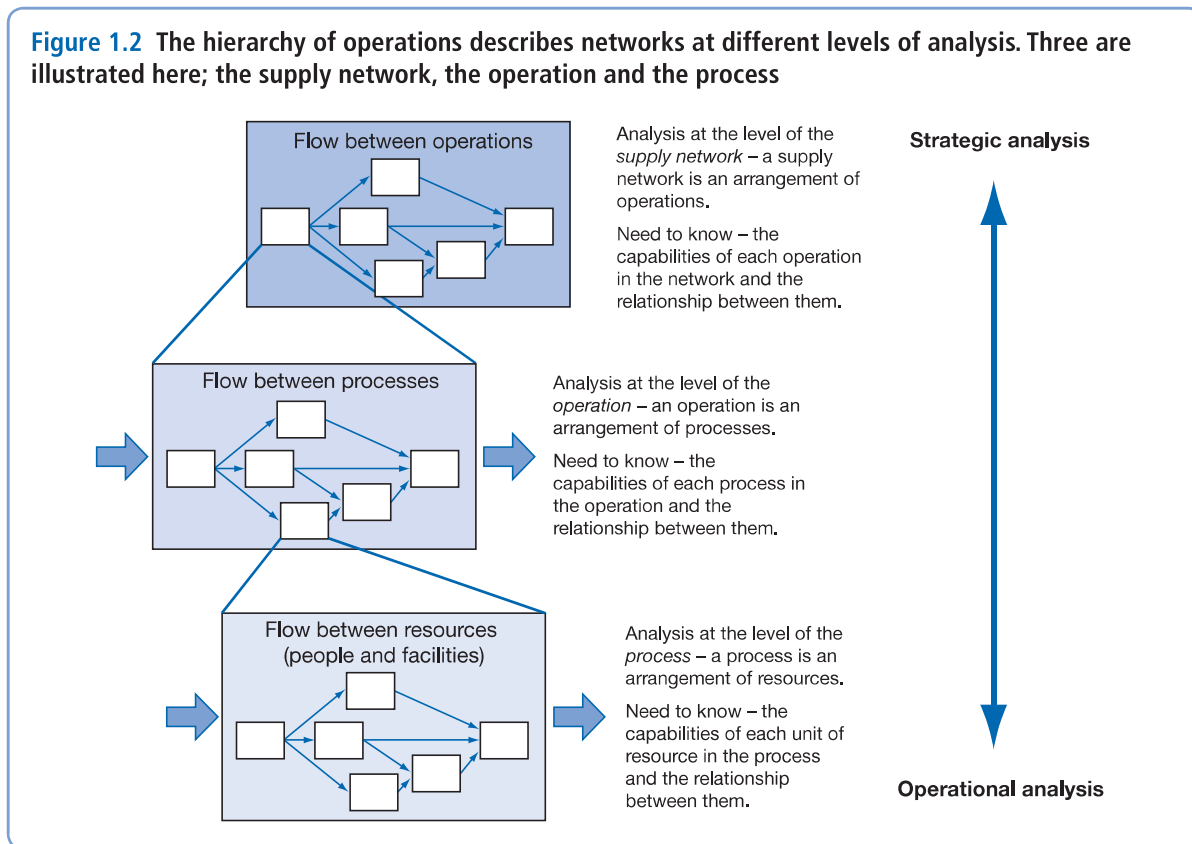
Operations, networks and ‘levels of analysis’

In Figure 1.1 we illustrated ‘processes’ within a transformation system as a network of transforming resources. By a ‘network’ we simply mean a group of two or more sets of resources linked together.

The idea of the network is fundamental to operations because *all* operations are formed of networks: networks of individual staff with their technology (e.g. computers), through which information flows; networks of work centres or departments moving physical products between them; and networks of businesses trading a complex mix of services. Networks can describe operations activity of many different types at many different levels of analysis. At a detailed micro level, networks of individual units of resource (technology and people) form processes. At a slightly higher ‘level of analysis’, these processes themselves are linked together to form larger organisational units that, again, are the elements of what is generally called ‘the operation’. And many processes in this internal network will be in the other functions of the business. Thus, sales, marketing, HRM, finance and all the other functions’ processes will form part of (and hopefully be integrated with) this internal process network. At an even higher level of analysis, any operation can also be viewed as part of a greater network of operations. It will have operations that supply it with the input products and services it needs to make its own products and services. And unless it deals directly with the end consumer, it will supply customers who themselves may go on to supply their own customers. Moreover, any operation could have several suppliers, several customers and may be in competition with other operations producing similar services to those it produces itself. This collection of operations is called the ‘supply network’.

The important point here is that at each level of analysis, operations managers must understand the capabilities of the resources that form each element of their network, and how effectively they are linked together as networks. This idea is illustrated in Figure 1.2, which shows three levels of analysis: the level of the process (a network of individual units of resource), the level of the ‘operation’ (a network of processes) and the level of the supply network (a network of operations). This idea is called the ‘hierarchy of operations’. In the study of operations strategy we shall largely (but not exclusively) focus on the higher levels of analysis.

Figure 1.2 The hierarchy of operations describes networks at different levels of analysis. Three are illustrated here; the supply network, the operation and the process



Not all operations are the same

All operations and processes differ in some way and so will need managing differently. Some differences are ‘technical’ in the sense that different products and services require different skills and technologies to produce them. However, processes also differ in terms of the nature of demand for their products or services. Four characteristics of demand, sometimes called the ‘Four Vs’, have a significant effect on how processes need to be managed:

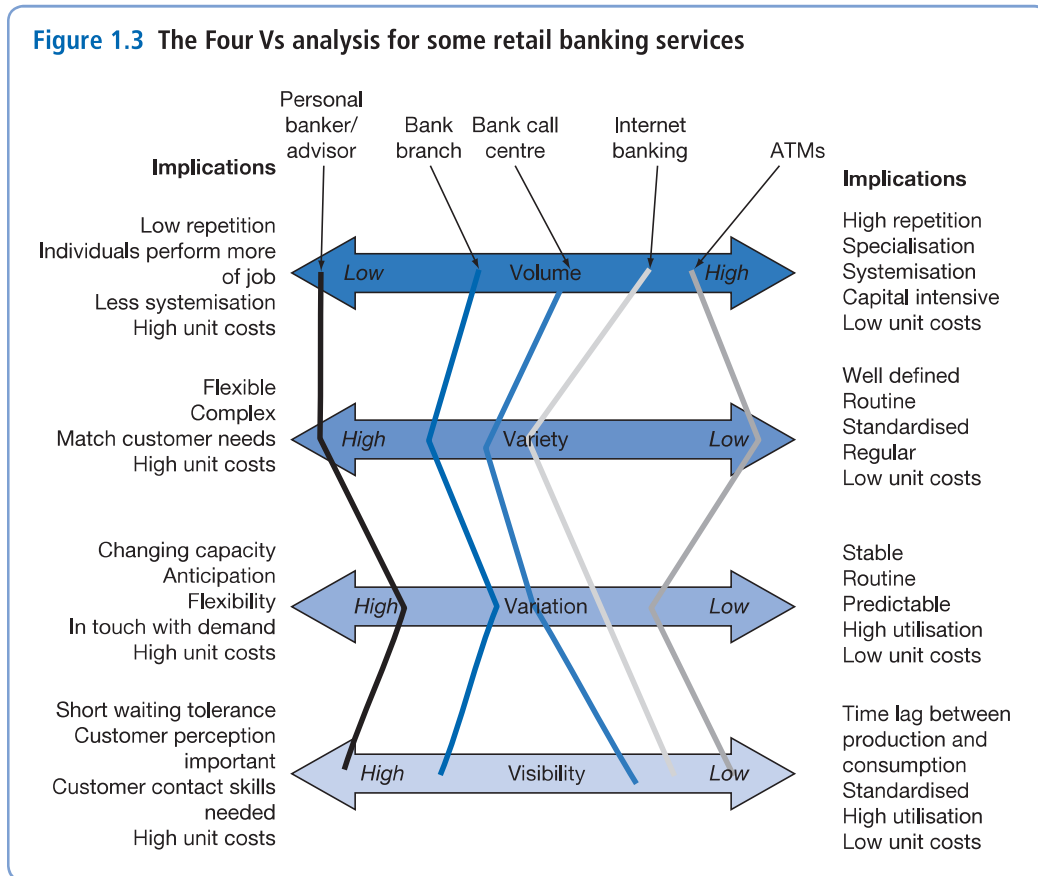
- 1 **Volume** – A high volume of output means a high degree of repeatability, making a high degree of specialisation both feasible and economic. This allows for the systemisation of activities and specialised technology that gives higher processing efficiencies. By contrast, low-volume processes with less repetition cannot specialise to the same degree. Staff perform a wider range of tasks that are less open to systemisation. Nor is it likely that efficient, high-throughput technology could be used. The implication of this is that high volume results in lower unit costs than low volume. So, for example, the volume and standardisation of large fast-food restaurant chains, such as McDonald’s or KFC, enables them to produce with greater efficiency than a small, local cafeteria or diner.

- 2 **Variety** – Producing a high variety of products and services must involve a wide range of different activities, changing relatively frequently between each activity. It must also contain a wide range of skills and technology that is sufficiently ‘general purpose’ to cope with the range of activities and sufficiently flexible to change between them. High variety may also imply a relatively wide range of inputs and the additional complexity of matching customer requirements to appropriate products or services. Thus, high variety generally means higher costs than low variety. For example, a taxi company is usually prepared to pick up and drive customers almost anywhere (at a price). There are an infinite number of potential routes (products) that it offers. But, its cost per kilometre travelled will be higher than a less customised form of transport, such as a bus service.
- 3 **Variation** – Processes are generally easier to manage when they only have to cope with predictably constant demand. Resources can be geared to a level that is just capable of meeting demand. All activities can be planned in advance. By contrast, when demand is variable and/or unpredictable, resources will have to be adjusted over time. Worse still, when demand is unpredictable, extra resources will have to be designed into the process to provide a ‘capacity cushion’ that can absorb unexpected demand. For example, manufacturers of high-fashion garments have to cope with both seasonality and the uncertainty of whether particular styles may prove popular. Producing conventional business suits, by contrast, will be both less seasonal and more predictable. Because processes with lower variation do not need any extra safety capacity and can be planned in advance, they will generally have lower costs than those with higher variation.
- 4 **Visibility** – Process visibility is a slightly more difficult concept to envisage. It indicates how much of the value added by the operation is ‘experienced’ directly by customers, or how much it is ‘exposed’ to its customers. Generally, processes that act directly on customers (such as retail processes or health care processes) will have higher visibility than those that act on materials and information. However, even material- and information-transforming processes may provide a degree of visibility to the customers. For example, parcel distribution operations provide internet-based ‘track and trace’ facilities to enable their customers to have visibility of where their packages are at any time. In low-visibility operations the time lag between customer request and response could be measured in days rather than the near-immediate response expected from high-visibility ones. This lag allows the activities to be performed when it is convenient to the operation, thus achieving higher utilisation. Also, staff in high-visibility operations will need customer contact skills. For all these reasons, high visibility tends to result in higher costs than low visibility.

The implications of the Four Vs of processes

The importance of the Four Vs is that they are the result of strategic decisions that have been taken by an operation. The types of products and services it chooses to develop, and the type of markets that it chooses to enter, will define the volume, variety, variation and visibility with which the operation has to cope. At the same time, all four Vs will affect the way that the operation’s processes are managed. The Four Vs act as a link between the strategic and operational aspects of operations management. The most obvious implication of an operation’s positioning on the Four Vs is on processing costs. Put simply, high volume, low variety, low variation and low visibility all help to keep

Figure 1.3 The Four Vs analysis for some retail banking services

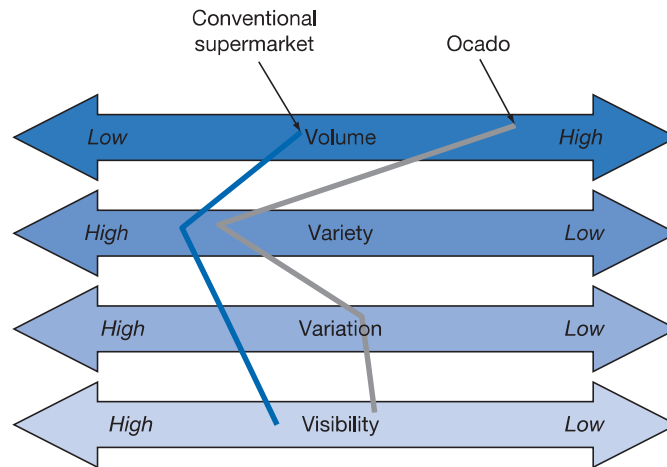


processing costs down. Conversely, low volume, high variety, high variation and high customer contact generally carry some kind of cost penalty for the process. This is why the volume dimension is often drawn with its 'low' end at the left, unlike the other dimensions, to keep all the 'low cost' implications on the right. Figure 1.3 summarises the implications of such positioning and illustrates the different positions on the Four Vs for some retail banking processes. Note that the personal banking/advice service is positioned at the high-cost end of the Four Vs, which is why it is generally offered to customers that represent high profit opportunities. Other, more automated services, such as ATMs and internet banking, have far lower costs.

Example Online versus supermarket grocery retailing²

The retail industry is huge; we all shop – some more than others. For example, in the UK, wholesale and retail activity contributes almost 12 per cent of total Gross Value Added, and this is typical of developed economies. The retail industry, however, has been changing. In particular, more shopping takes place online. But for a time there was one exception – groceries. It is the biggest category in retailing but has been relatively impervious to the encroachment of online shopping.

Figure 1.4 The Four Vs analysis for a conventional supermarket and Ocado



There are good reasons for this. First, established retailers worry that online shopping will simply reduce sales at their shops without reducing the costs of doing business. Second, many grocery items have relatively low value (and profit margins). Third, different items need to be stored at different temperatures. Fourth, delivery costs can be expensive – usually more than customers are willing to pay. Finally, many customers want to inspect fresh produce before they buy it. In addition, the early history of online grocery retailing was not encouraging. One of the first, California’s Webvan, expanded fast but collapsed when its revenues could not match its costs.

In the UK, online grocery sales have made more of an impact than most of the world, partly because it is a small, relatively populous country. One of its largest online grocers is Ocado, which has built large, super-efficient warehouses (which require considerable investment). But the advantage of large ‘fulfilment centres’ such as Ocado’s can be understood by looking at its Four Vs (see Figure 1.4). Each fulfilment centre serves a large geographic area that has a high volume of demand. Although it confines itself to grocery items, unlike some larger supermarkets that stock hardware and larger items, its variety is still relatively wide. Again, because of its scale, the variation in demand will be proportionally less than a conventional supermarket. Finally, the picking and packing is done centrally away from the customer, who will only have ‘visibility’ of Ocado through the website and at the time of delivery. Notice how the Ocado-style operation is positioned on the Four Vs towards the lower-cost end compared to a conventional supermarket. The question for online grocery retailers is whether these operational efficiencies will pay for the extra costs of delivery and the investment in fulfilment centres.

What is strategy?

We have used the word ‘strategy’ several times. But what exactly is strategy? Surprisingly, it is not easy to answer what seems like a straightforward question. Linguistically, the word derives from the Greek word *strategos*, meaning ‘leading an army’. And although there is no direct historical link between Greek military practice and modern

ideas of strategy, the military metaphor is powerful. Both military and business strategy can be described in similar ways, and include some of the following:

- Setting broad objectives that direct an enterprise towards its overall goal
- Planning the path (in general rather than specific terms) that will achieve these goals
- Stressing long-term rather than short-term objectives
- Dealing with the total picture rather than stressing individual activities
- Being detached from, and above, the confusion and distractions of day-to-day activities

Later views of strategy have introduced some of the practical realities of business, based on observations of how organisations really do go about making (or not making) strategic decisions. These include the following:

- Business objectives may not ever become ‘clear’. In fact, most organisations will have multiple objectives that may themselves conflict. For example, an outsourcing decision may improve profitability but could involve a firm in long-term reputational risk.
- Markets are intrinsically unstable in the long term, so there must be some limit to the usefulness of regarding strategy as simply planning what to do in the future. It may be more important to keep close to what is actually happening in the market and adapt to whatever circumstances develop.
- Many decisions are far less formal than the simple planning model assumes. In fact, many strategic decisions ‘emerge’ over time rather than derive from any single, formal senior management decision.
- Organisations do not always do in practice what they say they’ll do, or even what they want to do. The only way to deduce the effect strategy of an organisation is to observe the pattern of decisions that it makes over time.

In this book we recognise the problematic nature of strategy. Nevertheless, we do offer some models and approaches that implicitly assume that managers can have some influence over the strategic direction of their organisation – even if this influence may, at times, be limited. So, notwithstanding the uncertainties and complexities of real strategy making, it is our belief that some kind of structure, model or plan can help most managers to understand what they believe they should be doing. Also note that, although strategy is described here as being an ‘enterprise-level’ issue, almost everything that is contained in the previous discussion can also apply to an individual function or subset of an enterprise. This is an area we shall develop later.

Example Sometimes any plan is better than no plan

There is a famous story that illustrates the importance of having some kind of plan, even if hindsight proves it to be the wrong plan.³ During manoeuvres in the Alps, a detachment of Hungarian soldiers got lost. The weather was severe and the snow was deep. In these freezing conditions, after two days of wandering, the soldiers gave up hope and became reconciled to a frozen death on the mountains. Then, to their delight, one of the soldiers discovered a map

in his pocket. Much cheered by this discovery, the soldiers were able to escape from the mountains. When they were safe back at their headquarters, they discovered that the map was not of the Alps at all, but of the Pyrenees. The moral of the story? A plan (or a map) may not be perfect but it gives a sense of purpose and a sense of direction. If the soldiers had waited for the right map they would have frozen to death. Yet, their renewed confidence motivated them to get up and create opportunities.

What is operations strategy and how is it different from operations management?

One of the biggest mistakes a business can make is to confuse 'operations' with 'operational'. The meaning of 'operational' is the opposite of strategic; it means detailed, localised, short term and day to day. And operations *management* is very much like this. Yet, 'managing the resources and processes that produce and deliver goods and services' should also be seen as a long-term and strategic issue. More importantly, it should be seen as one that can have a significant strategic impact. So, in answer to the question 'What is the difference between operations strategy and operations management?', at a superficial level, the answer is: 'It's a strategic perspective on how operations resources and processes are managed'. Yet, this overlooks some important implications.

- **Operations strategy is longer term.** Operations management is largely concerned with short to medium time-scales while operations strategy is concerned with more long-term issues.
- **Operations strategy is concerned with a higher level of analysis.** Operations management is largely concerned with managing resources within and between smaller operations (departments, work units etc.) whereas operations strategy is more concerned with decisions affecting a wider set of the organisation's resources and the supply network of which they are a part.
- **Operations strategy involves a greater level of aggregation.** Operations management is concerned with the details of how products and services are produced. Individual sets of resources are treated separately, as the component parts of the operation. Operations strategy, on the other hand, brings together and consolidates such details into broader issues.
- **Operations strategy uses a higher level of abstraction.** Operations management is concerned largely with what is immediately recognisable and tangible. Operations strategy often deals with more abstract, less directly observable, issues.

See Table 1.1 for some examples of operations management and operations strategy questions.

Nor is operations strategy simply a blend of the subjects of operations management and strategic management. It is an operations-based subject that is concerned with operations issues.

Its feet are firmly in the operations 'camp', even if its direction and purpose are strategic. Perhaps more significantly, it believes that many of the businesses that seem to be especially competitively successful, and who appear to be sustaining their success into the longer term, have a clear (and often innovative) operations

Table 1.1 Examples of operations management and operations strategy questions

<i>Difference</i>	<i>Operations management example</i>	<i>Operations strategy example</i>
Longer time-scale	<i>'What demand fluctuations do we have to deal with over the next few months?'</i>	<i>'When should we plan to add further capacity so that we can meet rising forecast demand?'</i>
Higher level of analysis	<i>'Where should we position each product category within our department store?'</i>	<i>'How many stores should we have, where should we locate them and how should we supply them?'</i>
Higher level of aggregation	<i>'How do we provide tax advice to the small business sector in Antwerp?'</i>	<i>'What is our overall business advice capability compared with our other European activities?'</i>
Higher level of abstraction	<i>'How do we improve our purchasing procedures?'</i>	<i>'Should we develop strategic alliances with selected medical products suppliers?'</i>

strategy. Just look at some of the high-profile companies quoted in this book, or that feature in the business press. From Tesco to IKEA, from Ryanair to Singapore Airlines, it is not just that their operations strategy provides these companies with adequate support; it is their operations strategy that is the pivotal reason for their competitive superiority. Even businesses, such as Coca-Cola or Heinz, that are more marketing and brand-driven need a strong operations strategy. Their brand position may be shaped in the consumers' mind by their promotional activities, but it would soon erode if they could not deliver products on time, or if their quality was sub-standard, or if they could not introduce new products in response to market trends. So, for example, a 'fast-moving consumer goods' (FMCG) company that has operations that are capable of mastering new process technologies, or flexing their capacity, or running agile yet efficient supply chains, or continually cutting cost out of the business through its improvement programme, will have a huge advantage over less capable rivals.

Four perspectives on operations strategy

Just as there is no overall agreement about what 'strategy' means, there is no universal agreement on how 'operations strategy' should be described. Different authors have slightly different views and definitions of the subject. Between them, four 'perspectives' on the subject emerge.

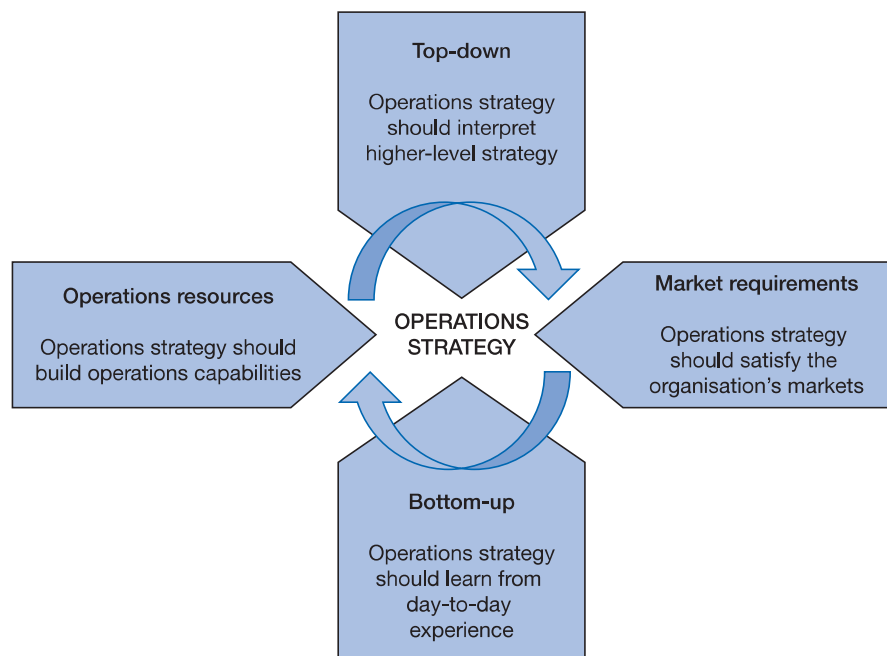
- 1 Operation strategy is a 'top-down' reflection of what the whole group or business wants to do.
- 2 Operations strategy is a 'bottom-up' activity where operations improvements cumulatively build strategy.
- 3 Operations strategy involves translating 'market requirements' into operations decisions.
- 4 Operations strategy involves exploiting the capabilities of 'operations resources' in chosen markets.

None of these four perspectives alone gives the full picture of what operations strategy is. But together they provide some idea of the pressures that go to form the content of operations strategy. We will treat each in turn (see Figure 1.5).

How should operations strategy reflect higher-level strategy? The top-down perspective

An operations strategy must reflect the decisions taken at the top of the organisation, which set the overall strategic direction of the organisation. This is called a 'top-down' approach to operations strategy. So, if the organisation is a large, diversified corporation, its corporate strategy will consist of decisions about what types of business the group wants to be in, in what parts of the world it wants to operate, what businesses to acquire and what to divest, how to allocate its cash between its various businesses and so on. Within the corporate group, each business unit will also need to put together its own business strategy, which sets out its individual mission and objectives, as well as defining how it intends to compete in its markets. Similarly, within the business each function will need to consider what part it should play in contributing to the strategic and/or competitive objectives of the business by developing a functional strategy that guides its actions within the business. So, in the 'top-down' view, these three levels of strategy – corporate, business and functional – form a hierarchy, with business strategy forming the context of functional strategies and corporate strategy forming the context of business strategies.

Figure 1.5 Four perspectives on operations strategy – top-down, bottom-up, market requirements and operations resources



A metrology instruments company example

For example, a manufacturer of metrology instruments is part of a group that contains several high-tech companies. It has decided to compete by being the first in the market with every available new product innovation. Its operations function, therefore, needs to be capable of coping with the changes that constant innovation will bring. It must develop processes that are flexible enough to manufacture novel parts and products. It must organise and train its staff to understand the way products are developing so that they can put in place the necessary changes to the operation. It must develop relationships with its suppliers that will help them to respond quickly when supplying new parts. Everything about the operation – its technology, its staff and its systems and procedures – must, in the short term, do nothing to inhibit the company's competitive strategy.

How can operations strategy learn from day-to-day experience? The bottom-up perspective

In reality, the relationship between the levels in the strategy hierarchy is more complex than the top-down perspective implies and certainly does not represent the way strategies are always formulated. Businesses, when reviewing their strategies, will (hopefully) consult the individual functions within the business. In doing so, they may also incorporate the ideas that come from each function's day-to-day experience. Therefore, an alternative view to the top-down perspective is that many strategic ideas emerge over time from actual experiences. Sometimes companies move in a particular strategic direction because the ongoing experience of providing products and services to customers at an operational level convinces them that it is the right thing to do. There may be no high-level decisions examining alternative strategic options and choosing the one that provides the best way forward. Instead, a general consensus emerges, often from the operational level of the organisation. The 'high-level' strategic decision making, if it occurs at all, may confirm the consensus and provide the resources to make it happen effectively. This idea of strategy being shaped by experience over time is sometimes called the concept of emergent strategies.⁴ Strategy gradually becomes clearer over time and is based on real-life experience rather than theoretical positioning. Indeed, strategies are often formed in a relatively unstructured and fragmented manner to reflect the fact that the future is at least partially unknown and unpredictable. This may seem not to be a particularly useful guide for specific decision making. Yet, while emergent strategies are less easy to categorise, the principle governing a bottom-up perspective is clear: 'shape the operation's objectives and action, at least partly, by the knowledge it gains from its day-to-day activities'. The key virtues required for doing this are an ability to learn from experience and a philosophy of continual and incremental improvement that is built into the strategy-making process.

A metrology instruments company example (continued)

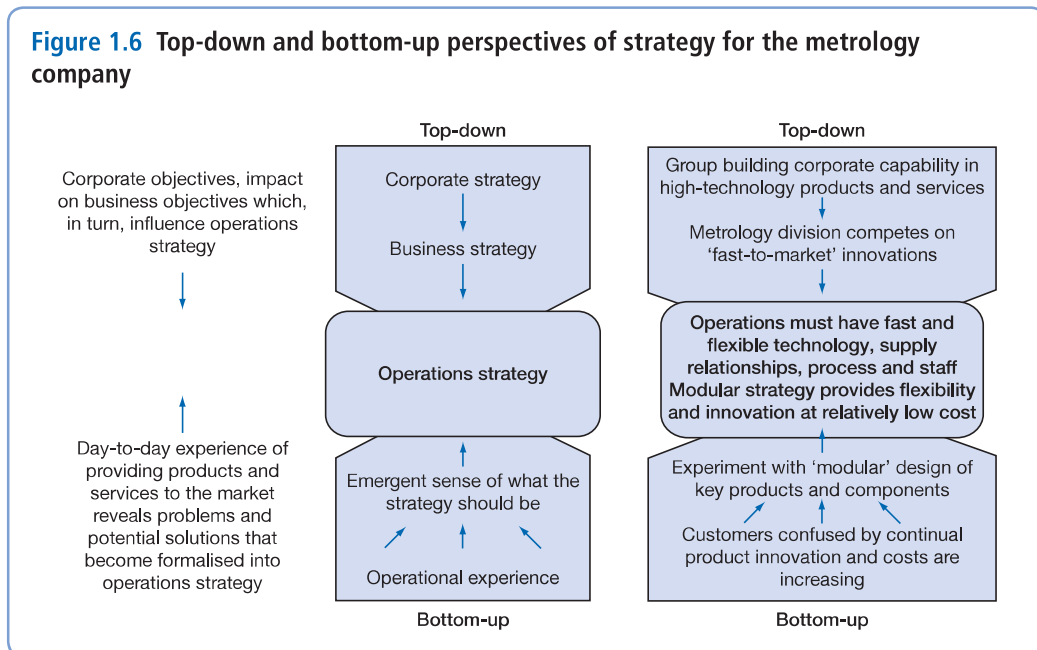
For example, the manufacturer of metrology instruments, described earlier, discovers that continual product innovation both increases its costs and confuses its customers. The company's designers therefore work out a way of 'modularising' their product designs so that one part of the product can be updated without interfering with the design of the main body of the product. This approach becomes standard design practice within the company. Note that this strategy has emerged from the company's

experience. No top-level board decision was probably ever taken to confirm this practice, but nevertheless it emerges as the way in which the company organises its designs. Figure 1.6 illustrates both the top-down and bottom-up for this example.

How do the requirements of the market influence operations strategy? The market requirements perspective

Operations exist to serve markets. Indeed, a sensible starting point for any operations strategy is to look to its markets and ask the simple but important question, ‘How can operations help the organisation to compete in its market place?’ Remember, though, that the organisation itself usually has some influence over what its markets demand, if for no other reason than that it has chosen to be in some markets rather than others. Therefore, by choosing to inhabit a particular market position, the organisation is, to some extent, influencing how easy it is for the operations function to support the market position. This opens up the possibility that, in some circumstances, it may be sensible to shift the markets in which the organisation is trying to compete, in order to reflect what its operation is good (or bad) at. We shall discuss this in more detail later; for now we return to the important point that operations strategy must reflect the organisation’s market position. And the starting point for this is to develop an understanding of what is required from the operation in order to support the market position. One problem with this is that the concepts, language and, to some extent, philosophy used by the marketing function to help them understand that markets are not always useful in guiding operations activities. So, descriptions of market needs developed by marketing professionals usually need ‘translating’ before they can be used in an operations strategy analysis.

Figure 1.6 Top-down and bottom-up perspectives of strategy for the metrology company



Example **Everyday low prices at Aldi⁵**

Aldi has become one of the fastest growing retailers in Europe. It is an international 'limited assortment' supermarket specialising in 'private label', mainly food products. The firm has carefully focused its service concept and delivery system to attract customers in a highly competitive market. The company believe that their unique approach to operations management make it, '... virtually impossible for competitors to match our combination of price and quality'. And in It has proved especially successful in meeting the increasingly price-conscious behaviour of customers. How have they done this? By challenging the norms of how they organise their retail operations. They keep their in-store and supply operations deliberately simple, using basic facilities to keep down overheads. Most stores stock only a limited range of goods (typically around 700, compared with 25,000 to 30,000 stocked by conventional supermarket chains). Their private label approach means that the products have been produced according to Aldi-quality specifications and are only sold in Aldi stores. Without the high costs of brand marketing and advertising and with Aldi's formidable purchasing power, prices can be 30 per cent below their branded equivalents. Other cost-saving practices include open carton displays, which eliminate the need for special shelving, no grocery bags to encourage recycling as well as saving costs, multiple bar codes on packages (to speed up scanning) and using a 'cart rental' system, which requires customers to return the cart to the store to get their coin deposit back.

Market positioning is influenced by (amongst other things) customers and competitors. Both, in turn, influence operations strategy. Market segmentation is a common approach to understanding markets by viewing heterogeneous markets as a collection of smaller, more homogeneous, markets. Usually, this is done by assessing the needs of different groups of potential users in terms of the needs that will be satisfied by the product or service. Segmentation variables help to classify these needs. The marketing purpose of segmentation is to ensure that the product or service specification, its price, the way it is promoted and how it is channelled to customers are all appropriate to customer needs. However, market segmentation is also important in shaping operations strategy. The same needs that define markets will shape the objectives for operations' attempt to satisfy those needs. Similarly, how an organisation chooses to position itself in its market will depend on how it feels it can achieve some kind of advantage over its competitors. This, of course, will depend on how its competitors have positioned themselves. Although one particular segment of a market may look attractive, the number of other companies competing in it could deter any new entrants. However, if a company sees itself as having the operations capability of servicing that market better, even in the face of the competition from other firms, it may be worth entering the market. So, both customer and competitor analysis is a prerequisite to developing an effective operations strategy.

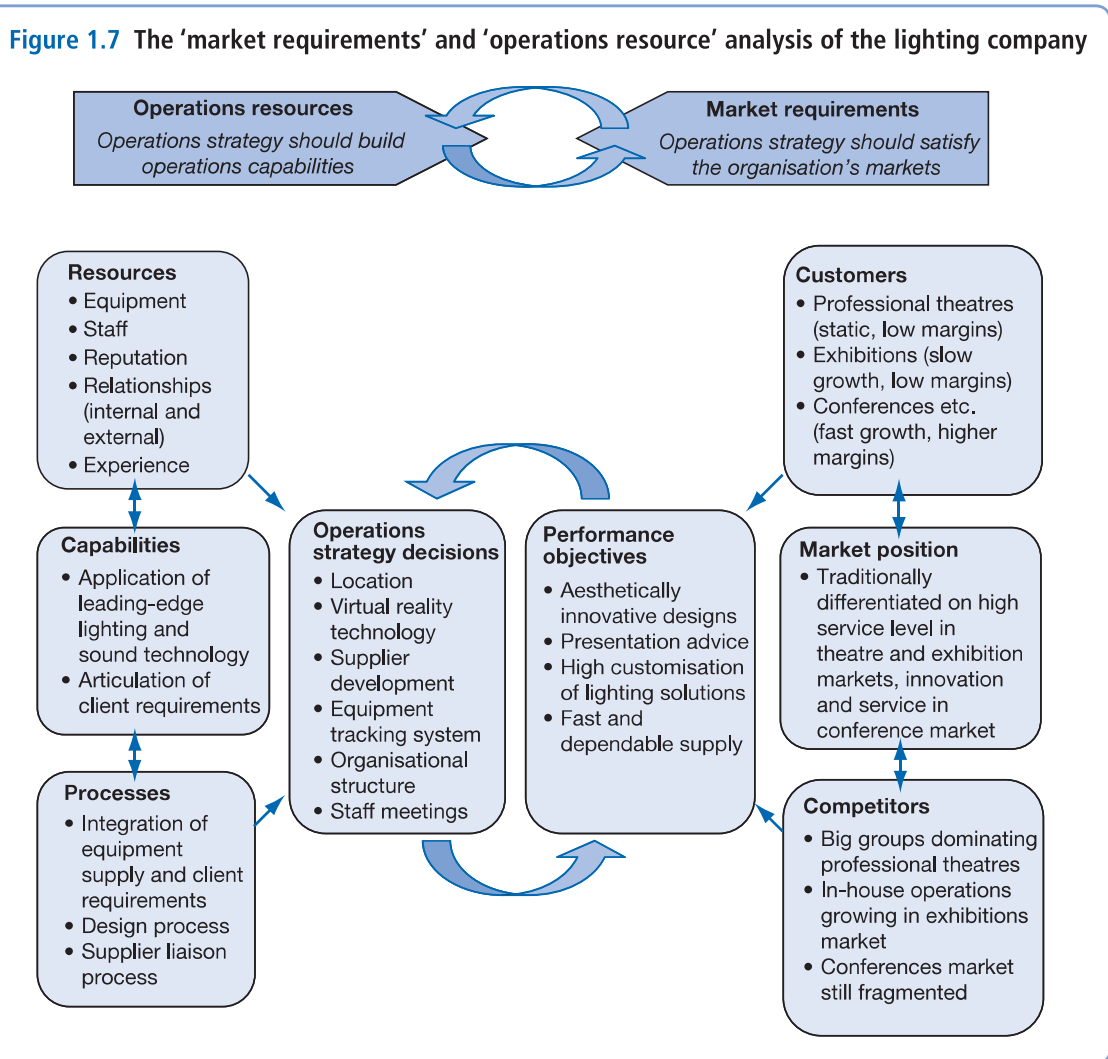
A theatre lighting example

The original business of a medium-sized theatre lighting company was devoted to designing the lighting arrangements and hiring the necessary equipment for theatrical and entertainment events, exhibitions and conferences. The company could supply any specialist lighting equipment, partly because it held a wide range and partly because it had developed close relationships with other equipment hire firms. It also focused on the 'top end' of the lighting market, targeting customers who were less price-conscious. This was becoming a problem in the theatre lighting and exhibition markets

because competition was forcing margins lower as competitors undercut prices. Soon they realised that the greatest potential for profitable growth lay in the conference market, where competition was not yet as fierce and where its high (but expensive) service levels, ability to give presentation advice and innovation were valued. The right-hand side of Figure 1.7 illustrates how this analysis of the company’s customers and competitors sets the performance objectives for its operations strategy.

In this case the ‘translation’ logic goes something like the following:

- 1 There are several segments in the lighting design and supply market, but the fastest-growing segment is the conference market.
- 2 Competition is getting tougher in the theatre market because the large international lighting groups are able to provide lower-cost lighting solutions. Also, exhibition venues are increasingly developing in-house operations and encouraging exhibitors to use the in-house service. Margins are being squeezed in both markets.



- 3 The company has therefore chosen to target the broad conference market, where margins and growth are higher.
- 4 They believe they can differentiate themselves from competitors by their aesthetically innovative designs, ability to give good presentation advice, high customisation of lighting solutions and fast and reliable supply.
- 5 Operations, therefore, needs to prioritise high-quality technical and aesthetic consultancy advice, customisation, fast response and dependability.

Although these are somewhat simplified statements, they demonstrate a path of increasing specificity, with increasing meaning to the operations function of the business. Not all businesses work through this logic in such a systematic way, nor is it intended to be a prescription, as such, but it is an example of how the market to operations *translation* process can work. This perspective on operations strategy is sometimes called the ‘outside-in’ perspective.

Performance objectives

The last stage of analysis described above needs more explanation. This is the stage that identifies the performance objectives for the operation; that is, the aspects of operations performance that satisfy market requirements and therefore that the operation is expected to pursue. Many authors on operations strategy have their own set of performance objectives, and no overall agreement exists on terminology. They are referred to variously as ‘performance criteria’, operations ‘strategic dimensions’, ‘performance dimensions’, ‘competitive priorities’ and ‘strategic priorities’. Here, we will be using the term ‘performance objectives’. While there are differences between authors as to exactly what these performance dimensions are, there are some commonly used categories. Here, we will use a set of five performance objectives that have meaning for any type of operation (though obviously their relative priorities will differ). Within these five we will subsume the other dimensions.

- 1 Quality
- 2 Speed
- 3 Dependability
- 4 Flexibility
- 5 Cost

Performance objectives and the issue of performance, in general, will be examined in more detail in the following chapter.

How can the intrinsic capabilities of an operation’s resources influence operations strategy? The operations resource perspective

The resources and processes within an operation are not simply passive elements; they have an existence and a role that should be part of any operations strategy. No surprise, then, that the long-term management of resources and processes is often regarded as the underlying rationale for operations strategy (although, generally, we drop the ‘processes’ bit and just call this perspective the ‘operations resource’ perspective). The problem again is one of translation because the approach and terminology that are useful for understanding a firm’s resources are not necessarily appropriate to clarify the nature of

the decisions that shape those resources. A useful starting point is to understand ‘what we have’ – that is, the totality of the resources owned by, or available to, the operation. Next, one needs to link the broad understanding of resources and processes with the specific operations strategy decisions: ‘what actions we are going to take’. To achieve this linkage we need a concept to bridge the gap between the sometimes fuzzy understanding of ‘what is there’ and the necessarily more specific ‘what should we do?’ stages. In the operations resource perspective we use the concept of operations capabilities.

Operations resources, processes, routines and capabilities

Listing its resources provides a first step in understanding an operation, but this is rather like describing an automobile by listing its component parts. To understand how an operation works we need to examine the interaction between its resources. For example, how different resources, such as processing centres, are positioned relative to each other, how staff are organised into units and so on. These arrangements of resources constitute the processes of the operation that describe the way things happen in the operation. To return to the automobile analogy, processes are the mechanisms that power, steer and control its performance. Yet even this technical explanation of an automobile’s mechanisms does not convey either the full extent of how it performs on the road or its style, feel and ‘personality’. Similarly, any view of an operation that limits itself to a description of its obvious tangible resources and processes fails to move our knowledge of the operation beyond the most basic level. Any audit of a company’s resources and processes needs to include the organisation’s intangible resources. These are the factors that may not be directly observable but are nonetheless significant in enabling any company to function. They include such things as

- supplier relationships, contracts and mutual understanding of how suppliers are managed;
- knowledge of, and experience in, dealing with technology sources and labour markets;
- process knowledge relating to the day-to-day production of products and services;
- new product and service development skills and procedures; and
- contacts and relationships in the market that enable an understanding of market trends and more specific customer needs.

Notice how many of the issues concerning intangible assets involve not so much what an operation has, but what it does. All operations have documented procedures to formalise their regular activities, such as ‘generating orders’, ‘fulfilling orders’, ‘developing new products and services’ and so on. But they also have ways of getting things done that are less formally documented. The effectiveness of these informal practices depends on the relationships between individual staff, their shared values and understandings of overall objectives, the tacit (non-articulated) knowledge accumulated by individuals, an understanding of ‘who knows what’ and ‘who can get things done’ and so on. It is these informal arrangements of a company’s resources that go a long way to explaining the effectiveness of its operations. Not that the formal processes are unimportant. It is the combination of formal and informal processes, explicit and tacit knowledge, the intrinsic attributes of the company’s resources and the way in which these resources are deployed that describes an operation’s abilities. The collective term for both formal and informal processes is the ‘routines’ of the firm. Accountants have considerable trouble when

dealing with intangible resources (or invisible assets as they are sometimes called). Yet intangible assets are often the reason for a firm's success. Bill Gates, who guided Microsoft in its most successful years, pointed out that *'... our primary assets, which are our software and software development skills, do not show up in the balance sheet at all'*.⁶

Example Amazon develops its operations capabilities⁷

A firm's competencies are not always immediately apparent – they develop, sometimes to take a firm in surprising directions. To most of us, Amazon is generally seen as an online retailer that started selling books and now provides the biggest internet 'shop front' for all types of consumer products. Yet, over time, Jeff Bezos, Amazon's founder, has turned the company into a provider of infrastructure and services to many other firms, including many of its retail rivals. Amazon's store front is just the tip of an iceberg that touches so many people's lives that, according to some commentators, 'they're becoming as important as utilities'. As Jeff Bezos puts it: *'We are creating powerful self-service platforms that allow thousands of people to boldly experiment and accomplish things that would otherwise be impossible or impractical.'* In other words, the firm's resources and processes (customer information, cloud computing server space, high-technology warehouse facilities, data mining expertise and so on) allow other companies to 'outsource' even their core processes to Amazon. In effect, Amazon can offer services that run marketing, customer relationships, payments, computing, logistics and distribution for any company wanting to sell its goods and services to the public.

It may not be glamorous, but Amazon has focused on what have been called 'the dull-but-difficult tasks' such as tracking products, managing suppliers, storing inventory and delivering boxes. Fulfilment by Amazon allows other companies to use Amazon's logistics capability, including the handling of returned items, and access to Amazon's 'back-end' technology.

Amazon Web Services, its cloud computing business, provides the computing power for small and larger high-profile customers, such as Spotify's digital music service and Netflix's video streaming service. But why should any business want to allow Amazon to have such control over its activities? Mainly because it allows entrepreneurs to create start-ups and established companies to expand their activities without the huge investment they would need to build appropriate infrastructure themselves. Amazon's large and efficient operations are also better value than smaller companies could achieve. On the other hand, it does mean that businesses using Amazon's services do lose some autonomy – Amazon can be both a rival retailer and a service provider. Amazon is also able to see some of their critical business details, such as sales and inventory levels. And what's in it for Amazon? Well, profit – generally, the service fees it charges companies are more profitable than buying and selling the products itself.

At first, some observers criticised Amazon's apparent redefinition of its strategy. 'Why not', they said, 'stick to what you know, focus on your core competence of internet retailing?' Bezos's response was clear: *'We are sticking to our core competence.... The only thing that's changed is that we are exposing it for (the benefit of) others.'*

The resource-based view of the firm

The concepts of intangible (or invisible) resources and of routines are central to what is sometimes called the 'resource-based view' (or RBV) of strategic management. The resource-based view is based on the notion that most companies consider themselves to be particularly good at some specific activities, but try to avoid head-to-head competition in others. It has its origins in early economic theory. Some of the initial works

in strategic management also included consideration of the firm's internal resources. The 'SWOT' (strengths/weaknesses/opportunities/threats) approach saw competitive advantage as exploiting the opportunities raised in the competitive environment using the firm's strengths, while neutralising external threats and avoiding being trapped by internal weaknesses. While one school of thought, the 'environmental' school, focused on a firm's opportunities and threats, the other, the 'resource-based', focused on a firm's strengths. The two schools of thought differ in the way they explain why some companies outperform others over time – what strategists call a 'sustainable competitive advantage' (SCA). Through the 1970s and 1980s, the dominant school, the environmental school, saw a firm's performance as being closely related to the industrial structure of its markets. In this view, key strategic tasks centred on how a firm positioned itself within its market. It should analyse the forces present within the environment in order to assess the profit potential of the industry, and then design a strategy that aligns the firm to the environment. By contrast, the 'resource-based' explanation of why some companies manage to gain sustainable competitive advantage focuses on the role of the resources that are (largely) internal to the company's operations. Put simply, 'above-average' performance is more likely to be the result of the core capabilities (or competences) inherent in a firm's resources than its competitive positioning in its industry.

The RBV also differs in its approach to how firms protect any competitive advantage they may have. The environmental view sees companies as seeking to protect their competitive advantage through their control of the market – for example, by creating barriers to entry through product or service differentiation. By contrast, the RBV sees firms being able to protect their competitive advantage by building up 'difficult-to-imitate' resources. So the resources that a firm possesses are closely linked to its ability to outperform competitors. Certain of these resources are particularly important, and can be classified as 'strategic' if they exhibit the following properties.

- They are scarce. Unequal access to (or information about) resources can lead to their uneven distribution amongst competing firms. In this way, scarce resources such as specialised production facilities, experienced engineers, proprietary software etc. can underpin competitive advantage.
- They are imperfectly mobile. Some resources are difficult to move out of a firm. For example, resources that were developed in-house, or are based on the experience of the company's staff, cannot be traded easily. As a result, the advantages that they create are more likely to be retained over time.
- They are imperfectly imitable and imperfectly substitutable. These critical dimensions help define the overall sustainability of a resource-based advantage. It is not enough only to have resources that are unique and immobile. If a competitor can copy these resources or, less predictably, replace them with alternative resources, then their value will quickly deteriorate. Again, the more the resources are connected with tacit knowledge and routines embedded within the firm, the more difficult they are for competitors to understand and to copy.

The VRIO framework

The most common (and useful) way of evaluating potential strategic resources is what has become known as the VRIO framework.⁸ It was first developed by Barney in the 1990s⁹ (who originally identified the idea of resources needing to be scarce, imperfectly

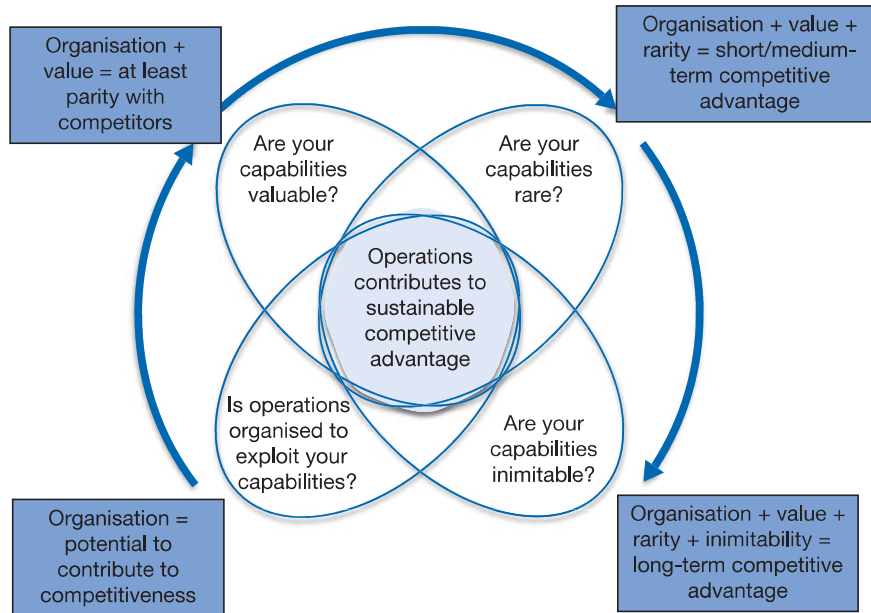
mobile, imperfectly imitable and imperfectly substitutable) but later modified to make it more useful for practitioners. In this framework, the resources must be valuable (V), rare (R), imperfectly imitable (I) and the firm organised to capture the value of the resources (O). So, using this framework, the four questions to ask about any potentially strategic resource are as follows

- 1 **Is the resource valuable?** Is it possible to identify specific and definable competitive value from the resources? Do they help to exploit opportunities in the market, or defend against threats from competitors and, if so, exactly how? Remember though, what counts as valuable depends on the markets in which a business is competing. Resources that have value in one market, at one point in time, will not necessarily be valuable in other markets or at other times. If markets change, what counts as 'valuable' may change.
- 2 **Is the resource rare?** Do you have, or have access to, resources that your competitors do not? Some theorists define the idea of 'rarity' as when a business has a resource that is unequivocally unique, but for all practical purposes, a resource is 'rare' if it is, at least, in short supply and likely to remain so.
- 3 **Is the resource costly to imitate?** Do you have resources that competitors cannot imitate, purchase or find a suitable alternative to, at a realistic cost or in a realistic time frame? Note that 'imitability' may be either because competitors can copy your resources and processes directly, or because they can find an acceptable substitute for them.
- 4 **Is the firm organised to capture the value of the resource?** Do a firm have within its business the systems, culture, capacity and motivation to exploit any capabilities embedded in its resources and processes? Even if a firm has valuable, rare and inimitable capabilities, it may not be able to exploit them. A firm must have the formal reporting and control mechanisms, leadership and the informal and cultural environment that allows the strategic resources to develop.

There are two important points to remember about the VRIO framework. First, all these factors are time dependent. A capability may be currently valuable now, but competitors are unlikely to stand still. Nor are rarity and inimitability absolutes and, with time, they can be undermined by competitor activity. Even the ability to exploit capabilities can erode if operations leadership is lacking. Second, although the conventional order in which to treat each of these elements is as we have done here (which is why it's called the VRIO framework), it is best to think of the 'O' of 'organisation' to be a necessary prerequisite. Without the ability to exploit strategic resources, they are of little use. However, with effective organisation there is the potential for operations resources to contribute to competitiveness. If their capabilities are also valuable, then parity with competitors should be possible. With the addition of rarity, a short- to medium-term competitive advantage is possible. With the addition of inimitability, competitors will find it difficult to match capabilities in anything but the long term. This sequence is shown in Figure 1.8.

Extended resource-based theory (ERBT)¹⁰

In recent years, resource-based theory (RBT) has been developed by some theorists to include the influence of the wider supply network of which the firm is a part. This idea is termed the 'extended' RBT (ERBT). It assumes that even strategic resources that are outside the boundaries of the firm can still be used to generate strategic advantage for

Figure 1.8 The four features of the VRIO framework

Source: From Slack N. (2017) *The Operations Advantage*, London: Kogan Page. (Reproduced by permission.)

the firm. Of course, this assumes that these strategic resources beyond the boundaries of the firm can be readily accessed. In other words, the relationships between operations within a supply network are suitably strong and/or collaborative, and the synergy between resources within each firm sufficiently close, to make access to another firm's resources valuable.

A theatre lighting example (continued)

As an example of the operations resource perspective, we return to the lighting business described earlier. Its market requirements analysis had indicated a shift towards targeting commercial companies who needed lighting designs (and often specialised equipment) for sales promotion events, conferences, displays and exhibitions. An analysis of the firm's resources, processes and capabilities revealed that the company's history and experience of advising theatrical producers was a valuable asset, particularly in the conference market. It allowed them to excel at understanding how to translate someone else's vision into theatrical reality. Furthermore, their lighting and sound technicians were experienced at reprogramming equipment and configuring equipment to fit almost any concept their clients wanted. These skills, combined with an intimate network of contracts with equipment and software suppliers, enabled the company to outperform competitors and eventually dominate this (for them) new market. In order to maintain its competitive advantage, it opened new sites in a number of locations where existing and potential customers were located, all of which had a resident lighting and sound design expert. The company also developed a virtual reality simulation,

which helped demonstrate to potential customers how a set might look. This simulation was developed in consultation with key equipment suppliers, to utilise their expertise. In order to make all equipment readily available at all sites, it installed a computer-based equipment tracking and scheduling system that was integrated across all sites. The company also organised periodic ‘state-of-play’ conferences, where all staff discussed their experiences of serving clients. Some suppliers and customers were invited to these meetings.

Consider this example and how its resources have helped it to compete so effectively. Figure 1.7 illustrates how the firm has ‘translated’ an understanding of its resources to a set of operations strategy decisions. The translation logic goes something like this:

- 1 We have a set of equipment that is sophisticated and useful in the theatre lighting business; we also have some staff who have sound and lighting design expertise.
- 2 As a company we have developed a reputation for being able to take a theatre director’s ‘vision’ for a production, and use our knowledge to make it reality – even improving the original vision.
- 3 What allows us to do this so well is the way we have ‘grown up together’ and are able to understand all the stages of satisfying customers, from an understanding of what equipment is available right through to managing the design, installation, operating and dismantling of the production.
- 4 These capabilities are particularly attractive in the commercial conference market, which is now our target market.
- 5 In order to consolidate and sustain this competitive position, we must make a number of resource decisions as to how our capabilities can be preserved, developed and deployed – for example, concerning location, virtual reality technology, supplier development, tracking systems and organisational structure.

Example Thrift is at the core of IKEA’s culture¹¹

Core competencies can be strongly linked to a firm’s origins and history. And there are few better examples than IKEA – a firm that owes many aspects of how it operates to its origins in Sweden.

The flat-pack specialist is the world’s largest furniture chain, with over 300 outlets around the world. *‘Thrift is the core of IKEA’s corporate culture’*, says Mikael Ohlsson, IKEA’s Chief Executive, who traces the thrift culture back to the company’s origins in Smaland – a poor region in southern Sweden whose inhabitants, he says, are *‘stubborn, cost-conscious and ingenious at making a living with very little’*. Ever since Ingvar Kamprad founded IKEA more than 70 years ago, the company has endeavoured to allow *‘people with limited means to furnish their houses like rich people’*. Even those people who dislike queuing in its huge warehouse-like stores, or assembling its flat-pack furniture at home, acknowledge that IKEA’s products are both stylish and remarkably cheap. *‘We hate waste’*, says Mikael Ohlsson. As an example, he points to one of their popular three-seater sofas. IKEA’s designers developed a new packing method that squeezed twice the amount of sofa into the same space. This trimmed €100 from the price and reduced the carbon-dioxide emissions from transporting it.

But culture can work in less positive ways. IKEA has been accused of being instinctively secretive and, according to some, rigidly hierarchical. Certainly the firm’s ownership structure is not straightforward.

A private Dutch-registered company is IKEA's parent, which, in turn, belongs entirely to a tax-exempt Dutch-registered entity – Foundation. A five-person executive committee runs Foundation. Separately, another private Dutch company, whose parent company is registered in Luxembourg, owns the IKEA trademark and concept. And, although the owners of this company remain hidden from view and IKEA refuses to identify them, they have been traced to a Liechtenstein foundation controlled by the Kamprad family, which earns its money from franchise agreements with IKEA stores. Mr. Kamprad has been reported as saying that, *'tax efficiency was a natural part of the company's low-cost culture'*.

So, what *is* operations strategy?

The four perspectives on operations strategy that we have outlined are not 'alternative' views of what is operations strategy. Operations managers can (and should) hold all four views simultaneously. They simply represent alternative starting points for understanding the nature, scope and rationale of operations strategy. Bringing all four views together can even expose the dilemmas inherent within an operations strategy. In fact, operations strategy can be seen as the attempt to reconcile all four perspectives: the top-down with the bottom-up view, and the market requirements with the operations resource view. But there can be tensions between the perspectives.

The tension between the market requirements perspective and the operations resource perspective is central to the decisions that make up an operations strategy. Operations managers must obviously satisfy the requirements of the market if their enterprise is to survive in the long term. Yet, simply following a market is unlikely to provide long-term competitive advantage. After all, competitors will themselves be attempting to do the same thing. To escape from being permanently 'jerked around' by the dynamics of the market, operations should also be attempting to develop the long-term capabilities that competitors will find difficult to imitate. This is why our definition of operations strategy, and the main theme throughout this book, encompasses the reconciliation of market requirements with operations resources.

This is actually a very complex interaction. Sometimes the complexity lies in the difficulty most organisations have in clarifying either the nature of market requirements or the characteristics of their operations resources. Sometimes this is simply because not enough effort is put into clarifying their intended markets. Some operations strategies are formulated without the context of a well-understood market and/or business strategy. But, even in better-managed companies, market requirements may be unclear. For example, a company may compete in many different markets that exhibit sometimes subtle, but nevertheless important, differences in their requirements. Furthermore, markets are dynamic. Neither customers nor competitors are totally predictable. Customer behaviour may change for reasons that become clear only after the event. Competitor reaction, likewise, can be unpredictable and sometimes irrational. The links between customers, competitors and market positioning are not always obvious. Market positioning is not an exact science, and the strategic reconciliation process of operations strategy may have to take place under conditions of both uncertainty and ambiguity. The operations resources side of the equation may be equally unclear. Businesses do not always know the value, abilities or performance of their own resources and processes. Notwithstanding the popularity of the 'core competence' concept, organisations frequently find difficulty in identifying what are, could be, or should be their core competences. More significantly,

the resources and processes within the operation are not deterministically connected, like some machine where adjustments to levers of control lead inexorably to a predictable and precise change in the behaviour of the operation. The cause–effect mechanisms for most operations are, at best, only partially understood.

A company may find that its intended market position is matched exactly by the capabilities of its operations resources, the strategic decisions made by its operations managers having, over time, generated precisely the right balance of performance objectives to achieve a sustainable competitive advantage in its markets. Then again, it may not. In fact, even where it is understood, the capabilities of its operations resources are unlikely to be in perfect alignment with the requirements of its markets. The objective of operations strategy is to attempt this alignment over time without undue risk to the organisation. Operations managers must attempt to do this through the process of reconciliation, a process that is ongoing and iterative. We can include this concept of ‘reconciliation’ into our definition of operations strategy.

Operations strategy is the total pattern of decisions that shape the long-term capabilities of any type of operation and their contribution to overall strategy, through the reconciliation of market requirements with operations resources.

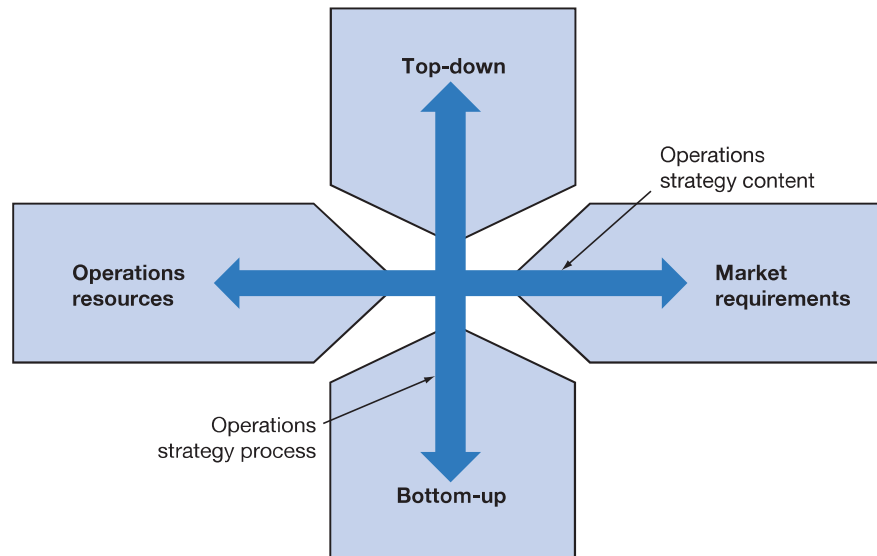
Similarly, there will usually be tension between the top-down and bottom-up perspectives. The top-down perspective is the most common view of what strategy is. Strategy is broad, long term, ‘making the big decisions’, ‘steering the enterprise towards its ultimate objectives’ and so on. Furthermore, strategy is in the hands of the senior people (because strategic decisions are, by their nature, important) who can view the, sometimes competing, needs of each part of the enterprise. It is they who tell the rest of the enterprise what to do and, hopefully, why. The bottom-up, ‘emergent’ perspective is very different. It is founded on the direct experience of those people who actually ‘do’ stuff. And these people tend to be more numerous and lower in the organisation. The bottom-up perspective is based on how we all learn from experience. Arguably, it places a greater emphasis on ‘what is’ rather than ‘what should be’.

‘Content’ and ‘process’

These two sets of tensions between the four perspectives of operations strategy are closely aligned with what is sometimes called the distinction between the ‘content’ and ‘process’ of operations strategy. ‘Content’ means the collection of decisions that are made (deliberately or by default) within the operations strategy domain. Content is concerned with the strategic decisions that shape and develop the long-term direction of the operation. It is the outcome of the reconciliation of market requirements and operations resource capabilities. The ‘process’ of operations strategy means the way in which operations strategies are (or can be) formulated. It is a reflection both of what operations managers should do and what they actually do in practice. It is the reconciliation of top-down and bottom-up perspectives. The distinction between content and process is illustrated in terms of the four perspectives in Figure 1.9.

However, this division between content and process, between the four perspectives is, to some extent, a simplification. The reality is that all decisions are partly a function of how they are made. But distinguishing between content and process does allow us to examine the set of issues associated with each in a logical manner. Chapters 2 to 8 of this book are concerned with issues concerning the content of operations strategy, while Chapters 9 and 10 are concerned with the operations strategy process.

Figure 1.9 The content of operations strategy reconciles the market requirements and operations resource perspectives; the process of operations strategy reconciles the top-down and bottom-up perspectives



What is the 'content' of operations strategy?

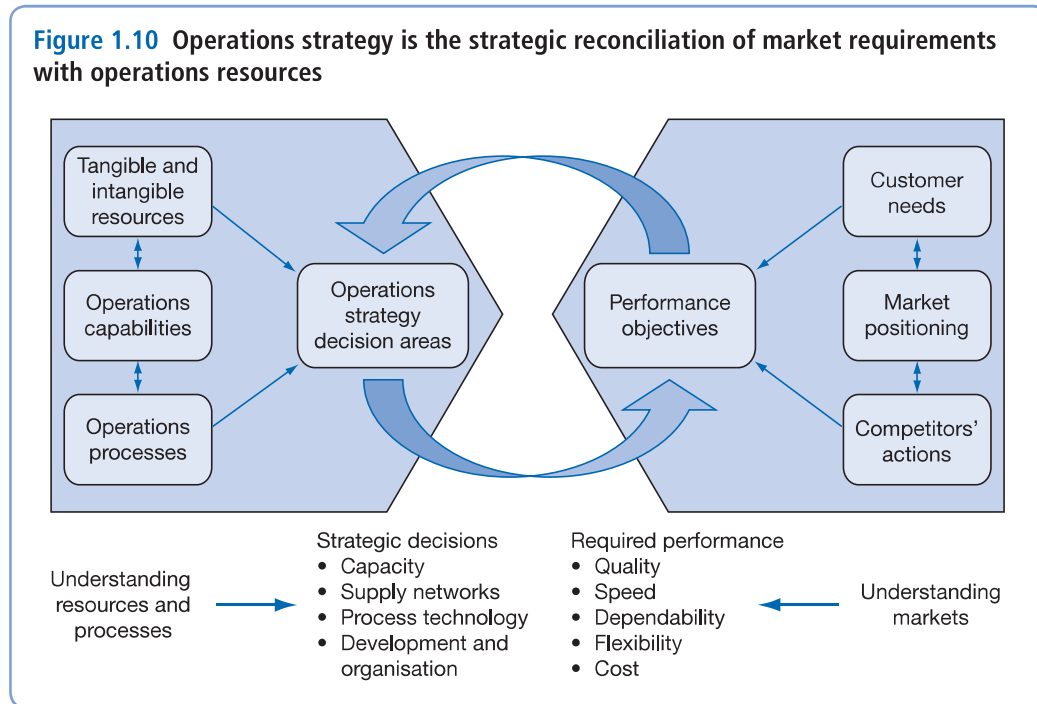
Operations strategy is concerned with the reconciliation of market requirements and operations resources. It attempts to influence the way it satisfies market requirements by setting appropriate performance objectives. It attempts to influence the capabilities of its operations resources through the decisions it takes in how those resources are deployed. So, the content of operations strategy is the interaction between the operation's performance objectives and the decisions that it takes concerning resource deployment. Figure 1.9 illustrates this idea. It particularly highlights the importance of

- understanding the relative importance of the operation's performance objectives; and
- understanding the influence on them of the decision areas that determine resource deployment.

Operations strategy performance objectives

In Figure 1.10, the market requirements perspective on operations strategy is summarised in terms of five generic performance objectives: quality, speed, dependability, flexibility and cost. Their purpose is to articulate market requirements in a way that will be useful to operations. However, before we can pursue the idea of performance objectives further, we must take a step back in order to consider market positioning and how competitive factors are used to describe positioning.

Figure 1.10 Operations strategy is the strategic reconciliation of market requirements with operations resources



A company may try to articulate its position in the market in a number of ways. It might compare itself with a competitor; for example, *'We wish to offer a wider range of products than Gap, but not be as expensive as Donna Karen.'* Alternatively, they might associate themselves with the needs of a particular customer group. For example, *'We wish to provide a level of service and attention that discerning business people expect when they stay at our hotels.'* Either way, they finish up defining market position in terms of a number of dimensions – for example, range, price, quality of service and so on. These dimensions on which a company wishes to compete are called 'competitive factors'. Different words will be used for different types of operation and their relative importance will change depending on how the company wishes to compete. Nevertheless, their common characteristic is that they describe the things that a customer can see or experience. Table 1.2 illustrates this idea for two contrasting operations. This clusters the competitive factors for each operation into the five generic performance objectives that they represent.

Note that the three operations we have used as examples in Table 1.2 have a different view of each of the performance objectives. So, for example, the mortgage service sees quality as being at least as much about the manner in which its customers relate to its service as it does about the absence of technical errors. The steel plant, on the other hand, while not ignoring quality of service, primarily emphasises product-related technical issues. The finance function, while valuing accuracy, also includes softer 'trust' and 'relationship' factors. Different operations will see quality (or any other performance objective) in different ways, and emphasise different aspects. Broadly speaking, though, they are selecting from the same pool of factors that together constitute the generic performance objective – in this case, 'quality'. So, each of the performance objectives represents a cluster of competitive factors grouped together for convenience. Sometimes operations may choose to rebundle, using slightly different headings. For example, it is not uncommon in some service operations to refer to 'quality of service' as representing

Table 1.2 Competitive factors for three operations grouped under their generic performance objectives

<i>Performance objective</i>	<i>Mortgage services – associated competitive factors include ...</i>	<i>Steel plant – associated competitive factors include ...</i>	<i>Finance function – associated competitive factors include ...</i>
Quality	Professionalism of staff Friendliness of staff Accuracy of information Ability to change details in future	Percentage of products conforming to their specification Absolute specification of products Usefulness of technical advice	Accuracy of work Insightfulness of financial advice Trust and relationship with other functions
Speed	Time for call centre to respond Prompt advice response Fast loan decisions Fast availability of funds	Lead time from enquiry to quotation Lead time from order to delivery Lead time for technical advice	Responsiveness to other functions' requests Time between need for financial information and issuing it
Dependability	Reliability of original promise date Customers kept informed	Percentage of deliveries 'on time, in full' Customers kept informed of delivery dates	Financial information reliably available when needed; for example, in time for meetings
Flexibility	Customisation of terms, such as duration/life of offer Cope with changes in circumstances, such as level of demand	Range of possible sizes, gauges, coatings etc. Rate of new product introduction Ability to change quantity, composition and timing of an order	Customisation of financial reports Ability to adjust volume of work to meet deadlines
Cost	Interest rate charged Arrangement charges Insurance charges	Price of products Price of technical advice Discounts available Payment terms	Cost per transaction completed Headcount (number and cost of finance staff) Facilities (office space IT, etc.)

all the competitive factors we have listed under quality, speed and dependability. In practice, the issue is not so much one of universal definition but rather consistency within one operation, or a group of operations. At the very least it is important that individual companies have it clear in their own minds what list of generic performance objectives is appropriate to their business, what competitive factors each represents and how each competitive factor is to be defined. However, note that cost is different from the other performance objectives. While most competitive factors are clear manifestations of their performance objectives, the competitive factors of 'price' are related to the cost performance objective. So, an improvement in cost performance does not necessarily mean a reduction in the price charged to customers. Firms that achieve lower costs may choose to take some, or all, of the improvement in higher margins rather than reduce prices.

Decision areas

Also, in Figure 1.10 is a set of 'decision areas'. These are the sets of decisions needed to manage the resources of the operation. Again, different writers on operations strategy use slightly different groupings and refer to them collectively in slightly different ways,

such as ‘operations policy areas’, ‘sub-strategies’ or ‘operations tasks’. We shall refer to them throughout this book as ‘operations strategy decisions’ or ‘decision areas’, and the groupings of decision areas that we shall use are as follows.

- **Capacity strategy.** This concerns how capacity and facilities in general should be configured. It includes questions such as ‘What should be the overall level of capacity?’, ‘How many sites should the capacity be distributed across, and what size should they be?’, ‘Should each site be engaged in a broad mixture of activities, or should they specialise in one or two?’, ‘Exactly where should each site be located?’, ‘When should changes be made to overall capacity levels?’, ‘How big should each change in capacity be?’ and ‘How fast should capacity expansion or reduction be pursued?’ Chapter 4 will deal with the decisions concerning capacity strategy.
- **Supply network strategy (including purchasing and logistics).** This concerns how operations relate to the interconnected network of other operations, including customers, customers’ customers, suppliers, suppliers’ suppliers and so on. All operations need to consider their position in this network, both to understand how the dynamic forces within the network will affect them, and to decide what role they wish to play in the network. Decisions here include such things as ‘How much of the network do we wish to own?’, ‘How can we gain an understanding of our competitive position by placing it in a network context?’, ‘How do we predict and cope with dynamic disturbances and fluctuations within the network?’, ‘Should we attempt to manage the network in different ways depending on the types of market we are serving?’, ‘How many suppliers should we have?’, ‘What should be the nature of our relationship with our suppliers, purely market-based or long-term partnerships?’ and ‘What are the appropriate ways of managing different types of supplier relationships?’ Chapter 5 deals with supply network strategy.
- **Process technology strategy** This concerns the choice and development of the systems, machines and processes that act directly or indirectly on transformed resources to convert them into finished products and services. Decisions here include such things as ‘How should we characterise alternative process technology?’ and ‘How should we assess the consequences of choosing a particular process technology?’ Chapter 6 will deal with process technology decisions.
- **Development and organisation.** This concerns the set of broad and long-term decisions governing how the operation is run on a continuing basis. Decisions here include such things as ‘How do we enhance and improve the processes within the operation over time?’, ‘How should resources be clustered together within the business?’, ‘How should reporting relationships be organised between these resources?’ and ‘How should new product and service development be organised?’ We devote two chapters to these areas. Chapter 7 will deal with the strategic improvement, and Chapter 8 will deal with product and service development.

Why these decision areas?

All these decision areas will be familiar to managers in a wide variety of operations. However, it is possible to support this intuitive list of decision areas with a slightly more rigorous approach. To do this, let us indulge in some simple ratio analysis.

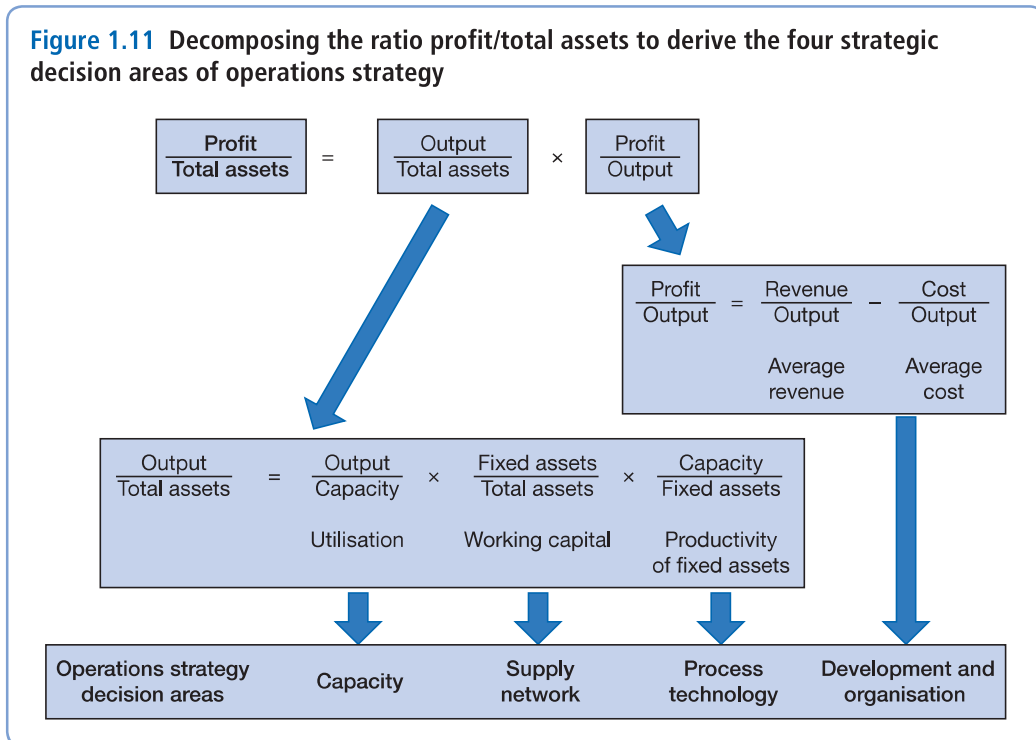
Essentially, ratio analysis is an attempt to decompose a fundamental ratio of some element of performance into other ratios by inserting the same measure on the top and bottom of the resulting ratios. The idea is to split the fundamental ratio into other

measures so that we can understand how it is built up. The best-known examples of this occur in financial accounting. Here we will do it in a slightly different way by inserting measures that have some meaning in an operations context. We are not proposing this ratio analysis as a practical analysis tool. Rather, it is intended to provide some underpinning for each decision area. Figure 1.11 shows how we can do this for the fundamental ratio of profit divided by total assets, or return on assets (ROA).

The simple ROA ratio, profit over total assets, is broken down into 'profit/output' and 'output/total assets'. This first ratio (in effect, average profit) can be further broken down into average revenue minus average cost. Operations affect the former through the ability to deliver superior levels of competitive performance (better quality, speed, dependability and flexibility). They affect the latter through the more productive use of resources (lower costs). These are the two measures that have been seen as the great operations balancing act – keeping revenue high through standards of service and competitive pricing, while keeping costs low. Both are a function of an organisation's success in achieving an effective and efficient operation through its development and organisation decisions. These decisions attempt to ensure that improvement and learning continually reduce costs, while the performance of products and services and its level of service to customers are continually increased.

The other part of the decomposed ROA ratio – output/total assets – represents the output being produced for the investment being put into the operation. It is shown in Figure 1.11 broken down into three ratios: 'output/capacity', 'fixed assets/total assets' and 'capacity/fixed assets'.

'Output/capacity', or the utilisation of the operation, is determined by the balance of demand on the operation and its long-term ability to meet that demand. To improve



ROA, utilisation needs to be as close to 1 as possible. To do this, either demand must be generated to match capacity, or the operation must develop an ability to adjust its capacity to match demand. This ratio is largely a function of an organisation's capacity decisions. Has it managed to balance the provision of capacity with demand (output) and can it change its capacity to meet changing levels of demand?

'Fixed assets/total assets' is a ratio partially governed by the working capital requirements of the business. The smaller the working capital required by the operation, the closer fixed assets are to total assets. For the operations function, working capital minimisation is often a matter of reducing the inventories in its supply network, a function of an organisation's supply network decisions. Can the supply network maintain appropriate delivery of its products and services without carrying excessive levels of inventory?

'Capacity/fixed assets' is sometimes called the productivity of fixed assets. It is a measure of how much the operation has had to spend in order to acquire, or develop, its capacity. To some extent this is determined by the skill of the operation's designers and technologists. An operation that achieves the required capacity levels without needing large amounts of capital expenditure will have a better ratio than the operation that has 'thrown money at the problem'. This ratio is largely a function of an organisation's process technology decisions. Has it invested wisely in appropriate process technologies, which can create a sufficient volume of appropriate products and/or services, without excessive capital expenditure?

Obviously this is not a totally clean categorisation. In some way, all the decision areas will have some impact on all the ratios. For example, a company's development and organisation strategy includes such issues as how improvement is encouraged, how the organisation's structure works and how performance is measured. This will affect many of these ratios. Its main focus, however, is likely to be on improving average profit, by reducing costs through operations efficiency and increasing revenue through improved operations effectiveness at delivering its products and services.

Table 1.3 sets out some typical decisions that need to be taken in two very different types of operation, clustered under the four areas.

Structural and infrastructural decisions

A distinction is often drawn in operations strategy between the strategic decisions that determine an operation's structure, and those that determine its infrastructure. Structural issues primarily influence the physical arrangement and configuration of the operation's resources. Infrastructural strategy areas influence the activities that take place within the operation's structure. This distinction in operations strategy has been compared to that between 'hardware' and 'software' in a computer system. The hardware of a computer sets limits to what it can do. Some computers, because of their technology and their architecture, are capable of higher performance than others, although those computers with high performance are often more expensive. In a similar way, investing in advanced process technology and building more or better facilities can raise the potential of any type of operation. But the most powerful computer can only work to its full potential if its software is capable of exploiting the potential embedded in its hardware. The same principle applies with operations. The best and most costly facilities and technology will only be effective if the operation also has an appropriate infrastructure that governs the way it will work on a day-to-day basis.

However, it is a mistake to categorise decision areas as being either entirely structural or entirely infrastructural. In reality, all the decision areas have both structural and

Table 1.3 Some decisions in each decision area for a hotel chain and an automobile manufacturer

<i>Hotel chain</i>	<i>Decision area</i>	<i>Automobile manufacturer</i>
How many rooms and other facilities should each hotel have? Should each hotel have the same set of facilities? Where should our hotels be located? How do we manage the long-term expansion or contraction of capacity in each region?	Capacity	How big should each plant be? Should we focus all production on one model on a single site? Where should each site be located? How do we manage the long-term expansion or contraction of overall capacity?
What activities should we be performing in-house and what should we buy in? Do we develop franchise opportunities on our sites? Should we form alliances with other vacation or travel companies?	Supply networks	What parts should we be making in-house and what should we buy in? How do we coordinate deliveries from our suppliers? Should we form long-term supply alliances? How many 'first-tier' suppliers should we have?
To what extent should we be investing in multi-functional information systems? Should all information systems be linked to a central system?	Process technology	What processes should be receiving investment for automation? How can investment in technology increase our flexibility while keeping costs low? Should our process technologies be integrated?
How can we integrate new services features smoothly into our existing operation? What should be the reporting responsibility relationships within and between hotels? Should we promote company-wide improvement initiatives? How do we make sure sites learn from each other?	Development and organisation	How can we bring new products to market quickly? Should we develop products on common platforms? How do we manage product variety? What should be the reporting responsibility relationships within and between sites? Should we promote company-wide improvement initiatives? How do we make sure sites learn from each other?

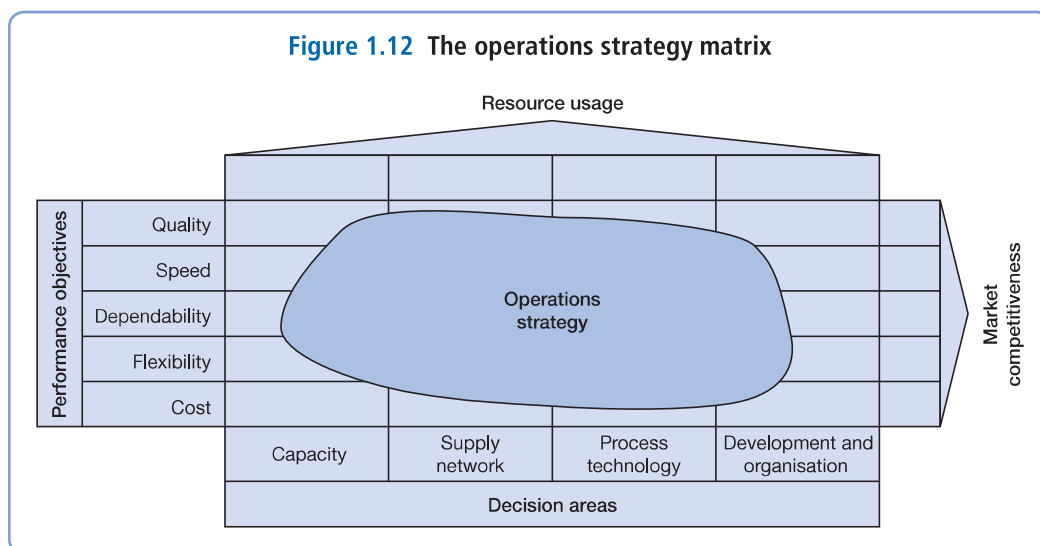
infrastructural implications. Capacity strategy, since it is concerned with the physical size and location of operations, is mainly a structural issue, but can also affect the organisation's reporting relationships systems and procedures. Similarly, supply network decisions have much to do with whether the organisation chooses to perform in-house and what it chooses to buy in, but this needs infrastructural support for communications and the development of relationships. Process technology, likewise, has its structural aspects that will partly determine the physical form of the operation, but much of an operation's process technology will be devoted to driving the systems, procedures and monitoring systems that form its infrastructure. Even decisions within the development and organisation category, while primarily being concerned with infrastructure, can have structural elements. A set of reporting relationships embedded within an organisational structure may reflect different locations and different process technologies. It is best to consider a spectrum withal.

The operations strategy matrix

We can now bring together the two perspectives of market requirements and operations resources to form the dimensions of a matrix. This ‘operations strategy matrix’, shown in Figure 1.12, describes operations strategy as the intersection of a company’s performance objectives with its decision areas. It emphasises the intersections between what is required from the operations function (the relative priority given to each performance objective), and how the operation tries to achieve this through the set of choices made (and the capabilities that have been developed) in each decision area.

Although sometimes complex, the matrix can, at the very least, be considered a checklist of the issues that are required to be addressed. Any operation that claims to have an operations strategy will presumably be able to have some kind of story to tell for each of the intersections. It should be able to explain exactly how capacity strategy is going to affect quality, speed, dependability, flexibility or cost. It should be able to explain exactly how flexibility is influenced by capacity, supply network, process technology, development and organisation decisions and so on. In other words, the matrix helps operations strategies to be comprehensive. Also, it is unlikely that all the intersections on the matrix will necessarily be of equal importance. Some intersections will be more critical than others. Which intersections are critical will, of course, depend on the company and the nature of its operations, but they are likely to reflect the relative priority of performance objectives and those decision areas that affect, or are affected by, the company’s strategic resources. The example of Pret A Manger illustrates how the matrix can be used to describe a company’s operations strategy.

For a company such as Pret A Manger, it is possible to find some kind of relationship between each performance objective and every decision area. However, in Figure 1.13 we have confined ourselves to some of the critical issues described in the example. As in most analyses of this type, it is the interrelationship between the intersections (cells) of the matrix that are as important to understand as the intersections themselves.¹³



Example Pret A Manger¹²

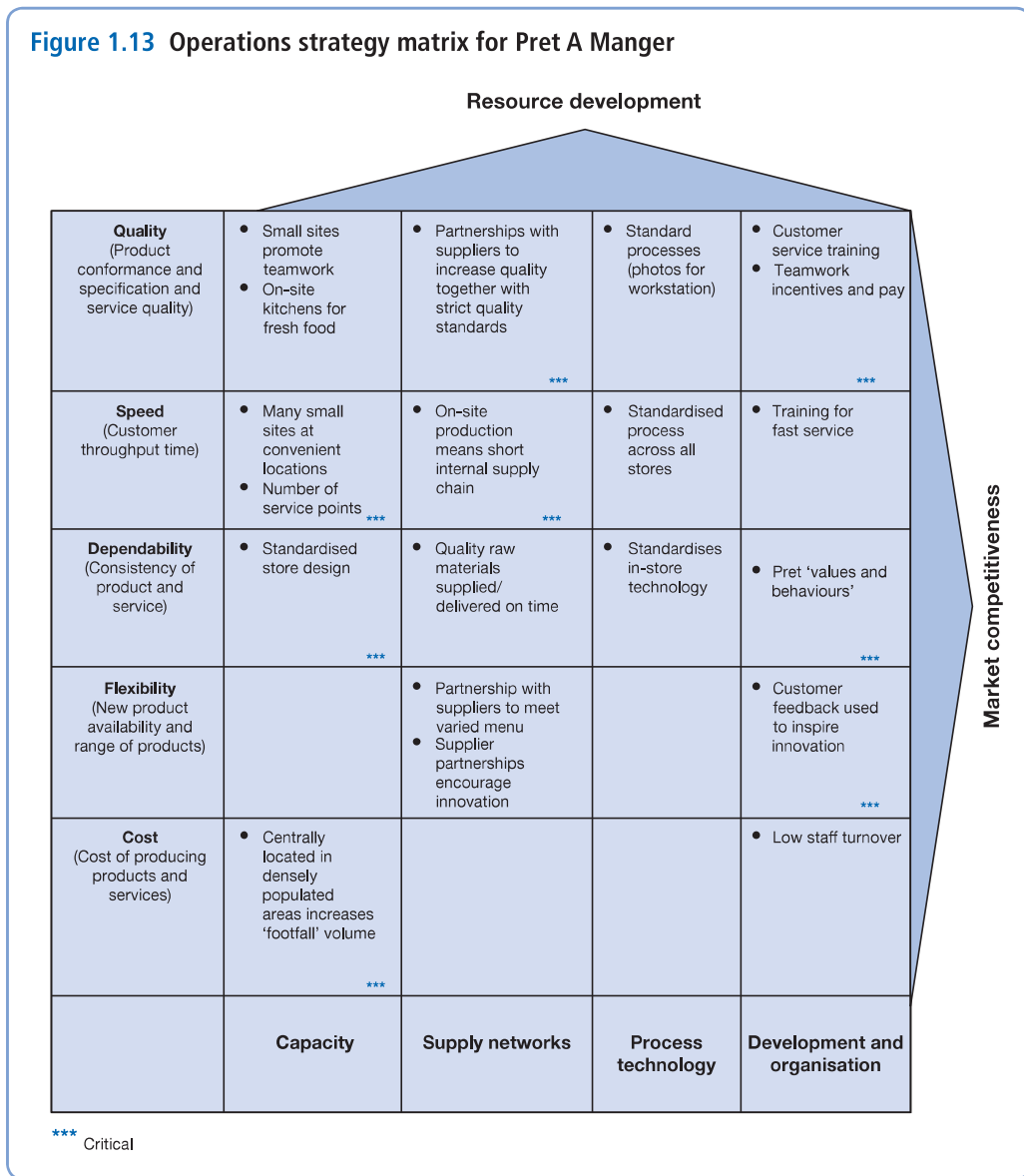
When college friends Sinclair and Julian opened their first store in London in 1986, they wanted to *'make proper sandwiches avoiding the obscure chemicals, additives and preservatives common to so much of the "prepared" and "fast" food on the market'*. They created the sort of food they themselves craved but couldn't find anywhere else. Now there are over 300 Pret shops worldwide, most of them in the UK. The company is particularly proud of its customer service. *'We'd like to think we react to our customers' feelings (the good, the bad, the ugly) with haste and absolute sincerity'*, they say. *'Pret customers have the right to be heard. Do call or email. Our UK Managing Director is available if you would like to discuss Pret with him. Alternatively, our CEO hasn't got much to do; hassle him!'*

It's a bold approach to customer service, but Pret has always been innovative. Described by the press as having *'revolutionised the concept of sandwich making and eating'*, Pret A Manger opened its first shop in London and now has over 260 shops in the UK, New York, Hong Kong and Tokyo. The founders say that their secret is to focus continually on the quality of the food and the service. They avoid the chemicals and preservatives common in most 'fast' food. *'Many food retailers focus on extending the shelf life of their food, but that's of no interest to us. We sell food that can't be beaten for freshness. At the end of the day, we give whatever we haven't sold to charity to help feed those who would otherwise go hungry. Pret A Manger shops have their own kitchen where fresh ingredients are delivered every morning, with food prepared throughout the day. The team members serving on the tills at lunchtime will have been making sandwiches in the kitchen that morning. We are determined never to forget that our hardworking people make all the difference. They are our heart and soul. When they care, our business is sound. If they cease to care, our business goes down the drain. In a retail sector where high staff turnover is normal, we're pleased to say our people are much more likely to stay around! We work hard at building great teams. We take our reward schemes and career opportunities very seriously. We don't work nights (generally), we wear jeans, we party!'* Customer feedback is regarded as being particularly important at Pret. Examining customers' comments for improvement ideas is a key part of weekly management meetings, and of the daily team briefs in each shop. Moreover, staff at Pret are rewarded in cash for being nice to customers; they collect bonuses for delivering outstanding customer service. Every week, a secret shopper who scores the shop on such performance measures as speed of service, product availability and cleanliness visits each Pret outlet. In addition, the mystery shopper rates the 'engagement level' of the staff; questions include, 'Did servers connect with eye contact, a smile and some polite remarks?' Assessors score out of 50. If the score gets 43 points or more every team member receives an extra payment for every hour worked; and if an individual is mentioned by the mystery shopper for providing outstanding service they get an additional payment. *'The emphasis on jollity and friendliness has been a winner'*, said James Murphy – a management consultant for Future Foundation. *'In the highly competitive sandwich market, that's been a big contributor to their success.'* But not everyone agrees with using mystery shoppers. *'It is the equivalent of asking one customer in a shop what they thought at that exact moment, and then planning an entire store-improvement process around one piece of feedback'*, says Jeremy Michael of the Service Management Group, another consultancy.

What is the 'process' of operations strategy?

The 'process' of operations strategy are the procedures that are, or can be, used to formulate operations strategy. 'Process' determines how an operation pursues the reconciliation between its market requirements and operations resources in practice. However, there are significant overlaps between content and process. For example, part of the

Figure 1.13 Operations strategy matrix for Pret A Manger



‘content’ of operations strategy is concerned with the organisational structure and responsibility relationships within the operations function. Yet, these issues have a direct impact on the ‘process’ of how the organisation formulates its own operations strategies. Nevertheless, despite the overlap, it is conventional to treat content and process separately.

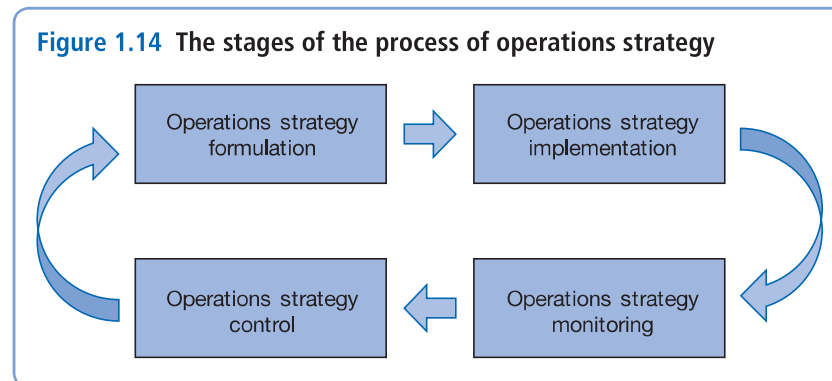
To a large extent we shall leave the discussion of ‘process’ until Chapters 9 and 10. But it is worth making two points at this stage. The first is that the practical reality of putting operations strategies together and making them happen in practice is extremely complex (and a subject in its own right). As Dr Andrew MacLennan, a leading expert in strategy implementation, says: *‘The challenge of implementing strategy successfully is*

one that faces managers across the globe and in organisations of every kind. However, few organisations have discovered how to make strategy work reliably – the failure rate of planned strategies remains remarkably high. We use a simplified stage model to identify some of the key issues.' The model that we use later in the book is shown in Figure 1.14 and distinguishes four stages: formulation, implementation, monitoring and control. The second point is that the success of effective operations strategy 'process' is closely linked to the style and skills of the leaders who do it. The next section examines this issue.

A behavioural view of operations strategy

Operations strategy, and particularly the process of operations strategy, is sometimes seen as a technical issue. It is not of course, operations commentators have always recognised that superior performance is ultimately based on the people in an organisation. The right management principles, systems, and procedures play an essential role, but the capabilities that create a competitive advantage come from people—their skill, discipline, motivation, ability to solve problems, and their capacity for learning'. At the same time most operations professionals, would also recognise that the practical task of designing and implementing an operations strategy is very much about having to deal with the way people behave and how they think; and people do not always act rationally.¹⁴ At best we often act with what has been called bounded rationality, because 'the capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behavior in the real world – or even for a reasonable approximation to such objective rationality'.¹⁵

Yet, most frameworks and models of operations strategy (and management) assume that decision makers are both analytical and rational. Which is why other management topics such as economics and finance, have been reviewing their disciplines to accommodate abandoning the automatic assumption of rationality. Similarly, operations strategy also needs to be a behavioural discipline, one that reflects more fully the way that people make (and avoid) decisions. Briefly consider how grounding our thinking about operations strategy in realistic assumptions about human reasoning, emotion and social interaction might offer additional insights. Human psychology cannot be changed; but strategies and operating systems can be understood, designed and implemented differently. Here are some examples.



- **Capacity strategy.** Deciding how much capacity to provide when demand is uncertain can be reduced to a mathematical formulation incorporating the chances and financial consequences of capacity remaining underutilised or demand not being met. But laboratory and empirical research has repeatedly found that people make biased decisions depending on, for example, their individual attitude to risk.
- **Purchasing and supply strategy.** There is a well-known phenomenon amongst supply chain managers called the ‘bullwhip’ effect. It means that variation in orders and stock levels increases along the supply chain the further each stage is from ‘end demand’. (We shall deal with it in Chapter 5.) There are some easily explained reasons for this (things like forecast updating, order batching and price fluctuations) but there are also strongly non-rational behavioural causes. So, for example, managers often give insufficient weight to the number of orders that have not yet arrived when making ordering decisions. This leads them to overreact, resulting in too much, or too little stock.
- **Process technology strategy.** Technology projects require managers to make estimates about how long an implementation process will last. These estimates are often based on past performance or information about other developments. In either case these estimates could serve as what are called ‘anchors’. Anchoring is the bias that leads decision makers to over-rely on initial estimated values.
- **Improvement strategy.** Different individuals have different tolerance of risk and ambiguity. This can significantly affect how willing we are to the acceptance (or not) that there are quality problems, even when the evidence is relatively slight.
- **Product and service development strategy.** Almost all products and service developments take place under conditions of uncertainty. And like all uncertainty-related decisions, they are affected by a range of behavioural factors. These include what is known as the ‘planning fallacy’ (where predictions about how much time will be needed to complete a task underestimate the time needed) and the ‘overconfidence bias’ (where our subjective confidence in our judgement is greater than any objective assessment).

But these behavioural ‘biases’ and ‘fallacies’ are not necessarily entirely negative. There is evidence that less deliberative ways of thinking are important to skilled decision making. Emotion, for example, is essential to the very nature of how we think, pervading our reasoning, the way we learn and the way we make decisions. Perhaps organisations should focus on managing how the decision-making environment affects the quality of operations decisions by providing a workable and human-friendly setting. One simple suggestion for incorporating intuition into operations decisions is to configure teams with a mixture of individuals with different analytical, thinking and intuitive styles.

How is operations strategy developing?

So far in this chapter we have given what might be called the ‘mainstream’ view of operations strategy – it is the strategic management of the operation’s resources and processes. Yet this seemingly straightforward view of the subject can still be interpreted in different ways, and each interpretation brings a new dimension to, and a new use for, operations strategy. Here we will look at just four new(ish) angles on the subject:

- Operations strategy as ‘supply strategy’
- Operations strategy as ‘functional strategy’
- Operations strategy as the firm’s ‘operating model’
- Operations strategy as ‘strategy execution’

Operations strategy as ‘supply strategy’

Earlier in this chapter we described how all operations could be viewed as a network. Processes are a network of interconnected individual resources. Operations are a network of interconnected processes. And, at a strategic level of analysis, supply networks are an interconnected network of operations. So, if the natural context of all individual operations is as part of a supply network (and, indeed, all operations are part of a supply network – no operation does everything itself), then at a strategic level, what is the difference between operations strategy and supply (network) strategy? Surely, it is argued, the responsibility of operations is to supply its customers by reconciling market requirements (what customers want) with operations resources (what the operation can do). This is our definition of operations strategy. So, if we include in our definition of an operation’s resources the whole network of its suppliers and their suppliers, as well as customers and their customers and so on, operations strategy is indistinguishable from supply strategy.

However, some authorities would argue that there is more than a semantic difference between operations and supply strategy. The term ‘supply strategy’, they would argue, emphasises the responsibility that all operations have to take some accountability for the contribution of the supply network of which they are a part. To quote two well-used sayings of supply network practitioners: ‘individual operations don’t compete, supply chains (or networks – we shall explain the difference in Chapter 5) compete’, and ‘your customer doesn’t care if your supplier lets you down, it was you who failed to deliver’. No operations strategy should ignore the configuration and management of the supply network of which it is part, and no supply strategy should ignore the individual capabilities of the operations that constitute the network. In this book, we treat supply network strategy (or, more accurately, purchasing and supply strategy) as one of operations strategy’s decision areas in Chapter 5, but we could just as easily have used ‘supply strategy’ as the over-arching framework for the whole book.

Operations strategy as ‘functional strategy’

Earlier we established that the transformation model, on which operations activities are based, not only applies to all types of business, but also describes functions other than the operations function, such as marketing, finance, information systems and HRM. So, it follows that if it is helpful to take a strategic view of the ‘operations’ transformation process, it should also be worthwhile doing the same for any other organisational function. In other words, operations strategy, its frameworks, concepts, models and tools, can form the basis of *any* functional strategy. Or, put another way, all functions deliver service externally or internally using their resources and processes, and just like the operations function, every function has a responsibility to make sure that the way they develop their resources and processes contributes to overall strategy. Therefore, the application of operations strategy should be central to senior managers in any function.

This is where we need to distinguish between the different components of expertise necessary to lead a function. There is a strong case for an appreciation of operations

strategy being accepted as an essential part of chief officers' expertise. By 'chief officers' we mean the managers who often carry titles such as Chief Finance Officer (CFO), Chief Information Officer (CIO), Chief Operations Officer (COO) and so on. These people are often called 'C suite' managers. Everyone assumes that, to reach the top of their function, such people will have acquired a reasonable competence in their area of 'technical' expertise (finance, information, marketing, human resources etc.). And that is a necessary, but nowhere near-sufficient, condition for being an effective functional chief.

We can now combine two ideas. The first is that all functions have processes and resources that are (or should be) integrated with the total internal network of processes within the enterprise. The second is that all functions need to develop their processes strategically over the longer term. This has an important implication for how we think about operations strategy. Its basic principles, concepts and tools can be used to help develop the strategy of any function of any type of organisation. Keep this in mind when you work through each chapter. The ideas may need adapting slightly and a different terminology may be more conventional, but, essentially the operations strategy approach holds true, irrespective of functional responsibilities.

Internal customers and the 'market requirements' perspective

For functional strategy, some 'customers' will be internal customers. By internal customers we mean the individuals or parts of the business to which the function provides internal service, as opposed to external customers that actually buy the business products or services. Yet there is clearly a difference between internal and external customers. At a fundamental level, the only real customer is the one that actually pays for products and services and provides revenues. Internal customers and the internal service providers that serve them are not 'stand alone' businesses, nor would many want them to be. The obvious difference between internal and external customers is that there are no effective 'competitors', at least in the short term. The idea of markets and market positioning is simply inappropriate when considering functional strategy for internal service providers. More dangerously, treating internal relationships as pseudo-commercial can promote competition between supplier and customer and general lack of internal alignment. However, the customer perspective is still important for shaping functional strategy. Internal customers have needs, and functional strategy must reflect these needs. Accepting that it is important to understand internal customer requirements is a starting point; understanding that internal customers (like external customers) may not always have fully articulated requirements is also imperative, as is to recognise that internal customer requirements and the top-down requirements of the business may not always align.

Operations strategy as the firm's 'operating model'

Two concepts have emerged over the last few years that are relevant to operations strategy (or at least the terms are new – one could argue that the ideas are far older). These are the concepts of the 'business model' and the 'operating model'. Put simply, a 'business model' is the plan that is implemented by a company to generate revenue and make a profit. It includes the various parts and organisational functions of the business, as well as the revenues it generates and the expenses it incurs; in other words, what a company does and how they make money from doing it. More formally, it is. . . *'A conceptual tool that contains a big set of elements and their relationships and allows [the expression of]*

*the business logic of a specific firm. It is a description of the value a company offers to one or several segments of customers and of the architecture of the firm and its network of partners for creating, marketing, and delivering this value and relationship capital, to generate profitable and sustainable revenue streams.*¹⁶

One synthesis of literature shows that business models have a number of common elements:

- 1 The *value proposition* of what is offered to the market.
- 2 The *target customer segments* addressed by the value proposition.
- 3 The communication and *distribution channels* to reach customers and offer the value proposition.
- 4 The *relationships* established with customers.
- 5 The *core capabilities* needed to make the business model possible.
- 6 The *configuration of activities* to implement the business model.
- 7 The *partners* and their motivations of coming together to make a business model happen.
- 8 The *revenue streams* generated by the business model constituting the revenue model.
- 9 The *cost structure* resulting from the business model.

One can see that this idea of the business model is broadly analogous to the idea of a 'business strategy', but implies more of an emphasis on *how* to achieve an intended strategy as well as exactly *what* that strategy should be.

An 'operating model' is a '*high-level design of the organisation that defines the structure and style which enables it to meet its business objectives*'. It should provide a clear, 'big-picture' description of what the organisation does, across both business and technology domains. It provides a way to examine the business in terms of the key relationships between business functions, processes and structures that are required for the organisation to fulfil its mission. Unlike the concept of a business model, which usually assumes a profit motive, the operating model philosophy can be applied to organisations of all types – including large corporations, not-for-profit organisations and the public sector.

An operating model would normally include most or all of the following elements¹⁷:

- 1 Key performance indicators (KPIs) – with an indication of the relative importance of performance objectives.
- 2 Core financial structure – P&L, new investments and cash flow.
- 3 The nature of accountabilities for products, geographies, assets etc.
- 4 The structure of the organisation – often expressed as capability areas rather than functional roles.
- 5 Systems and technologies.
- 6 Processes responsibilities and interactions.
- 7 Key knowledge and competence.

Note two important characteristics of an operating model. First, it does not respect conventional functional boundaries as such. In some ways, the concept of the operating model reflects the idea that we proposed earlier in the chapter: namely that all managers are operations managers and all functions can be considered as operations because they comprise processes that deliver some kind of service. An operating model is like

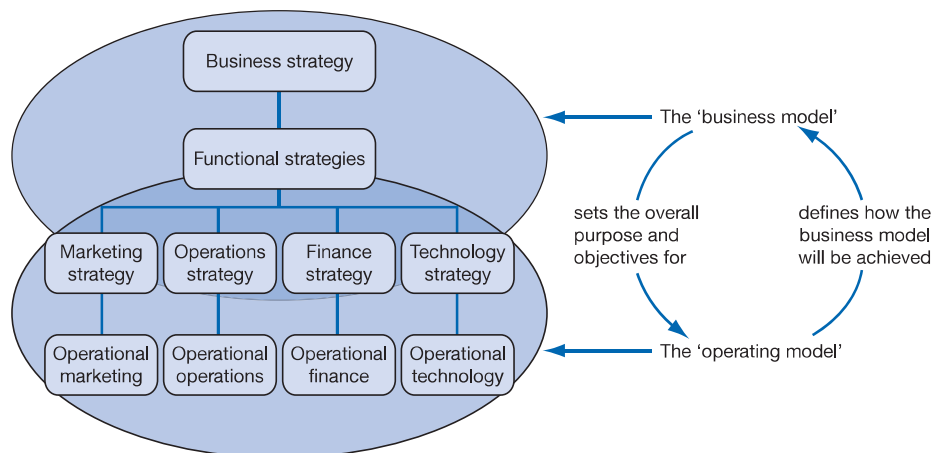
an operations strategy, but applied across all functions and domains of the organisation. Second, there are clear overlaps between the ‘business model’ and the ‘operating model’, but the main difference is that an operating model focuses more on how an overall business strategy is to be achieved. Operating models have an element of implied change or transformation of the organisation’s resources and processes. Often, the term ‘target operating model’ is used to describe the way the organisation should operate in the future if it is going to achieve its objectives and make a success of its business model. Figure 1.15 illustrates the relationship between business and operating models.

Operations strategy as ‘strategy execution’

Writers on strategy sometimes distinguish between strategy formulation and strategy execution. To put it simply, strategy formulation is ‘deciding what to do’ and strategy execution is ‘deciding how to do it’. And, while strategy formulation has been the subject of attention for literally thousands of academics and practitioners, strategy execution has been relatively neglected. Formally ‘... *strategy execution is the action that moves the organisation along its choice of route towards its goal – the fulfilment of its mission, the achievement of its mission ... strategy execution is the realisation of intentions*’.¹⁸ Or, to put it in a way that better illustrates the closeness between strategy execution and operations strategy ‘... *strategy execution is the process of indirectly manipulating the pattern of resource and market interactions an organisation has with its environment in order to achieve its overall objective*’.¹⁹

Note how this last definition includes two ideas that bring strategy execution close to our view of operations strategy. First, it is defined as a ‘process’, in a similar way to how we have distinguished between content and process earlier. In fact, the terms ‘strategy execution’ and ‘strategy implementation’ (the latter a key stage in operations strategy process) are often used interchangeably. Second, the twin idea of ‘manipulating’ resources and market interactions is very similar to our idea of ‘reconciling’ operations

Figure 1.15 The relationship between the concepts of ‘the business model’ and the ‘operating model’



resources and market requirements. And, at a commonsense level, strategy execution must be concerned with making changes to the way things are done currently. Presumably, this will involve changing some combination of the organisation's capacity, supply arrangements, technology, new product and service development and so on. Which is exactly what operations strategy does. So, the decision areas of operations strategy can be seen as a 'checklist' for the practical changes that executing any strategy implies. After all, any topic that deals with operations, whether at an operational or strategic level, must be concerned with practical issues. 'Operations' is about doing stuff, getting things done, making things happen. It is about how we deal with the reality of creating services and products. It is about execution.

SUMMARY ANSWERS TO KEY QUESTIONS

Why is operations excellence fundamental to strategic success?

'Operations' is the activity of managing the resources and processes that produce and deliver goods and services. All operations transform resource inputs into outputs of products and services and can be analysed at three levels: that of the business itself; as part of a greater network of operations; and at the level of individual processes within the operation. Operations management contributes to the success of any organisation by reducing costs, by increasing revenue by reducing capital employed and by providing the basis for future innovation.

What is strategy?

Strategic decisions are those that set broad objectives that direct an enterprise towards its overall goal, plan the path that will achieve these goals, stress long-term rather than short-term objectives and deal with total picture rather than with individual activities, and are often seen as above or detached from routine day-to-day activities. However, it is not easy to totally characterise strategy or strategic decisions. Some organisations make no explicit strategic decisions, as such. Rather, they develop over time, often with strategies that 'emerge' from their ongoing experience of doing business. Furthermore, the strategy that is espoused by an organisation may not always be reflected in what it actually does. This is why strategy is often taken to be the 'pattern of decisions' that indicate the company's overall path.

What is operations strategy?

Operations strategy is the total pattern of decisions that shape the long-term capabilities of any kind of operation and their contribution to overall strategy, through the ongoing reconciliation of market requirements and operation resources. All businesses have markets, all businesses own or deploy resources; therefore, all businesses are concerned with the reconciliation of markets and resources.

How should operations reflect overall strategy?

An operations strategy will be one of several functional strategies that are governed by the decisions that set the overall strategic direction of the organisation. This is called the 'top-down' approach. So, corporate strategy should be reflected in the strategies of each business unit, which should, in turn, inform the strategy of each business function.

How can operations strategy learn from operational experience?

An alternative view to the top-down perspective (one that is based on observing how strategy happens in practice) is the bottom-up perspective, which stresses how strategic ideas emerge over time from actual experiences. Companies adopt strategies partly because of their ongoing experience, sometimes with no high-level decision making involved. The idea of strategy being shaped by experience over time is also called the concept of emergent strategies. Shaping strategy from the bottom up requires an ability to learn from experience and a philosophy of continual and incremental improvement.

How do the requirements of the market influence operations strategy?

Two important elements within markets are customers and competitors. The concept of market segmentation is used to identify target markets that have a clear set of requirements and where a company can differentiate itself from current, or potential, competitors. On the basis of this, the company takes up a market position. This market position can be characterised in terms of how the company wishes to compete for customers' business. By grouping competitive factors into clusters under the heading of generic performance objectives (quality, speed, dependability, flexibility and cost), market requirements are translated into a form useful for the development of the operation.

How can the intrinsic capabilities of an operation's resources influence operations strategy?

Over time, an operation may acquire distinctive capabilities, or competences, on the basis of its resources and the accumulation of its experiences. These capabilities may be embedded within a company's intangible resources and its operating 'routines'. So, they concern both what the operation has and what it does. 'Operations' shapes these capabilities (consciously or unconsciously) through the way it makes a whole series of decisions over time. These decisions can be grouped under the headings of capacity, supply network, process technology and development and organisation.

What is the 'content' of operations strategy?

The 'content' of operations strategy is the building block from which any operations strategy will be formed. This includes the definition attached to individual performance objectives, together with a prioritisation of those performance objectives. It also includes an understanding of the structure and options available in the four decision areas of capacity, supply networks, process technology and development and organisation. Performance objectives and decisions areas interact in a way that can be described by the operations strategy matrix. When devising an operations strategy it is important to ensure that, in terms of the matrix, the strategy is comprehensive (all obvious aspects are at least considered) and has the critical intersections identified.

What is the 'process' of operations strategy?

The 'process' of operations strategy are the procedures that are, or can be, used to formulate operations strategy. It determines how an operation pursues the reconciliation between its market requirements and operations resources in practice. The practical reality of putting operations strategies together and making them happen in practice is complex, but, at a simple level, has four stages: formulation, implementation, monitoring and control. The success of effective operations strategy process is also closely linked to the style and skills of the leaders who do it.