



2

Operations Strategy

Defining how firms compete

Chapter Objectives

- Introduce the concept of operations strategy and its various components, and show how it relates to the overall business strategy of the firm.
- Illustrate how operations strategy pertains to adding value for the customer.
- Identify the different ways in which operations strategy can provide an organization with a competitive advantage.
- Introduce the concept of trade-offs between different strategies and the need for a firm to align its operations strategy to meet the needs of the particular markets it is serving.
- Explain the difference between order-qualifiers and order-winners as they pertain to operations strategy.
- Describe how firms are integrating manufacturing and services to provide an overall “bundle of benefits” to their customers.

STEELMAKER DOFASCO DOES A TURNAROUND THROUGH STRATEGIC REFOCUSING

It is no secret that Canadian steelmakers are under pressure. The industry is increasingly facing competition from steelmakers in developing countries such as Brazil, China, and India where labour costs are low. While some other Canadian steel makers struggle, Hamilton-based Dofasco, in business since 1912, has turned around its losses from a decade ago through a revised strategy. The company also owns or has partial ownership in facilities in the United States and Mexico.

Until the late 1980s, the company competed on price by producing as much steel as possible at the lowest possible prices. However by the early 1990s increased competition resulted in Dofasco not being able to compete profitably. As a result, by 1992 it found itself in debt and losing money.

Realizing that the current “competing on cost” strategy (cost leadership) was untenable, Dofasco refocused its strategy to developing new and innovative products, and to providing its customers with solutions for high-quality and specialized applications (product differentiation). The business strategy was called Solutions in Steel and focused on operational excellence, technology and innovation, and intimate customer relationships. By 1999 it was the most profitable steel producer in North America. In 2000 it was ranked first in North America among thirty steel suppliers in an independent customer satisfaction survey and was rated one of the best Canadian companies to work for by *Report on Business Magazine*.

What did it take to effect a successful transition from the old strategy to the new? Of course, this transformation did not come without effort, resources, or pain. Its workforce was reduced from about 13 000 to 7000. It spends considerable sums on research and development and facility upgrades. Dofasco recognized that employees would be critical to success in such a strategy. Thus employees were provided a variety of training and development opportunities. In addition, the company invested in the health, safety, and wellness in the workplace such that in 2002, the National Quality Institute awarded Dofasco a Canadian Award for Excellence Workplace Trophy. Studies have shown that investing in health, safety, and wellness can improve productivity and lower costs. Quality at Dofasco has meant paying attention to environmental concerns also. In 2002, Dofasco’s Hamilton facilities achieved ISO 14001 certification. This means that the company’s Environmental Management Systems comply with an international set of environmental standards (Chapter 6 discusses quality awards and ISO standards in detail).

This vignette provides an excellent example of the importance of formulating a successful business strategy and implementing supporting operations strategy decisions to ensure long term survival.

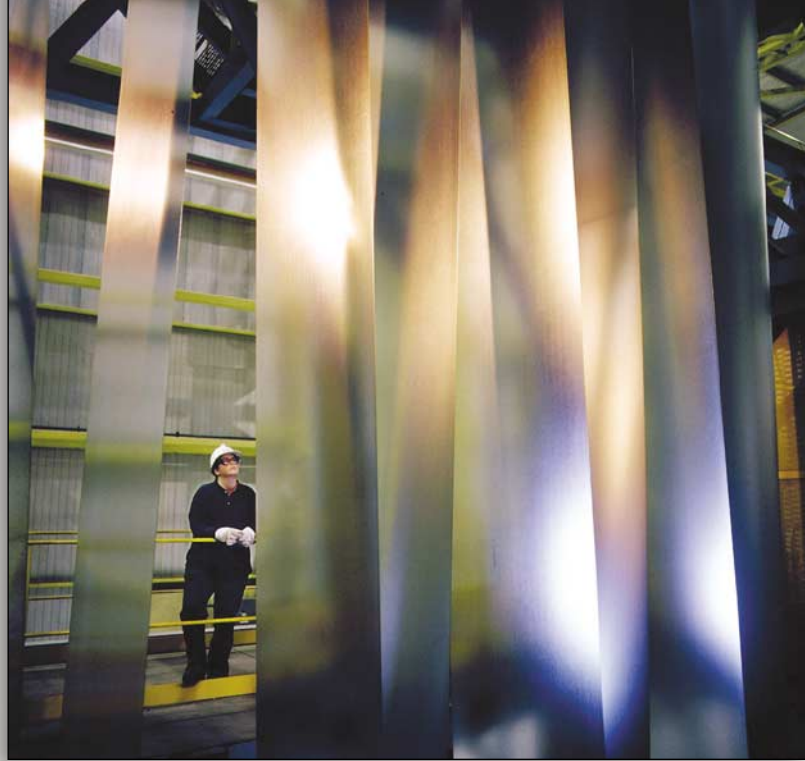
Sources:

Priya Ramu, “Report on Canada’s Steel Industry,” *World at Six*, CBC Radio, August 6, 2003.

Gordon DiGiacomo, *Case Study: Dofasco’s Healthy Lifestyles Program* (Canadian Labour and Business Centre, 2002), www.clbc.ca.

Dofasco Inc., www.dofasco.com.

National Quality Institute, www.nqi.com.





Managerial Issues

An organization's operations strategy provides an overarching framework for determining how it prioritizes and utilizes its resources to gain a competitive advantage in the marketplace. Today's operations managers face many new challenges with respect to strategy issues, from developing effective strategies to properly implementing them throughout the organization.

As we shall see, there are several external factors that affect operations strategy decisions, including an increase in competition that has resulted from the globalization of business and advances in technology. Consequently, operations man-

agers, in many instances, are now being asked to do more with less: more, in terms of faster delivery times, more variety, and higher quality; less, in terms of lower material costs, lower labour costs, and less available time.

At the same time, managers know all too well that competitors can copy successful strategies and can usually implement them quickly, thereby neutralizing, to some degree, their advantage. As a result, these same managers, from a strategic perspective, must keep a watchful eye to the future, constantly looking for the next strategy that will separate their firms from those of competitors.

Operations Strategy—An Overview

What Is Operations Strategy?

Operations strategy is the development of a long-term plan for using the major resources of the firm for a high degree of compatibility between these resources and the firm's long-term corporate strategy. Operations strategy addresses very broad questions about how these major resources should be configured to achieve the desired corporate objectives. Some of the major long-term issues addressed in operations strategy include

- How large do we make our facilities?
- What type of process(es) do we install to make the products or provide services?
- What will our supply chain look like?
- What will be the nature of our workforce?
- How do we ensure quality?

Each of these issues is addressed in greater detail in subsequent chapters. In this chapter we want to take a macroscopic perspective to better understand how these issues are inter-related. Exhibit 2.1 shows an overall picture of the operations strategy process and its relationship to other strategic processes in the organization.

The Operations Management Strategy Development Process

Today, many corporations, both large, global conglomerates such as General Electric and small ones such as Mississauga, Ontario-based Cara, consist of several stand-alone businesses that focus on different industries. The conglomerate may have a **vision** and a **mission**. For example the vision of Cara (a company founded in 1883, making it older than some provinces) is "To be Canada's leading integrated restaurant company." Its mission is "Enhancing stakeholder value and building leading businesses, by maximizing our resources and living our values and principles."¹ Within this context, **corporate strategy** defines the specific businesses in which the firm will compete and the way in which resources are acquired and allocated among these various businesses.

The stand-alone businesses within these conglomerates often are referred to as **strategic business units (SBUs)**. SBUs at Cara include, among others, Harvey's and Swiss Chalet in the fast food business, Kelsey's in the restaurant business, Second Cup in

vision

A statement that provides long-term direction and motivation for the organization.

mission

A statement about the organization's business scope and methods of competing.

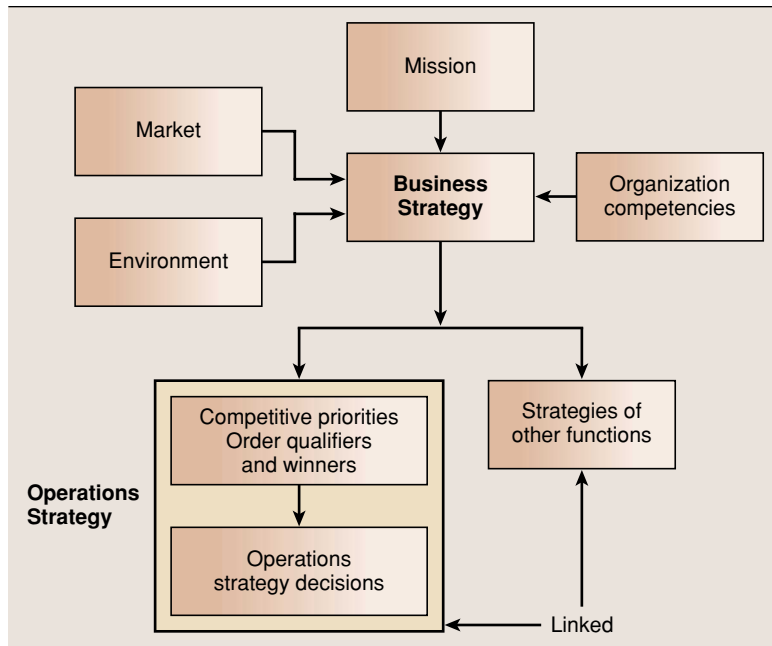
corporate strategy

Overall strategy adopted by the parent corporation.

strategic business unit (SBU)

Stand-alone business within a conglomerate that operates like an independent company.

¹Cara Operations Limited, www.cara.com.

**Exhibit 2.1****The Operations Strategy Process**

specialty coffee, Cara in airline food catering, and Summit in food service distribution. The individual strategy adopted by each SBU, which is referred to as its **business strategy**, defines the scope and boundaries of the SBU, in terms of how it addresses the specific markets that it serves and the products that it provides.

The business strategy depends on the market requirements (such as customer desires and success criteria in the market), the environment (such as competition, technological advances, and government regulations) and the organizational competencies (such as its core capabilities, its culture, and strengths and weaknesses). Each SBU may also have its own vision and mission.

To not only survive but also to prosper in today's fiercely competitive marketplace, an SBU needs to have a successful strategy. In this type of situation, Michael Porter, a professor at the Harvard Business School and perhaps today's leading authority on competitive strategy, believes that there are three generic strategies for succeeding in an industry: cost leadership, differentiation, and market segmentation.² **Cost leadership** implies that the firm has the ability to successfully underprice its competition. **Differentiation** refers to ways in which an organization distinguishes its products and services from its competition. For example a company could offer higher quality products or services than its competitors. **Market segmentation** refers to the focus of the product or service offering on a segment in the market. An example of focus in the hotel industry would be Toronto-based Four Seasons Hotels, which focuses on the luxury end of the lodging business. Porter believes that to be successful, firms have to trade off among the three. In other words, a company "cannot be all things to all people." Other experts on strategy, such as Henry Mintzberg of McGill University, include cost leadership as a form of differentiation.³

²Michael Porter, *Competitive Advantage: Creating and Sustaining Superior Performance* (New York: The Free Press, 1985).

³Henry Mintzberg and J. B. Quinn, *The Strategy Process: Concepts and Contexts* (Englewood Cliffs, New Jersey: Prentice Hall, 1992)

business strategy

How a strategic business unit (SBU) addresses the specific markets it serves and products it provides.

cost leadership

Producing the lowest-cost products.

differentiation

Offering products that differ significantly from the competition.

market segmentation

Satisfying the needs of a particular market niche.

functional strategy

Strategy developed by a function within an organization to support the business strategy.

competitiveness

Company's position in the marketplace relative to its competition.

operations strategy

How the operations function contributes to competitive advantage.

competitive priorities

How the operations function provides a firm with a specific competitive advantage.

strategic planning

Long-range planning such as plant size, location, and type of process to be used.

tactical planning

Focuses on producing goods and services as efficiently as possible within the strategic plan.

planning and control

Scheduling of daily tasks to determine which operator is assigned to work on which job and machine.

Functional strategies (for example, operations, marketing, human resources) are developed to support or align with the established business strategy. For example, Ethan Allen, a retailer who follows a business strategy of providing high quality furniture, cannot pursue an operations strategy of achieving low cost by procuring leather that is not of high quality, nor a human resource strategy of not providing training.

A company or SBU's **competitiveness** refers to its relative position in the market in terms of how it competes with the other firms in its industry. **Operations strategy** refers to how the operations management function contributes to a firm's ability to achieve competitive advantage in that marketplace.

Operations strategies are developed from the **competitive priorities** of an organization, which include (a) low cost, (b) high quality, (c) fast delivery, (d) flexibility, and (e) service. Operations strategies also depend on order qualifiers and winners, which relate to requirements for success in the market place.

Core capabilities are the means by which competitive priorities are achieved. Consequently, core capabilities must align directly with competitive priorities. For example a core capability may relate to research and innovation, such as the ability to design and bring products quickly to market as in the case of Intel, Nortel, or Sony, or effective supply chain management as in the case of Wal-Mart.

Operations strategy decisions can be divided into two major categories: structural elements consisting of facility location, capacity, vertical integration, and choice of process (all are considered to be long term or "strategic" in nature) and infrastructural elements consisting of the workforce (in terms of size and skills), quality issues, procurement, the new-product development process, planning and control, and organizational structure (all of which are often viewed as "tactical" because they can be changed in a relatively short time). The opening vignette on Dofasco highlighted some of these issues. These decisions have to be consistent with strategic decisions of the other functions as in the Ethan Allen example.

In developing an operations strategy, management also needs to take other factors into consideration. These include (a) the level of technology that is or will be available, (b) the required skill levels of the workers, and (c) the degree of vertical integration, in terms of the extent to which outside suppliers are used.

As shown in Exhibit 2.2, operations strategy supports the long-range strategy developed at the SBU level. One might say that decisions at the SBU level focus on being effective, that is, "on doing the right things." These decisions are sometimes referred to as **strategic planning**. Strategic decisions impact intermediate-range decisions, often referred to as **tactical planning**, which focus on being efficient, that is, "doing things right." Here the emphasis is on when material should be delivered, when products should be made to best meet demand, and what size the workforce should be. Finally, we have **planning and control**, which deals with the day-to-day procedures for doing work, including scheduling, inventory management, and process management.

Business and operations strategies can, of course, change over time. With Wal-Mart now also stocking groceries in its stores, Canada's second largest grocery chain, Sobeys, is

Exhibit 2.2**Hierarchy of Operational Decision-Making**

Type of Planning	Time Frame	Typical Issues
Strategic	Long range	Plant size, location, type of process
Tactical	Intermediate range	Workforce size, material requirements
Planning and control	Short range	Daily scheduling of workers, jobs, and equipment; process management; inventory management

planning to move up-market to leave cost leadership in the industry to organizations such as industry leader Loblaw and the new entrant, Wal-Mart.⁴

A Short History of Operations Strategy

In the period following World War II, corporate strategy in North America was usually developed by the marketing and finance functions within a company. With the high demand for consumer products that had built up during the war years, companies could sell virtually everything they made at comparatively high prices. In addition, there was very little international competition. They could not even satisfy their own markets, let alone export globally. The main industrial competition to North America at that time, Europe, was devastated by the war.

Within the business environment that existed at that time, the manufacturing or operations function was assigned the responsibility of producing large quantities of standard products at minimum costs, regardless of the overall goals of the firm. To accomplish this, the operations function focused on obtaining low-cost, unskilled labour and installing highly automated assembly-line-type facilities.

With no global competition and continued high demand, the role of operations management (that is, to minimize costs) remained virtually unchanged throughout the 1950s and early 1960s. By the late 1960s, however, Wick Skinner of the Harvard Business School, who is often referred to as the grandfather of operations strategy, recognized this weakness among U.S. manufacturers. He suggested that companies develop an operations strategy that would complement the existing marketing and finance strategies. In one of his early articles on the subject, Skinner referred to manufacturing as the missing link in corporate strategy.⁵

Subsequent work in this area by researchers at the Harvard Business School, including Abernathy, Clark, Hayes, and Wheelwright, continued to emphasize the importance of using the strengths of a firm's manufacturing facilities and people as a competitive weapon in the marketplace, as well as taking a longer-term view of how to deploy them.



Operations Strategy Means Adding Value for the Customer

How often have we heard the expression “customers want their money’s worth”? Unfortunately, from a manager’s point of view, it’s not that easy. Customers want more than their money’s worth, and the more they receive for their money, the more value they see in the goods and services they are purchasing.

In determining the value of a product, be it a good or a service, customers take into consideration all of the benefits derived from the product and compare it with all of the costs of that product. If, in the opinion of the customer, the benefits exceed the costs, then customers perceive value in the product. The more the benefits exceed the costs, the more value the product provides.

In other words,

$$\text{Perceived customer value} = \frac{\text{Total benefits}}{\text{Total costs}} \quad (2.1)$$

⁴M. Anderson, “Case Study: Sobeys Inc.,” *National Post Business* (September 2003): 30–36.

⁵C. W. Skinner, “Manufacturing—The Missing Link in Corporate Strategy,” *Harvard Business Review* 47, no. 3 (May–June 1969): 136–145.

Shopping online has gained in popularity due to both the increasing number of sites offering products and services and the convenience of shopping any time, any place.



When this ratio is >1 , customers perceive value; the greater the number, the more value. When this ratio is <1 , customers feel they have overpaid for the product, that they have been “ripped off,” and are highly unlikely to buy that product again in the future. Another way of looking at this is

$$\text{Perceived customer value} = \text{Total benefits} - \text{Total costs} \quad (2.2)$$

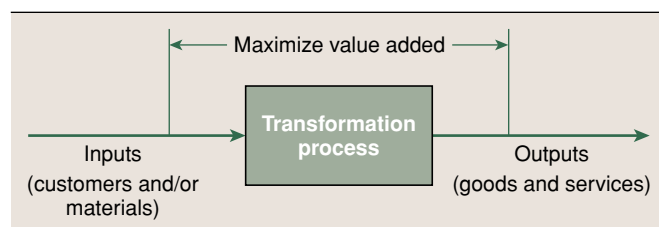
When the difference between the benefits and costs is positive, customers perceive value; when it is negative, they believe they have overpaid for the product.

One of the goals in the development of an operations strategy, therefore, should be to maximize the value added to the goods and services that are provided by the firm, as suggested in Exhibit 2.3.

Adding customer value during the transformation process can take many forms and translate into different things to different customers. As seen in Equations 2.1 and 2.2, one way to add value is to reduce the cost of the product, as when you buy books at Indigo.ca. Added value to the customer can also mean that the product is more readily available, such as when you order groceries online or buy a camera over the Internet. Added value can be seen as receiving faster service, as when you use the fast lane on the highway to pay a toll automatically, or it may take the form of information, as when Indigo.ca tells you what other books have been purchased by buyers who have purchased the same book you bought, or when Destina.ca provides you with a list of different airlines going to a particu-

Exhibit 2.3

Maximizing Value Added in Operations



lar city and a comparison of their air fares. Added value can also take the form of a more customized product, be it personal computer from Dell or more personalized service, as when you check into a hotel and they know that you have stayed there before and have certain preferences.

The key element in developing a successful operations strategy is for a firm to provide its customers with additional benefits at an increase in cost that is perceived to be less than those benefits.

Trends Affecting Operations Strategy Decisions

Two major trends that have significantly impacted the role of operations strategy within an organization are an increasing trend towards the globalization of business and advances in technology, especially information technology.

Globalization

As we saw in the first chapter, the world is quickly becoming a global village, caused in large part by technology. As a result, competition in most industries has intensified significantly in recent years, and this trend towards *hyper-competition* is expected to continue. At the same time, globalization provides new opportunities for companies in the form of new, previously untapped markets, for their products as well as new sources for raw materials and components at significantly lower costs.

This movement towards a single world economy has occurred for several reasons, including (a) continued advances in information technology that facilitate the rapid transfer of data across vast distances, (b) the growing trend to lower trade barriers as evidenced by NAFTA and the formation of the European Union, (c) the trend toward lower transportation costs, and (d) the emergence of high-growth markets with associated high profit margins in **newly industrialized countries (NIC)**.⁶ These new markets can be compared to the saturated markets and shrinking profit margins that are being experienced in the more highly developed countries. For example, Jack Smith, the former chairman of General Motors, expects the growing Asian market, especially China, to be key to the company's future. China had a passenger vehicle growth rate of 56 percent in 2002.⁷ New vehicle sales in Canada in 2002, in comparison, increased by 8.5 percent.⁸

As a result of this globalization of business, managers must extend their vision beyond their own national borders when developing operations strategies. This includes the location of manufacturing plants in Southeast Asia because of low labour rates, or the establishment of call centres in Ireland because of a combination of inexpensive labour, an educated workforce, and the necessary technology infrastructure that exists.

In addition to structural strategy decisions, such as where to locate a new plant, infrastructural issues also must be evaluated when looking to expand a company's operations strategy globally. Here the education level of the workforce, the language, and the impact of local laws and customs must be taken into consideration. For example, a major attraction for locating in Ireland is its highly educated workforce. As an another illustration, employees in Germany can work up to 70 hours in some weeks without being paid overtime, and then work as little as 30 hours or less in other weeks, as long as the total hours worked over a given time period (such as 6 or 12 months) meets an agreed-upon amount.

newly industrialized countries (NIC)

Emerging countries that compete in global markets with their goods and have populations with a high standard of living.

⁶John Naisbitt and P. Aburdene, *Megatrends 2000* (New York: William Morrow and Co., 1990).

⁷Dave Guilford, "GM's Smith Says Asia Is Key to Future," *Automotive News* (March 31, 2003): 26.

⁸Bob English, "Canada Sales Set Record in '02," *Automotive News* (January 20, 2003): 42.

Technology

Stan Davis and Chris Meyer, in their book entitled *Blur*, identify three factors that are significantly affecting the way in which business is being conducted: (a) connectivity, (b) speed, and (c) intangibility. They suggest that the combination of all three is causing changes to occur in business at such a rate that managers can only view business today as a blur, hence the title of the book.⁹

All three factors are directly related to advances in technology. Connectivity refers to the fact that virtually everyone is now connected electronically, be it through e-mail, the Internet, the telephone, or the fax. At the same time, firms with these connected networks, in many cases, provide services that are now available 24/7 (24 hours a day, seven days a week) in place of the more traditional hours of nine to five, Monday through Friday. Examples here include banking services, stock exchange transactions, and airline and hotel reservations. As a result of this connectivity, information is transmitted in a matter of seconds or minutes, instead of hours or days (or even weeks), which was the previous norm. The combination of connectivity and speed suggests that firms are now focusing on the intangible aspects of their business to gain a competitive advantage in the marketplace, which translates into providing better and more innovative services.

As we shall see shortly, technology has also dramatically affected one of the basic concepts in operations strategy: that of making trade-offs between priorities. With advances in technology, managers no longer have to make pure trade-offs between competitive priorities as they once did. Instead, today's technology allows firms to compete on several priorities simultaneously, resulting in shifts to superior performance curves (which are described later in the chapter).

Competitive Priorities

The key to developing an effective operations strategy lies in understanding how to create or add value for customers. Specifically, value is added through the competitive priority or priorities that are selected to support a given strategy.

Skinner and others initially identified *four basic competitive priorities*. These were **cost**, **quality**, **delivery**, and **flexibility**. These four priorities translate directly into characteristics that are used to describe various processes by which a company can add value to the products it provides. There now exists a fifth competitive priority—**service**—and it was the primary way in which companies began to differentiate themselves in the 1990s.

Cost

Within every industry, there is usually a segment of the market that buys strictly on the basis of low cost. To successfully compete in this niche, a firm must necessarily, therefore, be the low-cost producer. But, as noted earlier, even doing this doesn't always guarantee profitability and success.

Products sold strictly on the basis of cost are typically commodity-like. (Examples of commodities include flour, petroleum, and sugar.) In other words, customers cannot easily distinguish the products made by one firm from those of another. As a result, customers use cost as the primary determinant in making a purchase.

However, this segment of the market is frequently very large and many companies are lured by the potential for significant profits, which are associated with large unit volumes

competitive priorities

cost

Providing low-cost products.

quality

Providing high-quality products.

delivery

Providing products quickly.

flexibility

Providing a wide variety of products.

service

How products are delivered and supported.

⁹Stan Davis and Christopher Meyer, *Blur: The Speed of Change in the Connected Economy* (New York: Ernst & Young Center for Business Innovation, Warner Books, 1998).

of product. As a consequence, the competition in this segment is exceedingly fierce—and so is the failure rate. After all, there can only be one low-cost producer, and that firm usually establishes the selling price in the market. As an example, Zellers, a unit of Hudson's Bay Company, has found itself under increasing pressure since Wal-Mart entered Canada in 1994. It is estimated that on a sales per square metre basis (a key measure of retail efficiency), Zellers lags well behind Wal-Mart. Thus Zellers will have to improve its efficiency or differentiate itself from Wal-Mart to survive.¹⁰

Quality

Quality can be divided into two categories: product quality and process quality. The level of quality in a product's design will vary as to the particular market that it is aimed to serve. Obviously, a child's first two-wheel bicycle is of significantly different quality than the bicycle of a world-class cyclist. The use of thicker sheetmetal and the application of extra coats of paint are some of the product quality characteristics that differentiate a Mercedes-Benz from a Hyundai. One advantage of offering higher-quality products is that they command higher prices in the marketplace.

The goal in establishing the "proper level" of product quality is to focus on the requirements of the customer. Overdesigned products with too much quality will be viewed as being prohibitively expensive. Underdesigned products, on the other hand, will lose customers to products that cost a little more but are perceived by the customers as offering much greater benefits.

Process quality is critical in every market segment. Regardless of whether the product is a child's first two-wheeler or a bicycle for an international cyclist, or whether it is a Mercedes-Benz or a Hyundai, customers want products without defects. Thus, the goal of process quality is to produce error-free products.

Delivery

Another market niche considers speed of delivery to be an important determinant in its purchasing decision. Here, the ability of a firm to provide consistent and fast delivery allows it to charge a premium price for its products. George Stalk Jr., of the Boston Consulting Group, has demonstrated that both profits and market share are directly linked to the speed with which a company can deliver its products relative to its competition.¹¹ In addition to fast delivery, the reliability of the delivery is also important. In other words, products should be delivered to customers with minimum variance in delivery times.

Flexibility

From a strategic perspective, in terms of how a company competes, flexibility consists of two dimensions, both of which relate directly to how the firm's processes are designed. One element of flexibility is the firm's ability to offer its customers a wide variety of products. The greatest flexibility along this dimension is achieved when every product is customized to meet the specific requirements of each individual customer. This is often referred to as **mass customization**. Examples of firms that have achieved this level of flexibility include Dell Computers and the National Bicycle Industrial Company in Japan. (See OM in Practice box.)

mass customization

Providing high volume products that are individually customized to meet the specific needs of each customer.

¹⁰"Zellers Is Stretched in Apparel-Rack War. Analysts Suggest Strategies for Battling Wal-Mart," *Winnipeg Free Press*, August 19, 2002, B6.

¹¹George Stalk Jr., "Time and Innovation," *Canadian Business Review* 20, no. 3 (Autumn 1993): 15–18.



Operations Management in Practice

ZARA EXCELS ON PRICE, SPEED, AND FLEXIBILITY

Zara, a retail chain of high-fashion boutique clothing stores, has grown rapidly since Amancio Ortega opened his first store in Spain in 1975. Headquartered in northern Spain, Zara, with more than 400 retail stores in 25 countries, now generates sales of more than \$3 billion annually, primarily in Europe, but is now beginning to penetrate the Canadian market with nine stores, including stores in Toronto, Vancouver, Montreal, and Calgary. The reasons for its success are attributed to several factors including low prices, speed of delivery, and flexibility. Merchandise is delivered to each Zara retail location twice a week. (Merchandise is air-freighted to its stores in Canada.) This fast and almost continuous replenishment concept reduces the need for significant in-store inventories and the possibility of clothes going out of fashion.

A major factor in Zara's ability to react quickly to changes in the customer buying behaviour is its use of information and technology. Salespeople in each retail location use handheld computers to record buyer preferences and trends. This infor-

mation along with actual sales data are transmitted daily through the Internet to Zara's headquarters in Spain.

In addition, unlike its major competitors, which outsource manufacturing, Zara produces most of its merchandise in its state-of-the-art factory in Spain. Products are designed, produced, and delivered to its stores in as little as two weeks after they have appeared for the first time in a fashion show. (In contrast, competitors like the GAP and H&M require between five weeks and five months lead time to fill orders from its retail operations.)

Sources:

William Echikson, "The Mark of Zara," *Business Week* (May 29, 2000): 98–100.

Jane M. Folpe, "Zara Has a Made-to-Order Plan for Success," *Fortune* (September 4, 2000): 80.

Stryker McGuire, "Fast Fashion; How a Secretive Spanish Tycoon Has Defied the Postwar Tide of Globalization, Bringing Factory Jobs from Latin America and Asia back to Europe," *Newsweek*, International Edition, September 17, 2001, p. 36.

Richard Heller, "Galician Beauty," *Forbes* (May 28, 2001): 98.

Laurent Marchal, "In Their Own Words," *Space* (Winter 2003): 4.

The other dimension of flexibility is how fast a company can change its production facilities to produce a new line of products. This dimension is growing in importance, as product life cycles become shorter and shorter. Sony provides a good example here with its ability to quickly produce new models of its Walkman. Because it has this high degree of changeover flexibility, Sony is able to easily substitute new Walkman models for those models that do not sell well.

Service

With product life cycles becoming shorter and shorter, the actual products themselves tend to quickly resemble those of other companies. As a consequence, these products are often viewed as commodities in which price is the primary determinant in deciding which one to buy. A good example of this is the personal computer (PC) industry. Today, the differences in the products offered among the different PC manufacturers are relatively insignificant, so price is the prime selection criterion.



To obtain an advantage in such a competitive environment, firms are now providing "value-added" service. This is true for firms that provide goods and services. The reason is simple. As Sandra Vandermerwe puts it, "The market power is in the services, because the value is in the results." (Specific examples of how manufacturers are using services as a competitive advantage are presented later in this chapter.)

For example, Fairmont Hotels and Resorts, a hotel chain that owns luxury hotels and resorts across Canada from St. John's, Newfoundland to Victoria, British Columbia, has operators answering its toll free reservation numbers. While a menu-driven voicemail system is more cost efficient, management knows that its high-income customers prefer a human operator. The Fairmont Vancouver Airport hotel even has an Air Canada boarding pass kiosk in its lobby. Passengers flying to North American destinations without check-in baggage can obtain boarding passes from these kiosks, thus avoiding a wait in line at the airport.

Many of Canada's banks are embracing the Internet to provide customers with value-added services. For example, it is quite simple to pay a credit card bill post dated using the bank's website. This helps customers avoid forgetting to pay the bill by the due date as well as saving a trip to the mailbox or waiting in line at a branch.

The Next Sources of Competitive Advantage?

Managers are always looking for new ways in which to distinguish their firms from the competition. Currently, two new trends in business appear to be offering firms such an advantage: (a) the use of environmentally friendly processes and environmentally friendly products and (b) the use of information.

Environmentally Friendly Processes and Products As consumers become more aware of the fragility of the environment, they are increasingly turning towards products that are safe for the environment. Ford now advertises an environmentally friendly automobile. The Body Shop, an international retail chain headquartered in England, sells various cosmetics and skin lotions that are made without harming the environment.



Sun-Rype Products of Kelowna, British Columbia, a producer of fruit juices and snacks, conducts annual audits to "ensure that appropriate management policies towards waste management, recycling, and reuse of products are maintained." The company also promotes a healthy lifestyle for its customers. Calgary-based Suncor has moved from being at the bottom of the oil and gas sector to one of the best in terms of environmental performance.¹² Fishery Products International, a St. John's, Newfoundland and Labrador-based producer of seafood, was recognized in 2000 by the National Fisheries Institute of the United States for its responsible fishing practices. *The Globe and Mail* even gives annual awards to companies that are environmentally friendly. Chapter 1 discussed other examples of Canadian companies that have become environmentally proactive.

Corporate Responsibility in Supply Chains Consumers, nongovernmental organizations (NGOs), charities, and other similar organizations have been active in promoting fair trade practices. As a result, companies are also recognizing the importance of corporate responsibility, not only within their own organizations, but also in their supply chains. This helps ensure that companies in the supply chain, especially in developing countries, follow environmentally conscious practices, offer acceptable working conditions, and respect human rights in issues such as child labour.

The Use of Information Although the term "Information Age" was initially used when the first mass-produced computers were introduced, it wasn't until recently that we actually did enter the information age. This is due in large part to advances in information technology that now allow large quantities of data to be transmitted and stored accurately, and, equally important, inexpensively. As a result, companies are looking to use information in different ways to obtain a competitive advantage in the marketplace. For example, GE Medical Systems sells high-performance products with built-in systems that automatically "call home" when failures occur, or even potential failures are anticipated. Many times these problems or anticipated problems are repaired remotely, with little or no interruption in product performance. Feedback on existing products can also take the form of the "voice of the customer," as explained in the next chapter. In some instances this information is collected automatically, or through *service guarantees*, which are explained in detail in Chapter 6.

¹²A. Nikiforuk, "Saint or Sinner," *Canadian Business* (May 13, 2002).

Developing an Operations Strategy from Competitive Priorities

Factory Focus and Trade-Offs

The notion of factory focus and trade-offs was central to the concept of operations strategy during the late 1960s and early 1970s. The underlying logic was that a factory could not excel simultaneously on all four competitive priorities. Consequently, management had to decide which priorities were critical to the firm's success, and then concentrate or focus the resources of the firm on those particular characteristics. For firms with very large manufacturing facilities, Skinner suggested the creation of a plant-within-a-plant (PWP) concept, in which different locations within the facility would be allocated to different product lines, each with their own competitive priority. Even the workers, under the PWP concept, would be separated to minimize the confusion associated with shifting from one type of priority to another.¹³

For example, if a company wanted to focus on speed of delivery, then it could not be very flexible in terms of its ability to offer a wide range of products. As an example, McDonald's provides very fast service but offers a very limited menu of highly standardized products; in contrast, Wendy's makes your request to order but takes longer to deliver. Similarly, a low-cost priority was not seen to be compatible with either speed of delivery or flexibility. High quality also was viewed as a trade-off to low cost.

The need for focus has been recognized in other service operations as well. Hotel chains such as Marriott and Holiday Inn have segmented the hotel industry and now offer a wide variety of products, each focused on a different market segment. For example, within the Marriott group there are Fairfield Inns for economy-minded customers; Marriott Hotels and Resorts for conferences and for customers wanting full-service hotels; Residence Inns for customers wanting more than just a hotel room; and Marriott Courtyards for those wanting certain hotel conveniences such as meals, but who are still concerned about price. Canadian examples of focused operations include Air Canada's Tango brand, which focuses on discount airline travel. This "airline within an airline," is not unlike Skinner's plant-within-a-plant concept. As well, Fortis focuses on managing small-scale electricity generation plants (see the OM in Practice Box in Chapter 1), W.C. Woods focuses primarily on the refrigeration part of the appliance market, and Shouldice Hospital in Toronto, Canada, performs only one type of hernia operation. The benefits of a focused operation can be readily demonstrated at Shouldice Hospital, whose very unusual product is a "hernia vacation." Patients are admitted to a mansionlike hospital in a beautiful setting outside Toronto. Every detail of the hospital's operations is focused on providing high-quality hernia care and a congenial, restful atmosphere. Patients mingle, mix, and generally relax, enjoying the experience so much that the annual reunion dinner is oversubscribed. This highly focused care permits Shouldice to keep operating costs low while maintaining high quality, both in terms of medical care and patient service. However, by becoming a specialist facility, Shouldice does not have the capabilities to perform other types of medical treatments.



Questioning the Trade-Offs

With the world becoming a single global village, there has emerged a group of companies that have adopted an international perspective toward both manufacturing and marketing.



¹³C. W. Skinner, "The Focused Factory," *Harvard Business Review* 52, no. 3 (May–June 1974): 113–122.

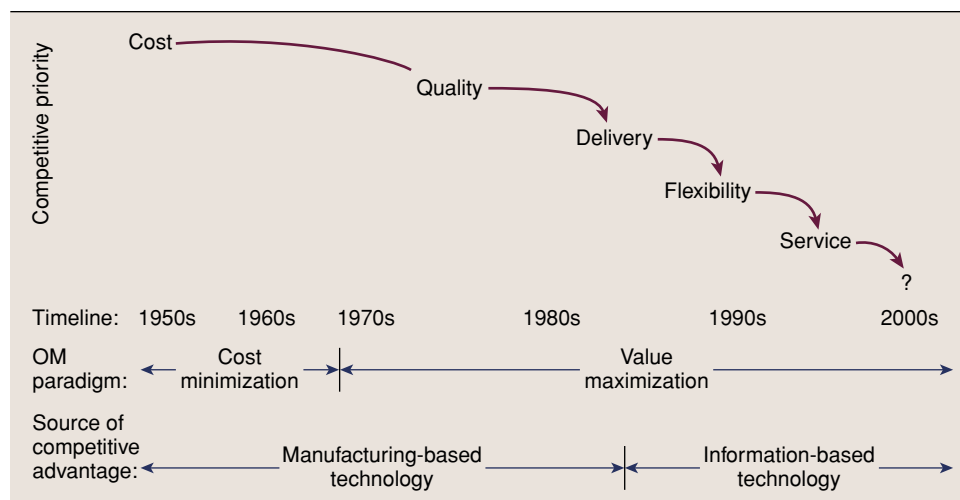
Within this global arena, competition is significantly more intense, due to both the greater number of “players” and the tremendous profit opportunities that exist.

Those companies that have excelled on this global level often have been referred to as *world-class operations*. Events in the world marketplace during the 1970s and 1980s, in terms of the growing intensity in competition, forced these companies to reexamine the concept of operations strategy, especially in terms of the so-called necessary trade-offs. Managers began to realize that they didn’t have to make trade-offs to the same extent that they had previously thought. What emerged instead was a realization of the need to establish a hierarchy among the different priorities, as dictated by the marketplace. Exhibit 2.4 presents the sequence in which these priorities were introduced over time.

Specifically, in the late 1960s and early 1970s, cost was the primary concern, a hold-over from the philosophy of the 1950s that manufacturing’s only objective was to minimize production costs. However, as more and more companies began to produce low-cost products, companies needed to develop other ways to differentiate themselves from their competitors. The priority thus shifted to quality. A clear example is the change in the North American automobile industry due to Japanese entrants. Companies at this time obtained a competitive advantage by producing high-quality products, which allowed them to charge more—although price still was a factor in the consumer’s buying decision. However, competition again soon caught up, and everyone was offering high-quality products that were reasonably priced.

Companies, in looking to obtain another competitive advantage in the marketplace, turned to speed and reliability of delivery as a means of differentiating themselves from the rest of the pack. Now the ante into the “game” was high-quality products that were reasonably priced and that could be delivered quickly and reliably to the customer.

In the 1980s, George Stalk Jr., a leading management “guru,” identified speed of delivery as a major factor in determining the success of a company.¹⁴ Companies therefore concentrated their resources on reducing product lead times with very dramatic results. Products that once took weeks or months to deliver were now being shipped within hours or days of the receipt of an order.



¹⁴George Stalk Jr., “Time and Innovation,” *Canadian Business Review* 20, no. 3 (Autumn 1993): 15–18.

Eventually, the competition again caught up and the more aggressive firms looked for still another means to obtain a competitive advantage. This time flexibility was selected, as measured in terms of the firm's ability to produce customized products. Now the marketplace dictated that for firms to be successful, they had to produce reasonably priced, customized products of high quality that could be quickly delivered to the customer.



A good example of a firm that has accomplished this is the National Bicycle Industrial Company in Japan.¹⁵ (See the OM in Practice box on Japan's Personalized Bike Production.)

As the "rules" for operations strategy shifted from that of primarily reducing costs to that of including quality, speed of delivery, flexibility, and service, the strategy for the operations management function also has shifted. The strategy of minimizing production costs has been replaced with that of maximizing the value added.

This emphasis on being competitive on more than one dimension might lead to the conclusion that there are no longer any trade-offs. This is not the case. As Wickham Skinner said at a breakfast meeting of the Boston P/OM Pancake Society in April 1995, "There will always be trade-offs." Today, however, those trade-offs occur on what can be described as a superior performance curve, as shown in Exhibit 2.5.



In moving to a higher performance curve, managers are no longer only concerned with trade-offs, which take place when one moves along an established curve such as going from point A₁ to point A₂ on curve A in Exhibit 2.5. Instead, the same speed of delivery can be provided, but at a lower cost, as shown in going from point A₂ to point B₂. Another approach is to improve the speed of delivery while maintaining the same cost, as seen in going from point A₁ to point B₁. A third alternative is to both improve the speed of delivery and reduce cost, as seen in going from point A₃ to point B₃. The important issue here is that in all three examples, the value to the customer is increased significantly, which is the primary purpose for moving to the superior performance curve.

order-qualifiers

Minimum characteristics of a firm or its products to be considered as a source of purchase.

order-winners

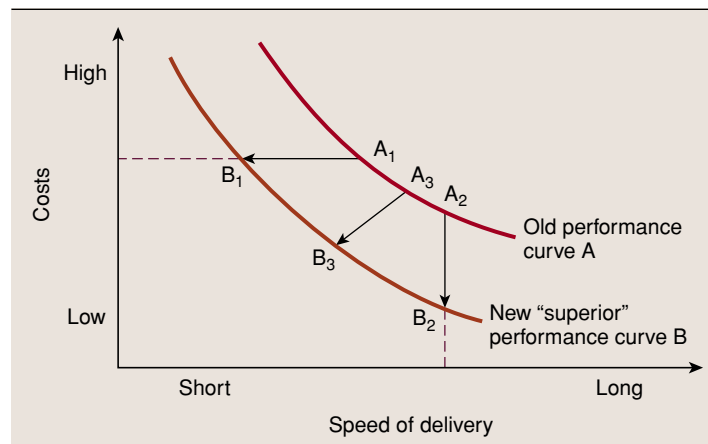
Characteristics of a firm that distinguish it from its competition so that it is selected as the source of purchase.

Order-Qualifiers and Order-Winners

Terry Hill of the London Business School has developed the strategic concept of **order-qualifiers** and **order-winners**.¹⁶ Order-qualifiers can be defined as the minimum elements or characteristics that a firm or its products must have to even be considered as a potential

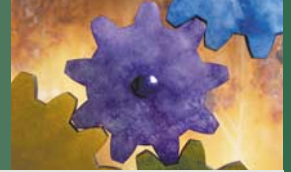
Exhibit 2.5

Example of Trade-Offs on Superior Performance Curves



¹⁵Susan Moffat, "Japan's New Personalized Production," *Fortune* (October 22, 1990): 132–135.

¹⁶T. Hill, *Manufacturing Strategy: Text and Cases*, 3rd ed. (Burr Ridge, IL: Irwin/McGraw-Hill, 2000).



JAPAN'S PERSONALIZED BIKE PRODUCTION

Does your bike fit you to a “t”? Would you like one that does? If you are willing to pay 20 to 30 percent more than you would pay for a mass-produced bike, you can get a Panasonic bike manufactured to exactly match your size, weight, and colour preference. You can even get your bike within three weeks of your order (only two weeks if you visit Japan). This is accomplished by a process called the Panasonic Individual Customer System (PICS), which skillfully employs computers, robots, and a small factory workforce to make one-of-a-kind models at the National Bicycle Industrial Company factory in Kokubu, Japan.

The National Bicycle Industrial Company (NBIC), a subsidiary of electronics giant Matsushita, began making the bikes under the Panasonic brand in 1987. With the introduction of its personalized order system (POS) for the Japanese market (PICS was developed for overseas sales), the firm gained international attention as a classic example of mass customization—producing products to order in lot sizes of one.

The factory itself has 21 employees and a computer-aided design (CAD) system, and is capable of producing any of 8 million variations on 18 models of racing, road, and mountain bikes in 199 colour patterns for virtually any size person.

The PIC system works in the following way. A customer visits a local Panasonic bicycle store and is measured on a special frame. The storeowner then faxes the specifications to the master control room at the factory. There an operator punches the specs into a minicomputer, which automatically creates a unique blueprint and produces a bar code. (The CAD blueprint takes about three minutes as opposed to three hours required by company draftspeople prior to computerization.) The bar code is then attached to metal tubes and gears that ultimately become the customer's personal bike. At various stages in the process, line workers access the customer's requirement using the bar code label and a scanner. This information, displayed on a CRT terminal at each station, is fed directly to the computer-controlled machines that are part of a local area computer network. At each step of production, a computer reading the code knows that each part belongs to a specific bike, and tells a robot where to weld or tells a painter which pattern to follow.

Despite the use of computers and robots, the process is not highly automated. Gears are hand-wired, assembly is manual, and the customer's name is silk-screened by hand with the touch of an artisan. The entire manufacturing and assembly time required to complete a single bike is 150 minutes, and the factory can make about 60 a day. NBIC's mass-production factory



Customers are custom-fitted in the retail store with options for 11 231 862 possible variations.

(which makes 90 percent of its annual production) can make a standard model in 90 minutes. One might ask why a customer must wait two to three weeks given that it takes less than three hours to make a custom model. According to the general manager of sales, “We could have made the time shorter, but we want people to feel excited about waiting for something special.”

To provide a more personal touch to mass customization, the factory is given the responsibility to communicate directly with the customer. Immediately after the factory receives the customer's order, a personalized computer-generated drawing of the bicycle is mailed with a note thanking the customer for choosing the bike. This is followed up with a second personal note, three months later, inquiring about the customer's satisfaction with the bicycle. Finally, a “bicycle birthday card” is sent to commemorate the first anniversary of the bicycle.

NBIC is now contemplating extending the Panasonic system to all of its bicycle production, while Matsushita is considering applying the concept to industrial machinery.

Sources: Surech Kotha, “The National Bicycle Industrial Company: Implementing a Strategy of Mass-Customization,” case study from the International University of Japan, 1993; and Susan Moffat. “Japan's New Personalized Production,” *Fortune* (October 22, 1990): 132–135.

supplier or source. In Europe, for example, the vast majority of companies today require that their vendors be ISO-9000 certified. (This certification ensures that a firm has documented all of its processes.) Thus, ISO-9000 certification is an order-qualifier in Europe. In contrast, most companies in Canada at this time are not ISO-9000 certified. As a consequence, ISO-9000-certified companies in Canada use their certification as an order-winner (that is, ISO-9000 certification distinguishes them as being better than their competition).



Basically, when very few firms offer a specific characteristic, such as high quality, customization, or outstanding service, that characteristic can be defined as an order-winner. However, over time, as more and more firms begin to offer that same enhancement, the order-winner becomes an order-qualifier. In other words, it becomes the minimum acceptable level for all competitors. As a result, the customer uses some other new enhancement or characteristic to make the final purchase. The shift of a product characteristic from being an order-winner to an order-qualifier is shown in Exhibit 2.6. We have arbitrarily selected 50 percent to represent the point at which an order-winner becomes an order-qualifier, as that is when the majority of firms provide a particular enhancement.

Focusing on Core Capabilities

core capabilities

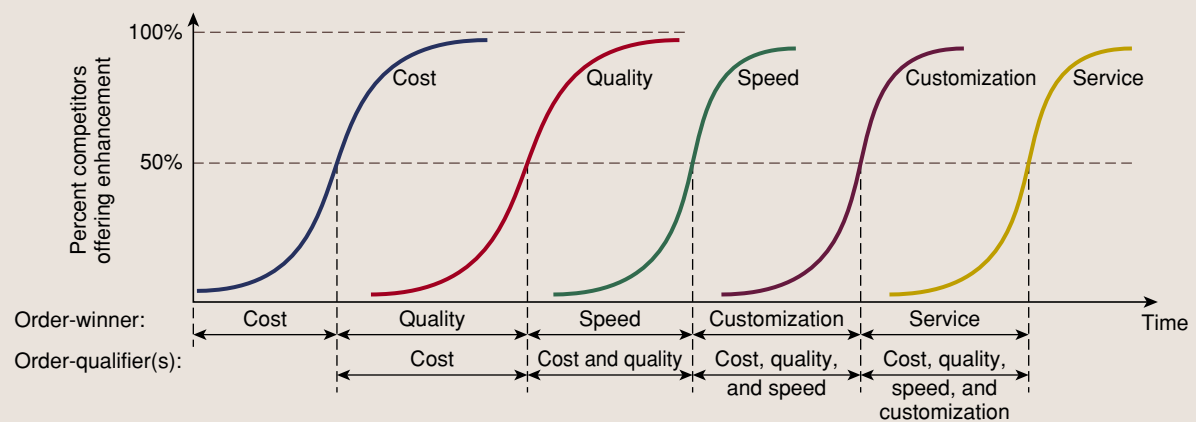
Specific strengths that allow a company to achieve its competitive priorities.

To successfully implement an operations strategy, be it within a manufacturing firm or within a service, certain **core capabilities** must be identified. These core capabilities allow the firm to establish its competitive priorities in the marketplace. Core capabilities can thus be defined as that skill or set of skills that the operations management function has developed that allows the firm to differentiate itself from its competitors. Similar core capabilities need to be identified in the other functional areas too, and each of these functional capabilities should be aligned to meet the overall goals of the firm.

To focus on these core capabilities, firms, both in manufacturing and services, have begun to divest themselves of those activities that are not considered to be critical to their success. In manufacturing, more and more components and subassemblies that were previously built in-house are now being subcontracted or outsourced to suppliers. As a result, the material cost in most manufacturing companies, as a percentage of total manufacturing costs, has substantially increased in recent years. On the other hand, the labour cost, as a percentage, has been drastically reduced, often to less than 5 percent of total costs.

This focus on core capabilities also has impacted services. More and more service operations are now subcontracting out ancillary support services that were previously provided in-house. Again, this strategy has allowed these services to concentrate on improving their core capabilities. For example, some universities subcontract bookstore operations to retailers such as Indigo. Many Canadian companies have outsourced the

Distinguishing Between Order-Qualifiers and Order-Winners



maintenance of their employee uniforms to Cintas Corp., which has locations in British Columbia, Alberta, Ontario, and Quebec. High tech companies such as Cisco Systems, IBM, and NEC have outsourced their manufacturing to contractors such as Toronto-based Celestica, preferring to concentrate on product design and development.

In many instances, the companies that have subcontracted these support services have discovered that the subcontractors can perform them better and at a lower cost than when they were done internally. This focus on core capabilities further supports the concept of a *value chain*. Here each company focuses on its core capabilities, thereby allowing it to maximize its value contribution to the end product that is provided to the customer. (A word of caution, however. Casually subcontracting a function that is not viewed as a core competency may result in losing knowledgeable people who know how the broader system operates and who can deal with unexpected emergencies that might shut down a core activity.)

Integration of Manufacturing and Services

Many firms are now looking to integrated and user-friendly service as a means of obtaining a competitive advantage in the marketplace. In so doing they are recognizing the need to align and integrate the products that are being offered. This is true for both manufacturing and service operations.

Xerox Canada, traditionally a manufacturer of copiers and printers, now calls itself the “document company.” To improve their competitiveness, they have moved from providing only hardware to offering solutions that can improve the customer’s processing of information, which involves a considerable value-added service aspect. As another illustration, SKF in Sweden no longer produces only ball bearings for its after-market or replacement business. It also provides advice to customers on spare parts management, training, and installation, and suggests good preventative maintenance practices that will extend the life of the bearings.

These services can range from activities in the pre-purchase to purchase and post-purchase phases¹⁷ and even activities downstream from production such as distribution.¹⁸ Hendrix Voeders, traditionally a feed supplier to pig farmers in Holland, now provides a wide range of services including consulting on pig breeding, nutritional management, and logistics. Coca-Cola has taken over some of the bottling and distribution of Coke products, downstream activities that were previously done by independent bottlers.

Some manufacturers provide extensive customer training to accompany the purchase of products. Customers become familiar with the products and learn to use them optimally. In addition this training can act as a competitive barrier. The Foxboro Company uses training to distance itself from the competition. Before its process control products are delivered, customers are invited to Foxboro’s manufacturing facility, where their equipment is set up and they learn how to use it under the guidance of Foxboro instructors. This is one of the reasons Foxboro experiences a very high percentage of repeat business from existing customers.

By integrating goods and services into a total package, or a “bundle of benefits,” companies are better able to address the overall needs of their customers. The opening vignettes of this chapter and of Chapter 4, where Dofasco and EllisDon no longer just make goods, but try to provide complete solutions for their customer needs through various allied services, reemphasizes the importance of providing a total package to be successful in the twenty-first century.

¹⁷Sandra Vandermerwe, *From Tin Soldiers to Russian Dolls: Creating Added Value Through Services* (Oxford, England: Butterworth-Heinemann, 1993).

¹⁸Richard Wise and Peter Baumgartner, “Go Downstream: The New Profit Imperative in Manufacturing,” *Harvard Business Review* 77, no. 5 (September–October 1999): 133–141.

Conclusion

The concept of operations strategy plays an important role in determining the overall long-term success of an organization. Developing an operations strategy means looking to new ways to add value for the customer in the goods and services that the firm produces and delivers. Value can have many meanings. Managers must therefore align the operations strategy of their firm with the strategies of other functional areas and with the firm's overall business strategy.

The combination of the globalization of business coupled with advances in technology has created a hyper-competitive environment in which managers must constantly be looking for new and innovative strategies to stay ahead of the competition. To properly implement these strategies, managers need to clearly understand the core capabilities of their firm and focus their resources on maintaining and improving these capabilities.

Successful firms today are looking to develop strategies that integrate goods and services into a single product offering or "bundle of benefits," which attempts to solve problems for customers rather than just selling them products.

Key Terms

business strategy p. 31	corporate strategy p. 30	operations strategy p. 32
competitive priorities p. 32	cost leadership p. 31	order-qualifiers p. 42
cost p. 36	differentiation p. 31	order-winners p. 42
delivery p. 36	functional strategy p. 32	planning and control p. 32
flexibility p. 36	market segmentation p. 31	strategic business unit (SBU) p. 30
quality p. 36	mass customization p. 37	strategic planning p. 32
service p. 36	mission p. 30	tactical planning p. 32
competitiveness p. 32	newly industrialized countries (NIC) p. 35	vision p. 30
core capabilities p. 44		

Review and Discussion Questions

1. What is meant by competitiveness?
2. Identify the different types of competitive priorities. How has their relationship to each other changed over the years?
3. For each of the different competitive priorities, describe the unique characteristics of the market niche with which it is most compatible.
4. Describe the difference between order-qualifiers and order-winners. What is the relationship between the two over time?
5. Explain the concept of the core capabilities within an organization.
6. In your opinion, do business schools have competitive priorities?
7. Why does the "proper" operations strategy keep changing for companies that are world-class competitors?
8. What is meant by the expression "manufacturing is entering the information age"?
9. What kind of information do you think would add value to the following goods and services?
 - a. Used car
 - b. Hotel in a foreign city
 - c. Cruise ship
 - d. College
10. Describe the type of service that would make the following items more attractive to purchase.
 - a. Suit of clothes
 - b. Used car
 - c. Personal computer
 - d. Fruits and vegetables
11. For each of the following, what, in your opinion are the order-qualifiers and order-winners?

- a. Selecting an airline to fly on
- b. Deciding which supermarket to buy groceries
- c. Buying an automobile
- d. Picking a restaurant for Saturday night

Go to the McGraw-Hill homepage at www.mcgrawhill.ca/college/davis and take several company tours for the purpose of describing some of their competitive priorities. For each tour identify the company, the product it makes, and its competitive priorities.

Internet Exercise



Lasik Vision Corp.

At its peak in late 2000, Lasik Vision Corporation had over 30 clinics operating in North America, second only to TLC Laser Eye Centers in Toronto, Ontario, which had 62 clinics. Dr. Hugo Sutton, an eye surgeon and a clinical associate professor at the University of British Columbia, and Michael Henderson founded Lasik Vision in 1997. Since 1978, Sutton had been operating his own eye clinic initially specializing in cataract surgery. In the intervening years, technological advances such as the excimer laser had transformed refractive surgery (the process of correcting myopia, hyperopia, or astigmatism by altering the contours of the cornea) from a low-tech risky procedure using lathes and sutures into a viable proposition for patients who could spend \$5000. After the surgery, they could discard their glasses or contacts. The efficient new procedure allowed surgeons to eventually reduce the fees for this service, thus making it even more attractive for patients. In 1991, in partnership with two other surgeons, Dr. Sutton set up his own refractive surgery clinic. By 1996, the Lasik technique, sparing patients the months of healing that came with older procedures, became the vogue.

It was at that time that Michael Henderson, a business executive and husband to one of Sutton's patients, approached him. Sutton remembers that "Henderson felt that this was a very powerful technology, a technology that he could take much further. He thought that we were rather pedestrian,

slow, and old fashioned." As Sutton was tiring of doing all the surgeries with little help, the proposal sounded very appealing. So in June 1997, Michael Henderson joined Sutton's company, TMX Laser Vision Canada Inc., as vice president.

Soon it was clear that Henderson was on an efficiency drive. He felt that the way to fortune was to reengineer the traditional model of the refractive surgery process. He let a few employees go, increasing the workload for the remainder. To improve efficiency, he tried not to use expensive equipment. For example, he opposed installing an ultrasound scanner to measure the individual layers of each cornea. This scanner improves the Lasik technique's success ratio. Dr. Sutton overruled him on this idea, but many of Henderson's ideas were implemented.

The traditional model involved acquiring patients through optometrist referrals. These optometrists also provided the postoperative care and received a portion of the \$4000 to \$5000 fee. In the reengineered model, the optometrists were cut out of the loop. Also every step in the care delivery system was standardized. Patients were attracted directly with aggressive advertising and a price well below competitors, initially \$2995. Henderson's vision of mass volume with low margins was launched in February 1998. Traditionally other competitors such as TLC ran higher-priced, lower-volume operations (TLC has continued with its model of including the optometrists).

At the same time, Sutton also believed in aggressive treatment. According to one of his colleagues, Dr. Dan Reinstein, “Hugo’s nature is pioneering. And so by definition, he is more likely to have less conservative, uh, outcomes.” Unfortunately, many patients were not properly informed that they were less-than-ideal candidates for the surgery. In a competitive medical environment, patients emerging from surgery with odd results led to lawsuits. As a result in August 1998, a rare public statement from the B.C. College of Physicians and Surgeons said that Sutton “has agreed to a modification of his practice and he has voluntarily agreed not to perform these surgical procedures on patients in the higher risk categories.”

In light of Sutton’s troubles, Henderson became president and CEO in April 1999 and began pushing the company into massive expansion and a public offering. This expansion actually started in Toronto in September 1998, followed by Calgary two months later. Henderson continued expansion until eight more sites had been added in September 1999. Henderson insisted that pricing was the key. In TV advertisements, Henderson personally extolled the Lasik Vision message—Why pay more?—standing next to a large graphic proclaiming “\$1475 per eye.” By early 1999, the pricing was dropped to \$1598 for both eyes, but Henderson preferred to see it even lower. One advertisement he initiated proclaimed a cost of \$999 with an asterisk listing another \$599 in additional fees in fine print. This prompted Advertising Standards Canada to demand a change.

In December 1999, Henderson announced his intention to step up the pace of expansion. Beginning March 2000, Lasik Vision would start expanding at the pace of one new site per week to open about 20 clinics in the United States. The whole delivery process would be standardized right from the décor of the waiting rooms to the approach in which patients were counselled and corneas were lasered. This was the only way large volumes of patients could be treated with a high level of care. The medical doctors responded to the challenge by devising a hiring and training system that Sutton and the other doctors felt would enable reliable quality across the country.

All this development and expansion was taking place while trouble was brewing between the doctors and Henderson over financial and managerial improprieties. Henderson was aggressively skimming profits off the company for himself. The

last straw came in the spring in 2000 when Price-WaterhouseCoopers grew concerned about Henderson’s “unfettered” activities while auditing Lasik’s financial statements. Thus, in June 2000, Henderson was fired from the company.

Epilogue

Henderson subsequently sued Lasik Vision and Sutton for negligence during an eye surgery performed on his eyes in March 1998, which he claims damaged his vision. Reinstein admits that Henderson had a complication. Henderson’s problem, Reinstein insists, is that he does not understand the difference between complication and negligence. “Well, maybe you shouldn’t expect him to,” he sniffs, “he is not a doctor.” Still you have to hand it to him, says Reinstein, “He is an amazing guy. I did learn a lot about doing business from him.”

By 2001 the industry was mired in the ugly price war initiated by Lasik Vision, in addition to an advertising war with many companies spending 10 to 13 percent of revenue on advertising (TLC has even signed professional golfer Tiger Woods to a multiyear contract to endorse his surgery at TLC). Lasik’s stock slid from \$6 in April 1999 to about a tenth of that by December 2000. As a result of all this, a consolidation spree ensued.

The January 31, 2001, edition of the *Globe and Mail* reported that Lasik Vision had been acquired by another discounter, Icon Laser Eye Centers. At that time Lasik called itself the Dell Computer of laser vision correction—“we offer a high-quality product direct to customers and we cut distribution costs without compromising patient care.” However, TLC disagreed, “Clearly it’s the utter failure of both their business and clinical models that has forced them into such dire financial circumstances and their marriage of desperation in the first place.” At about the same time Aris Vision of Los Angeles acquired control of Gimbel Vision International of Calgary.

The August 28, 2001, issue of the *Globe and Mail* reported that the two leading laser eye surgery companies, TLC Laser Centers and St. Louis-based Laser Vision Centers Inc., were merging. It also mentioned that these two companies had refused to participate in the price war initiated by Lasik Vision, which had ironically resulted in both Lasik Vision and its acquirer, Icon, going bankrupt.

Questions

1. What was Lasik Vision's competitive priority?
2. Is it an appropriate approach in this industry? What repercussions, actual or perceived, might occur with this priority?
3. What might be some of the external influences on strategy formulation?
4. Given that a company has chosen this priority, what would it have to do to achieve success?

5. What are the order qualifiers and order winners in this business?

Source: This case was adapted by Jaydeep Balakrishnan from an article written by Trevor Cole in *ROB Magazine*, January 2001, and is for discussion purposes only. It is not intended to illustrate the proper or improper management of a situation. Richard B. Chase, F. Robert Jacobs, and Nicholas J. Aquilano, *Operations Management for Competitive Advantage*, 10th ed. (New York: Irwin McGraw Hill, 2004).

Motorola's Plantation, Florida, Factory

Motorola strives to measure every task performed by every one of its 120 000 employees, and calculates that it saved \$1.5 billion by reducing defects and simplifying processes last year. While that figure is hard to verify, here's one that isn't: Since 1986, productivity (sales per employee) has increased 126 percent, even though Motorola has expanded its workforce.

What does the company do with all the money it saves? Some goes into R&D, some goes to workers as bonuses keyed to return on net assets, and some goes straight to the bottom line. But mostly, says corporate quality director Richard Buetow, "we've been giving it away at the marketplace." Motorola cut the price of cellular telephones 25 percent last year yet still raised its net profit margins.

At some Motorola factories quality is so high that they've stopped counting defects per million and started working on defects per *billion*. Overall, the company aims to reduce its error rate tenfold every two years and to increase the speed of its processes—cut its cycle time—tenfold every five years. At those levels, says Buetow, "you are hitting the limits of the capabilities of many of your machines." And those of your people as well.

Jerry Mysliwiec, manufacturing director at the Land Mobile Products factory in Plantation, Florida, begins each morning meeting of his factory supervisors with a singular request: "Okay, guys, tell me what records you broke, because if you didn't break records, you didn't improve."

Four years ago the Plantation factory wasn't breaking much of anything except the patience of its managers. It took Motorola as long as 10 days to turn out a finished radio. To decide which models to make, analysts crunched out elaborate forecasts of consumer demand, which were

rarely on target. The company began building the radios at a "feeder plant" in Malaysia, where labour costs were low, then shipped them to Plantation for final assembly.

These days Plantation's Jedi line (named after the good guys in *Star Wars*) can make a specific radio—any one of more than 500 variations—for a specific customer in just two hours. They no longer rely on a forecast or a feeder plant. As the radios zip around the U-shaped assembly line, pallets marked with binary codes tell the robots, and the casually clad workers who monitor them, what to do. Plantation's most useful innovation: inventing a computer-controlled soldering process that eliminates the need for costly and time-consuming tool changes. Motorola is now converting the two-way radio plant in Malaysia, along with its other major operation in Ireland, into clones of Plantation's "focused flexible factory."

As part of its quality drive, Motorola has given new meaning to the phrase "team spirit." At the cellular equipment plant in Arlington Heights, Illinois, self-directed teams hire and fire their coworkers, help select their supervisors, and schedule their own work (in consultation with other teams). Last year, the factory's 1003 workers also mustered into no fewer than 168 special teams dedicated to improving quality, cutting costs, and reducing cycle time.

Question

1. What operations capabilities is Motorola using to compete?

Source: Ronald Henkoff, "Keeping Motorola on a Roll," *Fortune* (April 18, 1994). © 1994 Time Inc. All rights reserved.