

Operations Management

Developing an Operations Strategy

3.1 The Role of Operations Strategy

The role of operations strategy is to provide a plan for the operations function so that it can make the best use of its resources. Operations strategy specifies the policies and plans for using the organization's resources to support its long-term competitive strategy. The operations function is responsible for managing the resources needed to produce the company's goods and services. Operations strategy is the plan that specifies the design and use of resources to support the business strategy. This includes the location, size, and type of facilities available; worker skills and talents required; use of technology, special processes needed, special equipment; and quality control methods.

The operations strategy must be aligned with the company's business strategy and enable the company to achieve its long-term plan. For example, the business strategy of FedEx, the world's largest provider of expedited delivery services, is to compete on time and dependability of deliveries. The operations strategy of FedEx developed a plan for resources to support its business strategy. To provide speed of delivery, FedEx acquired its own fleet of airplanes. To provide dependability of deliveries, FedEx invested in a sophisticated bar-code technology to track all packages.

3.2 The Importance of Operations Strategy

Operations strategy did not come to the forefront until the 1970s. Up to that time, U.S. companies emphasized mass production of standard product designs. There were no serious international competitors, and U.S. companies could pretty much sell anything they produced. However, that changed in the 1970s and 1980s. Japanese companies began offering products of superior quality at lower cost, and U.S. companies lost market share to their Japanese counterparts. In an attempt to survive, many U.S. companies copied Japanese approaches. Unfortunately, merely copying these approaches often proved unsuccessful; it took time to really understand the Japanese approaches.

It became clear that Japanese companies were more competitive because of their operations strategy; that is, all their resources were specifically designed to directly support the company's overall strategic plan. Harvard Business School professor Michael Porter says that companies often do not understand the differences between *operational efficiency* and *strategy*. Operational efficiency is performing operations tasks well, even better than competitors.

Strategy, on the other hand, is a plan for competing in the marketplace. An analogy might be that of running a race efficiently, but the wrong race. Strategy is defining in what race you will win. Operational efficiency and strategy must be aligned; otherwise, you may be *very efficiently performing the wrong task*. The role of operations strategy is to make sure that all the tasks performed by the operations function are the *right tasks*. Consider a software company that recently invested millions of dollars in developing software with features not provided by competitors, only to discover that these were features customers did not particularly want.

Now that we know the meaning of *business strategy* and *operations strategy* and their importance, let's look at how a company would go about developing a business strategy. Then we will see how an operations strategy would be developed to support the company's business strategy.

3.3 Developing a Business Strategy

A company's business strategy is developed after its managers have considered many factors and have made some strategic decisions. These include developing an understanding of what business the company is in (the company's *mission*), analyzing and developing an understanding of the market (*environmental scanning*), and identifying the company's strengths (*core competencies*). These three factors are critical to the development of the company's long-range plan, or business strategy. In this section we describe each of these elements in detail and show how they are combined to formulate the business strategy.

Mission - Every organization, from IBM to the Boy Scouts, has a mission. The **mission** is a statement that answers three overriding questions:

- *What* business will the company be in (“selling personal computers,” “operating an Italian restaurant”)?
- *Who* will the customers be, and what are the expected customer attributes (“homeowners,” “college graduates”)?

- *How* will the company's basic beliefs define the business (“gives the highest customer service,” “stresses family values”)?

Following is a list of some well-known companies and parts of their mission statements: **Dell Computer Corporation:** “to be the most successful computer company in the world” **Delta Air Lines:** “worldwide airlines choice” **IBM:** “translate advanced technologies into values for our customers as the world's largest information service company” **Lowe's:** “helping customers build, improve and enjoy their homes” **Ryder:** “offers a wide array of logistics services, such as distribution management, domestically and globally”.

The mission defines the company. In order to develop a long-term plan for a business, you must first know exactly what business you are in, what customers you are serving, and what your company's values are. If a company does not have a well defined mission, it may pursue business opportunities about which it has no real knowledge or that are in conflict with its current pursuits, or it may miss opportunities altogether.

For example, Dell Computer Corporation has become a leader in the computer industry in part by following its mission. If it did not follow its mission, Dell might decide to pursue other opportunities, such as producing mobile telephones similar to those manufactured by Motorola and Nokia. Although there is a huge market for mobile telephones, it is not consistent with Dell's mission of focusing on computers.

3.4 Environmental Scanning

A second factor to consider is the external environment of the business. This includes trends in the market, in the economic and political environment, and in society. These trends must be analyzed to determine business opportunities and threats. **Environmental scanning** is the process of monitoring the external environment. To remain competitive, companies have to continuously monitor their environment and be prepared to change their business strategy, or long-range plan, in light of environmental changes.

What Does Environmental Scanning Tell Us? Environmental scanning allows a company to identify *opportunities* and *threats*. For example, through environmental scanning we could see gaps in what customers need and what competitors are doing to meet those needs. A study of these gaps could reveal an opportunity for our company, and we could design a plan to take advantage of it. On the other hand, our company may currently be a leader in its industry, but

environmental scanning could reveal competitors that are meeting customer needs better—for example, by offering a wider array of services. In this case, environmental scanning would reveal a threat and we would have to change our strategy so as not to be left behind. Just because a company is an industry leader today does not mean it will continue to be a leader in the future.

In the 1970s Sears, Roebuck and Company was a retail leader, but it fell behind the pack in the 1990s. **What Are Trends in the Environment?** The external business environment is always changing. To stay ahead of the competition, a company must constantly look out for trends or changing patterns in the environment, such as *marketplace trends*. These might include changes in customer wants and expectations and ways in which competitors are meeting those expectations. For example, in the computer industry customers are demanding speed of delivery, high quality, and low price.

Dell has become a leader in the industry because of its speed of delivery and low price. Other computer giants, such as Compaq, have had to redesign their business and operations strategies to compete with Dell. Otherwise, they would be left behind. It is through environmental scanning that companies like Compaq can see trends in the market, analyze the competition, and recognize what they need to do to remain competitive.

There are many other types of trends in the marketplace. For example, we are seeing changes in the use of technology, such as point-of-sale scanners, automation, computer assisted processing, electronic purchasing, and electronic order tracking. One rapidly growing trend is e-commerce. For retailers like The Gap, Eddie Bauer, Fruit of the Loom, Inc., Barnes & Noble, and others, e-commerce has become a significant part of their business. Victoria's Secret has even used the Internet to conduct a fashion show in order to boost sales. Some companies began using e-commerce early in their development.

Others, like Sears, Roebuck, waited and then found themselves working hard to catch up to the competition. In addition to market trends, environmental scanning looks at economic, political, and social trends that can affect the business.

Economic trends include recession, inflation, interest rates, and general economic conditions. Suppose that a company is considering obtaining a loan in order to purchase a new facility. Environmental scanning could show that interest rates are particularly favorable and that this may be a good time to go ahead with the purchase.

Political trends include changes in the political climate—local, national, and international—that could affect a company. For example, the creation of the European Union has had a significant impact on strategic planning for such global companies as IBM, Hewlett-Packard, and PepsiCo. Similarly, changes in trade relations with China have opened opportunities that were not available earlier. There has been a change in how companies view their environment, a shift from a national to a global perspective. Companies seek customers and suppliers all over the globe. Many have changed their strategies in order to take advantage of global opportunities, such as forming partnerships with international firms, called *strategic alliances*. For example, companies like Motorola and Xerox want to take advantage of opportunities in China and are developing strategic alliances to help them break into that market.

Finally, *social trends* are changes in society that can have an impact on a business. An example is the awareness of the dangers of smoking, which has made smoking less socially acceptable. This trend has had a huge impact on the tobacco industry. In order to survive, many of these companies have changed their strategy to focus on customers overseas, where smoking is still socially acceptable, or have diversified into other product lines.

3.5 Core Competencies

The third factor that helps define a business strategy is an understanding of the company's strengths. These are called **core competencies**. In order to formulate a long-term plan, the company's managers must know the competencies of their organization. Core competencies could include special skills of workers, such as expertise in providing customized services or knowledge of information technology. Another example might be flexible facilities that can handle the production of a wide array of products. To be successful, a company must compete in markets where its core competencies will have value.

Highly successful firms develop a business strategy that takes advantage of their core competencies or strengths. To see why it is important to use core competencies, think of a student developing plans for a successful professional career. Let's say that this student is particularly good at mathematics but not as good in verbal communication and persuasion. Taking advantage of core competencies would mean developing a career strategy in which the student's strengths could provide an advantage, such as engineering or computer science. On the other hand, pursuing a career in marketing would place the student at a disadvantage because of a relative lack of skills in persuasion.

Increased global competition has driven many companies to clearly identify their core competencies and outsource those activities considered noncore. Recall from Chapter 1 that outsourcing is obtaining goods or services from an outside provider. By outsourcing noncore activities, a company can focus on its core competencies. For example, Meijer, a grocery and general merchandise retailer, outsources the transportation of all its merchandise to a company called Total Logistics Control (TLC).

TLC is responsible for all deliveries, route scheduling, and all activities involved in maintaining a fleet of trucks, allowing Meijer to focus on its core competencies. An environmental scan revealed that competing computer manufacturers, such as IBM and Compaq, used intermediate resellers to sell computers. This led to higher inventory, higher costs, and slower responsiveness to customer wants. Michael Dell's idea was to sell directly to the customer and be able to put together exactly the system the customer wanted within a short time.

Dell defined its core competencies as flexible manufacturing and the latest technological offering. Together, the mission, environmental scan, and core competencies were used to develop a competitive business strategy that provides customized computer solutions to customers within 36 hours at a highly competitive price. Dell's business strategy was to take advantage of an opportunity in the market. However, to implement this strategy, the company needed to develop an operations strategy that arranged all the resources in ways that would support the business strategy. Operations strategy designs a plan for resources in order to take the business strategy from concept to reality. In the next section we look at how an operations strategy is developed.

3.6 Developing an Operations Strategy

Once a business strategy has been developed, an operations strategy must be formulated. This will provide a plan for the design and management of the operations function in ways that support the business strategy. The operations strategy relates the business strategy to the operations function. The operations strategy focuses on specific capabilities of the operation that give the company a competitive edge. These capabilities are called **competitive priorities**. By excelling in one of these capabilities, a company can become a winner in its market. These competitive priorities and their relationship to the design of the operations function.

3.6.1 Competitive Priorities

Operations managers must work closely with marketing in order to understand the competitive situation in the company's market before they can determine which competitive priorities are important. There are four broad categories of competitive priorities:

- 1) **Cost** Competing based on **cost** means offering a product at a low price relative to the prices of competing products. The need for this type of competition emerges from the business strategy. The role of the operations strategy is to develop a plan for the use of resources to support this type of competition. Note that a low-cost strategy can result in a higher profit margin, even at a competitive price. Also, low cost does not imply low quality. Let's look at some specific characteristics of the operations function we might find in a company competing on cost. To develop this competitive priority, the operations function must focus primarily on cutting costs in the system, such as costs of labor, materials, and facilities.

Companies that compete based on cost study their operations system carefully to eliminate all waste. They might offer extra training to employees to maximize their productivity and minimize scrap. Also, they might invest in automation in order to increase productivity. Generally, companies that compete based on cost offer a narrow range of products and product features, allow for little customization, and have an operations process that is designed to be as efficient as possible.

A company that successfully competes on cost is Southwest Airlines. Southwest's entire operations function is designed to support this strategy. Facilities are streamlined: only one type of aircraft is used, and flight routes are generally short. This serves to minimize costs of scheduling crew changes, maintenance, inventories of parts, and many administrative costs. Unnecessary costs are completely eliminated: there are no meals, printed boarding passes, or seat assignments. Employees are trained to perform many functions and use a team approach to maximize customer service. Because of this strategy, Southwest has been a model for the airline industry for a number of years.

- 2) **Quality** Many companies claim that **quality** is their top priority, and many customers say that they look for quality in the products they buy. Yet quality has a subjective meaning; it depends on who is defining it. For example, to one person quality could mean that the product lasts a long time, such as with a Volvo, a car known for its longevity. To another person quality might mean high performance, such as a BMW.

When companies focus on quality as a competitive priority, they are focusing on the dimensions of quality that are considered important by their customers. Quality as a competitive priority has two dimensions.

- The first is *high-performance design*. This means that the operations function will be designed to focus on aspects of quality such as superior features, close tolerances, high durability, and excellent customer service.
- The second dimension is *goods and services consistency*, which measures how often the goods or services meet the exact design specifications. A strong example of product consistency is McDonald's, where we know we can get the same product every time at any location. Companies that compete on quality must deliver not only high-performance design but goods and services consistency as well.

A company that competes on this dimension needs to implement quality in every area of the organization. One of the first aspects that needs to be addressed is *product design quality*, which involves making sure the product meets the requirements of the customer. A second aspect is *process quality*, which deals with designing a process to produce error-free products. This includes focusing on equipment, workers, materials, and every other aspect of the operation to make sure it works the way it is supposed to.

Companies that compete based on quality have to address both of these issues: the product must be designed to meet customer needs, and the process must produce the product exactly as it is designed. To see why product and process quality are both important, let's say that your favorite fast-food restaurant has designed a new sandwich called the "Big Yuck." The restaurant could design a process that produces a perfect "Big Yuck" every single time.

But if customers find the "Big Yuck" unappealing, they will not buy it. The same would be true if the restaurant designed a sandwich called the "Super Delicious" to meet the desires of its customers. Even if the "Super Delicious" were exactly what the customers wanted, if the process did not produce the sandwich the way it was designed, often making it soggy and cold instead, customers would not buy it. Remember that the product needs to be designed to meet customer wants and needs, and the process needs to be designed to produce the exact product that was intended, consistently without error.

- 3) **Time - Time** or speed is one of the most important competitive priorities today. Companies in all industries are competing to deliver high-quality products in as short a time as possible. Companies like FedEx, LensCrafters, United Parcel Service (UPS), and Dell compete based on time. Today's customers don't want to wait, and companies that can meet their need for fast service are becoming leaders in their industries.

Making time a competitive priority means competing based on all time-related issues, such as *rapid delivery* and *on-time delivery*. Rapid delivery refers to how quickly an order is received; on-time delivery refers to how often deliveries are made on time. Another time-competitive priority is development speed, which is the time needed to take an idea to the marketplace. This is especially critical in technology and computer software fields. When time is a competitive priority, the job of the operations function is to critically analyze the system and combine or eliminate processes in order to save time.

Often companies use technology to speed up processes, rely on a flexible workforce to meet peak demand periods, and eliminate unnecessary steps in the production process. The company's claim is to "***absolutely, positively***" deliver packages on time. To support this strategy, the operation function had to be designed to promote speed. Barcode technology is used to speed up processing and handling, and the company uses its own fleet of airplanes. FedEx relies on a very flexible part-time workforce, such as college students who are willing to work a few hours at night. FedEx can call on this part-time workforce at a moment's notice, providing the company with a great deal of flexibility. This allows FedEx to cover workforce requirements during peak periods without having to schedule full-time workers.

- 4) **Flexibility** As a company's environment changes rapidly, including customer needs and expectations, the ability to readily accommodate these changes can be a winning strategy. This is **flexibility**. There are two dimensions of flexibility. One is the ability to offer a wide variety of goods or services and customize them to the unique needs of clients. This is called ***product flexibility***. A flexible system can quickly add new products that may be important to customers or easily drop a product that is not doing well.

Another aspect of flexibility is the ability to rapidly increase or decrease the amount produced in order to accommodate changes in the demand. This is called ***volume flexibility***. You can see the meaning of flexibility when you compare ordering a suit from a custom tailor to buying it off the rack at a retailer. Another

example would be going to a fine restaurant and asking to have a meal made just for you, versus going to a fast food restaurant and being limited to items on the menu. The custom tailor and the fine restaurant are examples of companies that are flexible and will accommodate customer wishes. Another example of flexibility is Empire West Inc., a company that makes a variety of products out of plastics, depending on what customers want. Empire West makes everything from plastic trays to body guards for cars.

Companies that compete based on flexibility often cannot compete based on speed because it generally requires more time to produce a customized product. Also, flexible companies typically do not compete based on cost because it may take more resources to customize the product. However, flexible companies often offer greater customer service and can meet unique customer requirements. To carry out this strategy, flexible companies tend to have more general-purpose equipment that can be used to make many different kinds of products. Also, workers in flexible companies tend to have higher skill levels and can often perform many different tasks in order to meet customer needs.

3.7 The Need for Trade-Offs

You may be wondering why the operations function needs to give special focus to some priorities but not all. Aren't all the priorities important? As more resources are dedicated to one priority, fewer resources are left for others. The operations function must place emphasis on those priorities that directly support the business strategy.

Therefore, it needs to make **trade-offs** between the different priorities. For example, consider a company that competes on using the highest quality component parts in its products. Due to the high quality of parts, the company may not be able to offer the final product at the lowest price. In this case, the company has made a trade-off between quality and price. Similarly, a company that competes on making each product individually based on customer specifications will likely not be able to compete on speed. Here, the trade-off has been made between flexibility and speed.

It is important to know that every business must achieve a basic level of each of the priorities, even though its primary focus is only on some. For example, even though a company is not competing on low price, it still cannot offer its products at such a high price that customers would not want to pay for them. Similarly, even though a company is not competing on time, it still has to produce its product within a reasonable amount of time; otherwise, customers will not be willing to

wait for it. One way that large facilities with multiple products can address the issue of trade-offs is using the concept of plant-within-a-plant (PWP), introduced by well-known Harvard professor Wickham Skinner. The PWP concept suggests that different areas of a facility be dedicated to different products with different competitive priorities. These areas should be physically separated from one another and should even have their own separate workforce. As the term suggests, there are multiple plants within one plant, allowing a company to produce different products that compete on different priorities. For example, hospitals use PWP to achieve specialization or focus in a particular area, such as the cardiac unit, oncology, radiology, surgery, or pharmacy. Similarly, department stores use PWP to isolate departments, such as the Sears auto service department versus its optometry center.

3.7.1 Order Winners and Qualifiers

To help a company decide which competitive priorities to focus on, it is important to distinguish between *order winners* and *order qualifiers*, which are concepts developed by Terry Hill, a professor at Oxford University. **Order qualifiers** are those competitive priorities that a company has to meet if it wants to do business in a particular market.

Order winners, on the other hand, are the competitive priorities that help a company win orders in the market. Consider a simple restaurant that makes and delivers pizzas. Order qualifiers might be low price (say, less than \$10.00) and quick delivery (say, under 15 minutes) because this is a standard that has been set by competing pizza restaurants. The order winners may be “fresh ingredients” and “home-made taste.” These characteristics may differentiate the restaurant from all the other pizza restaurants.

However, regardless of how good the pizza, the restaurant will not succeed if it does not meet the minimum standard for order qualifiers. Knowing the order winners and order qualifiers in a particular market is critical to focusing on the right competitive priorities. It is important to understand that order winners and order qualifiers change over time. Often when one company in a market is successfully competing using a particular order winner, other companies follow suit over time. The result is that the order winner becomes an industry standard, or an order qualifier. To compete successfully, companies then have to change their order winners to differentiate themselves. An excellent example of this occurred in the auto industry. Prior to the 1970s, the order-winning criterion in the American auto industry was price. Then the Japanese automobile manufacturers entered the market competing on quality at a reasonable price. The result was that quality became the new order winner and price became an order qualifier, or an

expectation. Then by the 1980s American manufacturers were able to raise their level of quality to be competitive with the Japanese. Quality then became an order qualifier, as everyone had the same quality standard.

3.7.2 Translating Competitive Priorities into Production Requirements

Operations strategy makes the needs of the business strategy specific to the operations function by focusing on the right competitive priorities. Once the competitive priorities have been identified, a plan is developed to support those priorities. The operations strategy will specify the design and use of the organization's resources; that is, it will set forth specific operations requirements. These can be broken down into two categories.

- 1) **Structure**—Operations decisions related to the design of the production process, such as characteristics of facilities used, selection of appropriate technology, and flow of goods and services through the facility.
- 2) **Infrastructure**—Operations decisions related to the planning and control systems of the operation, such as organization of the operations function, skills and pay of workers, and quality control approaches.

Together, the structure and infrastructure of the production process determine the nature of the company's operations function. The structure and infrastructure of the production process must be aligned to enable the company to pursue its long-term plan. Suppose we determined that **time or speed** of delivery is the order winner in the marketplace and the competitive priority we need to focus on. We would then design the production process to promote speedy product delivery. This might mean having a system that does not necessarily produce the product at the absolutely lowest cost, possibly because we need costlier or extra equipment to help us focus on speed. The important thing is that every aspect of production of a product or delivery of a service needs to focus on supporting the competitive priority.

However, we cannot neglect the other competitive priorities. A certain level of order qualifiers must be achieved just to remain in the market. The issue is not one of focusing on one priority to the exclusion of the others. Rather, it is a matter of degree. Let's return to the example of Dell Computer Corporation. Earlier we explained how Dell used its mission, environmental scanning, and core competencies to develop its business strategy. But to make this business plan a reality, the company needed to develop an operations strategy to create its structure and infrastructure.

The focus was on customer service, cost, and speed. Dell set up a system in which customers could order computers directly from the company, without going through an intermediary, such as a retailer. An operations system was designed so that ordering of components and assembly of computers did not occur until an order was actually placed. This kept costs low because Dell did not have computers sitting in inventory. A warehousing system was designed so that when components were needed, suppliers would deliver them to the plant within 15 minutes; in contrast, competitors like IBM and Compaq must wait hours or even days to receive needed components. To further increase speed, Dell set up a shipping arrangement with United Parcel Service (UPS). With this structure and infrastructure, Dell was able to implement its business plan.