Operations Strategy in a Global Environment

CHAPTER 2

CHAPTER OUTLINE

Alaska Airlines

GLOBAL COMPANY PROFILE
Boeing

Boeing's Global Supply-Chain Strategy Yields Competitive Advantage

Boeing's strategy for its 787 Dreamliner is unique for its technologically advanced product design and vast global supply chain.

The Dreamliner incorporates the latest in a wide range of aerospace technologies, from airframe and engine design to super-lightweight titanium-graphite laminate and carbon-fiber composites. The electronic monitoring system that allows the airplane to report maintenance requirements in real time to ground-based computer systems is another product innovation. Boeing's collaboration with General Electric and Rolls-Royce has resulted in the development of more efficient engines and an emissions reduction of 20%. The advances in engine technology contribute as much as 8% of the increased fuel/payload efficiency of the new airplane, representing a nearly two-generation jump in technology.

Boeing's design group at its Everett, Washington, facility led an international team of aerospace companies in development of this state-of-the-art plane. Technologically advanced design, new manufacturing processes, and a committed international supply chain have helped Boeing and its partners achieve unprecedented levels of performance in design and manufacture.

Peter Carey/Alamy

Dan Lamont/Alamy

With the 787's state-of-the-art design, more spacious interior, and global suppliers, Boeing has garnered record sales worldwide.

Some of the International Suppliers of Boeing 787 Components

SUPPLIER	HQ COUNTRY	COMPONENT
Latecoere	France	Passenger doors
Labinel	France	Wiring
Dassault	France	Design and product life cycle management software
Messier-Bugatti	France	Electric brakes
Thales	France	Electrical power conversion system
Messier-Dowty	France	Landing gear structure
Diehl	Germany	Interior lighting
Cobham	UK	Fuel pumps and valves
Rolls-Royce	UK	Engines
Smiths Aerospace	UK	Central computer system
BAE Systems	UK	Electronics
Alenia Aeronautica	Italy	Upper center fuselage
Toray Industries	Japan	Carbon fiber for wing and tail units
Fuji Heavy Industries	Japan	Center wing box
Kawasaki Heavy Ind.	Japan	Forward fuselage, fixed sections of wing
Teijin Seiki	Japan	Hydraulic actuators
Mitsubishi Heavy Ind.	Japan	Wing box
Chengdu Aircraft	China	Rudder
Hafei Aviation	China	Parts
Korean Airlines	South Korea	Wingtips
Saab	Sweden	Cargo and access doors

Tim Kelly/Reuters

State-of-the-art composite sections of the 787 are built around the world and shipped to Boeing for final assembly.

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Components from Boeing's worldwide supply chain come together on assembly lines in Everett, Washington, and Charleston, South Carolina. Although components come from throughout the world, about 35% of the 787 structure comes from Japanese companies.

The 787 is global not only because it has a range of 8,300 miles, but also because it is built all over the world. With a huge financial commitment of over $5 billion, Boeing needed partners. The global nature of both the technology and the aircraft market meant finding exceptional engineering talent and suppliers, wherever they might be. It also meant developing a culture of collaboration and integration with firms willing to step up to the risk associated with this revolutionary and very expensive new product.

State-of-the-art technology, multinational aircraft certifications, the cross-culture nature of the communications, and logistical challenges all added to the supply chain risk. In the end, Boeing accepted the challenge of teaming with more than 300 suppliers in over a dozen countries. Twenty of these suppliers developed technologies, design concepts, and major systems for the 787. Some of them are shown in the table. The partners brought commitment to the table. The expectation is that countries that have a stake in the Dreamliner are more likely to buy from Boeing than from its European competitor, Airbus.

Japanese companies are producing over 35% of the project, and Italy's Alenia Aeronautica is building an additional 10% of the plane.

The innovative Dreamliner, with its global range and worldwide supply chain, is setting new levels of operational efficiency. As a result, it is the fastest-selling commercial jet in history with over 1,100 planes sold. Boeing's Dreamliner reflects the global nature of business in the 21st century.

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Boeing's collaborative technology enables a "virtual workspace" that allows Everett, Washington-based engineers, as well as partners in Australia, Japan, Italy, Canada, and across the United States, to make concurrent design changes to the airplane in real time. Digitally designing, building, and testing before production not only reduces design time and errors, but also improves efficiencies in component manufacturing and assembly.

LEARNING OBJECTIVES

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A Global View of Operations and Supply Chains

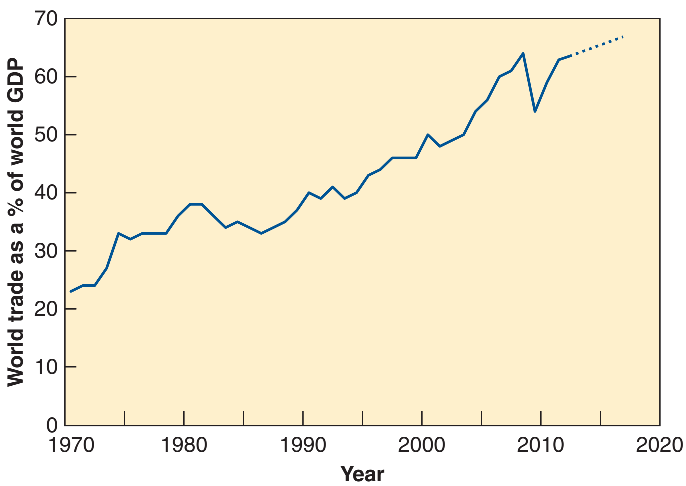
Today's successful operations manager has a global view of operations strategy. Since the early 1990s, nearly 3 billion people in developing countries have overcome the cultural, religious, ethnic, and political barriers that constrain productivity. And now they are all players on the global economic stage. As these barriers disappear, simultaneous advances are being made in technology, reliable shipping, and inexpensive communication. These changes mean that, increasingly, firms find their customers and suppliers located around the world. The unsurprising result is the growth of world trade (see Figure 2.1), global capital markets, and the international movement of people. This means increasing economic integration and interdependence of countries—in a word, globalization. In response, organizations are hastily extending their distribution channels and supply chains globally. The result is innovative strategies where firms compete not just with their own expertise but with the talent in their entire global supply chain. For instance:

- Boeing is competitive because both its sales and supply chain are worldwide.
- Italy's Benetton moves inventory to stores around the world faster than its competition with rapid communication and by building exceptional flexibility into design, production, and distribution.
- Sony purchases components from a supply chain that extends to Thailand, Malaysia, and elsewhere around the world for assembly of its electronic products, which in turn are distributed around the world.
- Volvo, considered a Swedish company, was purchased by a Chinese company, Geely. But the current Volvo S40 is assembled in Belgium, South Africa, Malaysia, and China, on a platform shared with the Mazda 3 (built in Japan) and the Ford Focus (built in Europe).
- China's Haier (pronounced "higher") is now producing compact refrigerators (it has one-third of the U.S. market) and refrigerated wine cabinets (it has half of the U.S. market) in South Carolina.

Figure **2.1**

Growth of World Trade as a Percent of World GDP

Sources: World Bank; World Trade Organization; and IMF.



Globalization means customers, talent, and suppliers are worldwide. The new standards of global competitiveness impact quality, variety, customization, convenience, timeliness, and cost. Globalization strategies contribute efficiency, adding value to products and services, but they also complicate the operations manager's job. Complexity, risk, and competition are intensified, forcing companies to adjust for a shrinking world.

We have identified six reasons domestic business operations decide to change to some form of international operation. They are:

1. Improve the supply chain.
2. Reduce costs and exchange rate risk.
3. Improve operations.
4. Understand markets.
5. Improve products.
6. Attract and retain global talent.

Let us examine, in turn, each of the six reasons.

Improve the Supply Chain The supply chain can often be improved by locating facilities in countries where unique resources are available. These resources may be human resource expertise, low-cost labor, or raw material. For example, auto-styling studios from throughout the world have migrated to the auto mecca of southern California to ensure the necessary expertise in contemporary auto design. Similarly, world athletic shoe production has migrated from South Korea to Guangzhou, China; this location takes advantage of the low-cost labor and production competence in a city where 40,000 people work making athletic shoes for the world. And a perfume manufacturer wants a presence in Grasse, France, where much of the world's perfume essences are prepared from the flowers of the Mediterranean.

Reduce Costs and Exchange Rate Risk Many international operations seek to reduce risks associated with changing currency values (exchange rates) as well as take advantage of the tangible opportunities to reduce their direct costs. (See the *OM in Action* box "U.S. Cartoon Production at Home in Manila.") Less stringent government regulations on a wide variety of operations practices (e.g., environmental control, health and safety) can also reduce indirect costs.

Shifting low-skilled jobs to another country has several potential advantages. First, and most obviously, the firm may reduce costs. Second, moving the lower-skilled jobs to a lower-cost location frees higher-cost workers for more valuable tasks. Third, reducing wage costs allows the savings to be invested in improved products and facilities (and the retraining of existing workers, if necessary) at the home location. Finally, having facilities in countries with different currencies can allow firms to finesse currency risk (and related costs) as economic conditions dictate.

OM in Action U.S. Cartoon Production at Home in Manila

Fred Flintstone is not from Bedrock. He is actually from Manila, capital of the Philippines. So are Tom and Jerry, Aladdin, and Donald Duck. More than 90% of American television cartoons are produced in Asia and India, with the Philippines leading the way. With their natural advantage of English as an official language and a strong familiarity with U.S. culture, animation companies in Manila now employ more than 1,700 people. Filipinos understand Western culture, and "you need to have a group of artists that can understand the humor that goes with it," says Bill Dennis, a Hanna-Barbera executive.

Major studios like Disney, Marvel, Warner Brothers, and Hanna-Barbera send *storyboards*—cartoon action outlines—and voice tracks to the Philippines. Artists there draw, paint, and film about 20,000 sketches for a 30-minute episode. The cost of $130,000 to produce an episode in the Philippines compares with $160,000 in Korea and $500,000 in the United States.

Sources: Animation Insider (March 30, 2011); *The New York Times* (February 26, 2004): and *The Wall Street Journal* (August 9, 2005).

artisticco/Fotolia

Maquiladoras

Mexican factories located along the U.S.–Mexico border that receive preferential tariff treatment.

World Trade Organization (WTO)

An international organization that promotes world trade by lowering barriers to the free flow of goods across borders.

North American Free Trade Agreement (NAFTA)

A free trade agreement between Canada, Mexico, and the United States.

European Union (EU)

A European trade group that has 28 member states.

The United States and Mexico have created **maquiladoras** (free trade zones) that allow manufacturers to cut their costs by paying only for the value added by Mexican workers. If a U.S. manufacturer, such as Caterpillar, brings a $1,000 engine to a maquiladora operation for assembly work costing $200, tariff duties will be charged only on the $200 of work performed in Mexico.

Trade agreements also help reduce tariffs and thereby reduce the cost of operating facilities in foreign countries. The **World Trade Organization (WTO)** has helped reduce tariffs from 40% in 1940 to less than 3% today. Another important trade agreement is the **North American Free Trade Agreement (NAFTA)**. NAFTA seeks to phase out all trade and tariff barriers among Canada, Mexico, and the U.S. Other trade agreements that are accelerating global trade include APEC (the Pacific Rim countries), SEATO (Australia, New Zealand, Japan, Hong Kong, South Korea, New Guinea, and Chile), MERCOSUR (Argentina, Brazil, Paraguay, and Uruguay), and CAFTA (Central America, Dominican Republic, and United States).

Another trading group is the **European Union (EU)**.[1] The European Union has reduced trade barriers among the participating European nations through standardization and a common currency, the euro. However, this major U.S. trading partner, with over 500 million people, is also placing some of the world's most restrictive conditions on products sold in the EU. Everything from recycling standards to automobile bumpers to hormone-free farm products must meet EU standards, complicating international trade.

Improve Operations Operations learn from better understanding of management innovations in different countries. For instance, the Japanese have improved inventory management, the Germans are aggressively using robots, and the Scandinavians have contributed to improved ergonomics throughout the world.

Another reason to have international operations is to reduce response time to meet customers' changing product and service requirements. Customers who purchase goods and services from U.S. firms are increasingly located in foreign countries. Providing them with quick and adequate service is often improved by locating facilities in their home countries.

Understand Markets Because international operations require interaction with foreign customers, suppliers, and other competitive businesses, international firms inevitably learn about opportunities for new products and services. Europe led the way with cell phone innovations, and then the Japanese and Indians led with cell phone fads. Knowledge of markets not only helps firms understand where the market is going but also helps firms diversify their customer base, add production flexibility, and smooth the business cycle.

Another reason to go into foreign markets is the opportunity to expand the *life cycle* (i.e., stages a product goes through; see Chapter 5) of an existing product. While some products in the U.S. are in a "mature" stage of their product life cycle, they may represent state-of-the-art products in less-developed countries.

Improve Products Learning does not take place in isolation. Firms serve themselves and their customers well when they remain open to the free flow of ideas. For example, Toyota and BMW will manage joint research and share development costs on battery research for the next generation of green cars. Their relationship also provides Toyota with BMW's highly regarded diesel engines for its European market, where diesel-powered vehicles make up more than half of the market. The payoff is reduced risk in battery development for both, a state-of-the-art diesel engine for Toyota in Europe, and lower per-unit diesel engine cost for BMW. Similarly, international learning in operations is taking place as South Korea's Samsung and Germany's Robert Bosch join to produce lithium-ion batteries to the benefit of both.

Attract and Retain Global Talent Global organizations can attract and retain better employees by offering more employment opportunities. They need people in all functional areas and areas of expertise worldwide. Global firms can recruit and retain good employees because they provide both greater growth opportunities and insulation against

Krajpit Phanvut/Sipa Press

A worldwide strategy places added burdens on operations management. Because of economic and lifestyle differences, designers must target products to each market. For instance, clothes washers sold in northern countries must spin-dry clothes much better than those in warmer climates, where consumers are likely to line-dry them. Similarly, as shown here, Whirlpool refrigerators sold in Bangkok are manufactured in bright colors because they are often put in living rooms.

unemployment during times of economic downturn. During economic downturns in one country or continent, a global firm has the means to relocate unneeded personnel to more prosperous locations.

So, to recap, successfully achieving a competitive advantage in our shrinking world means maximizing all the possible opportunities, from tangible to intangible, that international operations can offer.

Cultural and Ethical Issues

While there are great forces driving firms toward globalization, many challenges remain. One of these challenges is reconciling differences in social and cultural behavior. With issues ranging from bribery, to child labor, to the environment, managers sometimes do not know how to respond when operating in a different culture. What one country's culture deems acceptable may be considered unacceptable or illegal in another. It is not by chance that there are fewer female managers in the Middle East than in India.

In the last decade, changes in international laws, agreements, and codes of conduct have been applied to define ethical behavior among managers around the world. The WTO, for example, helps to make uniform the protection of both governments and industries from foreign firms that engage in unethical conduct. Even on issues where significant differences between cultures exist, as in the area of bribery or the protection of intellectual property, global uniformity is slowly being accepted by most nations.

Despite cultural and ethical differences, we live in a period of extraordinary mobility of capital, information, goods, and even people. We can expect this to continue. The financial sector, the telecommunications sector, and the logistics infrastructure of the world are healthy institutions that foster efficient and effective use of capital, information, and goods. Globalization, with all its opportunities and risks, is here. It must be embraced as managers develop their missions and strategies.

Developing Missions and Strategies

STUDENT TIP

Getting an education and managing an organization both require a mission and strategy.

An effective operations management effort must have a *mission* so it knows where it is going and a *strategy* so it knows how to get there. This is the case for a small domestic organization as well as a large international organization.

Mission

Mission
The purpose or rationale for an organization's existence.

LO 2.1 *Define* mission and strategy

Economic success, indeed survival, is the result of identifying missions to satisfy a customer's needs and wants. We define the organization's **mission** as its purpose—what it will contribute to society. Mission statements provide boundaries and focus for organizations and the concept around which the firm can rally. The mission states the rationale for the organization's existence. Developing a good strategy is difficult, but it is much easier if the mission has been well defined. Figure 2.2 provides examples of mission statements.

Once an organization's mission has been decided, each functional area within the firm determines its supporting mission. By *functional area* we mean the major disciplines required by the firm, such as marketing, finance/accounting, and production/operations. Missions for each function are developed to support the firm's overall mission. Then within that function lower-level supporting missions are established for the OM functions. Figure 2.3 provides such a hierarchy of sample missions.

Strategy

Strategy
How an organization expects to achieve its missions and goals.

LO 2.2 *Identify* and explain three strategic approaches to competitive advantage

VIDEO 2.1
Operations Strategy at Regal Marine

With the mission established, strategy and its implementation can begin. **Strategy** is an organization's action plan to achieve the mission. Each functional area has a strategy for achieving its mission and for helping the organization reach the overall mission. These strategies exploit opportunities and strengths, neutralize threats, and avoid weaknesses. In the following sections, we will describe how strategies are developed and implemented.

Firms achieve missions in three conceptual ways: (1) differentiation, (2) cost leadership, and (3) response. This means operations managers are called on to deliver goods and services that are (1) *better*, or at least different, (2) *cheaper*, and (3) more *responsive*. Operations managers translate these *strategic concepts* into tangible tasks to be accomplished. Any one or combination of these three strategic concepts can generate a system that has a unique advantage over competitors.

Achieving Competitive Advantage Through Operations

Competitive advantage
The creation of a unique advantage over competitors.

Each of the three strategies provides an opportunity for operations managers to achieve competitive advantage. **Competitive advantage** implies the creation of a system that has a unique advantage over competitors. The idea is to create customer value in an efficient and sustainable way. Pure forms of these strategies may exist, but operations managers will more likely

Figure 2.2
Mission Statements for Three Organizations
Source: Mission statement from Merck. Copyright © by Merck & Co., Inc. Reprinted with permission.

Merck
The mission of Merck is to provide society with superior products and services—innovations and solutions that improve the quality of life and satisfy customer needs—to provide employees with meaningful work and advancement opportunities and investors with a superior rate of return.
PepsiCo
Our mission is to be the world's premier consumer products company focused on convenient foods and beverages. We seek to produce financial rewards to investors as we provide opportunities for growth and enrichment to our employees, our business partners and the communities in which we operate. And in everything we do, we strive for honesty, fairness and integrity.
Arnold Palmer Hospital
Arnold Palmer Hospital for Children provides state of the art, family-centered healthcare focused on restoring the joy of childhood in an environment of compassion, healing, and hope.

Sample Company Mission	
To manufacture and service an innovative, growing, and profitable worldwide microwave communications business that exceeds our customers' expectations.	
Sample Operations Management Mission	
To produce products consistent with the company's mission as the worldwide low-cost manufacturer.	
Sample OM Department Missions	
Product design	To design and produce products and services with outstanding quality and inherent customer value.
Quality management	To attain the exceptional value that is consistent with our company mission and marketing objectives by close attention to design, supply chain, production, and field service opportunities.
Process design	To determine, design, and develop the production process and equipment that will be compatible with low-cost product, high quality, and a good quality of work life.
Location	To locate, design, and build efficient and economical facilities that will yield high value to the company, its employees, and the community.
Layout design	To achieve, through skill, imagination, and resourcefulness in layout and work methods, production effectiveness and efficiency while supporting a high quality of work life.
Human resources	To provide a good quality of work life, with well-designed, safe, rewarding jobs, stable employment, and equitable pay, in exchange for outstanding individual contribution from employees at all levels.
Supply-chain management	To collaborate with suppliers to develop innovative products from stable, effective, and efficient sources of supply.
Inventory	To achieve low investment in inventory consistent with high customer service levels and high facility utilization.
Scheduling	To achieve high levels of throughput and timely customer delivery through effective scheduling.
Maintenance	To achieve high utilization of facilities and equipment by effective preventive maintenance and prompt repair of facilities and equipment.

Figure 2.3

Sample Missions for a Company, the Operations Function, and Major OM Departments

be called on to implement some combination of them. Let us briefly look at how managers achieve competitive advantage via *differentiation*, *low cost*, and *response*.

Competing on Differentiation

STUDENT TIP

For many organizations, the operations function provides *the* competitive advantage.

Safeskin Corporation is number one in latex exam gloves because it has differentiated itself and its products. It did so by producing gloves that were designed to prevent allergic reactions about which doctors were complaining. When other glove makers caught up, Safeskin developed hypoallergenic gloves. Then it added texture to its gloves. Then it developed a synthetic disposable glove for those allergic to latex—always staying ahead of the competition. Safeskin's strategy is to develop a reputation for designing and producing reliable state-of-the-art gloves, thereby differentiating itself.

Differentiation is concerned with providing *uniqueness*. A firm's opportunities for creating uniqueness are not located within a particular function or activity but can arise in virtually everything the firm does. Moreover, because most products include some service, and most services

Differentiation

Distinguishing the offerings of an organization in a way that the customer perceives as adding value.

include some product, the opportunities for creating this uniqueness are limited only by imagination. Indeed, **differentiation** should be thought of as going beyond both physical characteristics and service attributes to encompass everything about the product or service that influences the value that the customers derive from it. Therefore, effective operations managers assist in defining everything about a product or service that will influence the potential value to the customer. This may be the convenience of a broad product line, product features, or a service related to the product. Such services can manifest themselves through convenience (location of distribution centers, stores, or branches), training, product delivery and installation, or repair and maintenance services.

Experience differentiation

Engaging a customer with a product through imaginative use of the five senses, so the customer "experiences" the product.

In the service sector, one option for extending product differentiation is through an *experience*. Differentiation by experience in services is a manifestation of the growing "experience economy." The idea of **experience differentiation** is to engage the customer—to use people's five senses so they become immersed, or even an active participant, in the product. Disney does this with the Magic Kingdom. People no longer just go on a ride; they are immersed in the Magic Kingdom—surrounded by dynamic visual and sound experiences that complement the physical ride. Some rides further engage the customer with changing air flow and smells, as well as having them steer the ride or shoot at targets or villains. Even movie theaters are moving in this direction with surround sound, moving seats, changing "smells," and mists of "rain," as well as multimedia inputs to story development.

VIDEO 2.2
Hard Rock's Global Strategy

Theme restaurants, such as Hard Rock Cafe, likewise differentiate themselves by providing an "experience." Hard Rock engages the customer with classic rock music, big-screen rock videos, memorabilia, and staff who can tell stories. In many instances, a full-time guide is available to explain the displays, and there is always a convenient retail store so the guest can take home a tangible part of the experience. The result is a "dining experience" rather than just a meal. In a less dramatic way, both Starbucks and your local supermarket deliver an experience when they provide music and the aroma of fresh coffee or freshly baked bread.

Competing on Cost

Southwest Airlines has been a consistent moneymaker while other U.S. airlines have lost billions. Southwest has done this by fulfilling a need for low-cost and short-hop flights. Its operations strategy has included use of secondary airports and terminals, first-come, first-served seating, few fare options, smaller crews flying more hours, snacks-only or no-meal flights, and no downtown ticket offices.

In addition, and less obviously, Southwest has very effectively matched capacity to demand and effectively utilized this capacity. It has done this by designing a route structure that matches the capacity of its Boeing 737, the only plane in its fleet. Second, it achieves more air miles than other airlines through faster turnarounds—its planes are on the ground less.

One driver of a low-cost strategy is a facility that is effectively utilized. Southwest and others with low-cost strategies understand this and use financial resources effectively. Identifying the optimum size (and investment) allows firms to spread overhead costs, providing a cost advantage. For instance, Walmart continues to pursue its low-cost strategy with superstores, open 24 hours a day. For 20 years, it has successfully grabbed market share. Walmart has driven down store overhead costs, shrinkage, and distribution costs. Its rapid transportation of goods, reduced warehousing costs, and direct shipment from manufacturers have resulted in high inventory turnover and made it a low-cost leader.

Likewise, Franz Colruyt, a Belgian discount food retailer, is also an aggressive cost cutter. Colruyt cuts overhead by using converted factory warehouses, movie theaters, and garages as outlets. Customers find no background music, shopping bags, or bright lights: all have been eliminated to cut costs. Walmart and Colruyt are winning with a low-cost strategy.

Low-cost leadership

Achieving maximum value, as perceived by the customer.

Low-cost leadership entails achieving maximum *value* as defined by your customer. It requires examining each of the 10 OM decisions in a relentless effort to drive down costs while meeting customer expectations of value. A low-cost strategy does *not* imply low value or low quality.

Competing on Response

The third strategy option is response. Response is often thought of as *flexible* response, but it also refers to *reliable* and *quick* response. Indeed, we define **response** as including the entire range of values related to timely product development and delivery, as well as reliable scheduling and flexible performance.

Response
A set of values related to rapid, flexible, and reliable performance.

Flexible response may be thought of as the ability to match changes in a marketplace where design innovations and volumes fluctuate substantially.

Hewlett-Packard is an exceptional example of a firm that has demonstrated flexibility in both design and volume changes in the volatile world of personal computers. HP's products often have a life cycle of months, and volume and cost changes during that brief life cycle are dramatic. However, HP has been successful at institutionalizing the ability to change products and volume to respond to dramatic changes in product design and costs—thus building a *sustainable competitive advantage*.

The second aspect of response is the *reliability* of scheduling. One way the German machine industry has maintained its competitiveness despite having the world's highest labor costs is through reliable response. This response manifests itself in reliable scheduling. German machine firms have meaningful schedules—and they perform to these schedules. Moreover, the results of these schedules are communicated to the customer, and the customer can, in turn, rely on them. Consequently, the competitive advantage generated through reliable response has value to the end customer.

The third aspect of response is *quickness*. Johnson Electric Holdings, Ltd., with headquarters in Hong Kong, makes 83 million tiny motors each month. The motors go in cordless tools, household appliances, and personal care items such as hair dryers; dozens are found in each automobile. Johnson's major competitive advantage is speed: speed in product development, speed in production, and speed in delivery.

Whether it is a production system at Johnson Electric or a pizza delivered in 5 minutes by Pizza Hut, the operations manager who develops systems that respond quickly can have a competitive advantage.

In practice, differentiation, low cost, and response can increase productivity and generate a sustainable competitive advantage. Proper implementation of the ten decisions by operations managers (see Figure 2.4) will allow these advantages to be achieved.

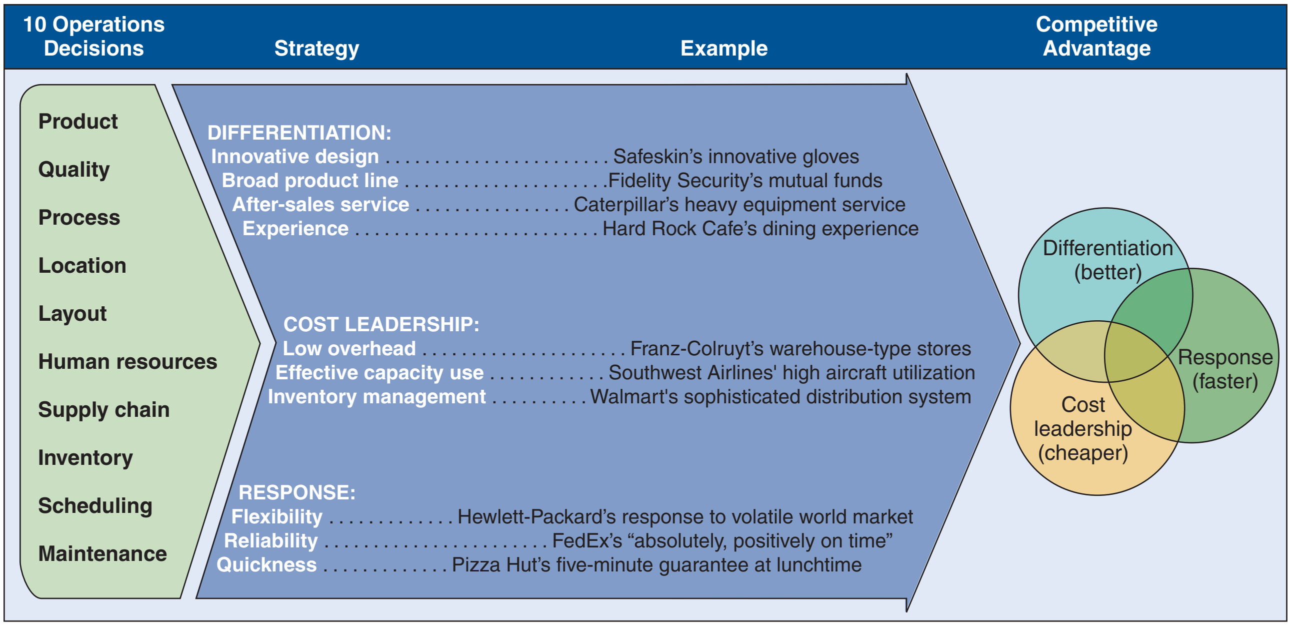


Figure 2.4

Achieving Competitive Advantage Through Operations

Response strategy wins orders at Super Fast Pizza. Using a wireless connection, orders are transmitted to $20,000 kitchens in vans. The driver, who works solo, receives a printed order, goes to the kitchen area, pulls premade pizzas from the cooler, and places them in the oven—it takes about 1 minute. The driver then delivers the pizza—sometimes even arriving before the pizza is ready.

Darren Hauck/AP Images

Issues in Operations Strategy

Whether the OM strategy is differentiation, cost, or response (as shown in Figure 2.4), OM is a critical player. Therefore, prior to establishing and attempting to implement a strategy, some alternate perspectives may be helpful. One perspective is to take a **resources view**. This means thinking in terms of the financial, physical, human, and technological resources available and ensuring that the potential strategy is compatible with those resources. Another perspective is Porter's value-chain analysis.[2] **Value-chain analysis** is used to identify activities that represent strengths, or potential strengths, and may be opportunities for developing competitive advantage. These are areas where the firm adds its unique *value* through product research, design, human resources, supply-chain management, process innovation, or quality management. Porter also suggests analysis of competitors via what he calls his **five forces model**.[3] These potential competing forces are immediate rivals, potential entrants, customers, suppliers, and substitute products.

Resources view
A method managers use to evaluate the resources at their disposal and manage or alter them to achieve competitive advantage.

Value-chain analysis
A way to identify those elements in the product/service chain that uniquely add value.

Five forces model
A method of analyzing the five forces in the competitive environment.

In addition to the competitive environment, the operations manager needs to understand that the firm is operating in a system with many other external factors. These factors range from economic, to legal, to cultural. They influence strategy development and execution and require constant scanning of the environment.

The firm itself is also undergoing constant change. Everything from resources, to technology, to product life cycles is in flux. Consider the significant changes required within the firm as its products move from introduction, to growth, to maturity, and to decline (see Figure 2.5). These internal changes, combined with external changes, require strategies that are dynamic.

In this chapter's *Global Company Profile*, Boeing provides an example of how strategy must change as technology and the environment change. Boeing can now build planes from carbon fiber, using a global supply chain. Like many other OM strategies, Boeing's strategy has changed with technology and globalization. Microsoft has also had to adapt quickly to a changing environment. Faster processors, new computer languages, changing customer preferences, increased security issues, the Internet, the cloud, and Google have all driven changes at Microsoft. These forces have moved Microsoft's product strategy from operating systems to office products, to Internet service provider, and now to integrator of computers, cell phones, games, and television via the cloud.

The more thorough the analysis and understanding of both the external and internal factors, the more likely that a firm can find the optimum use of its resources. Once a firm understands itself and the environment, a SWOT analysis, which we discuss next, is in order.

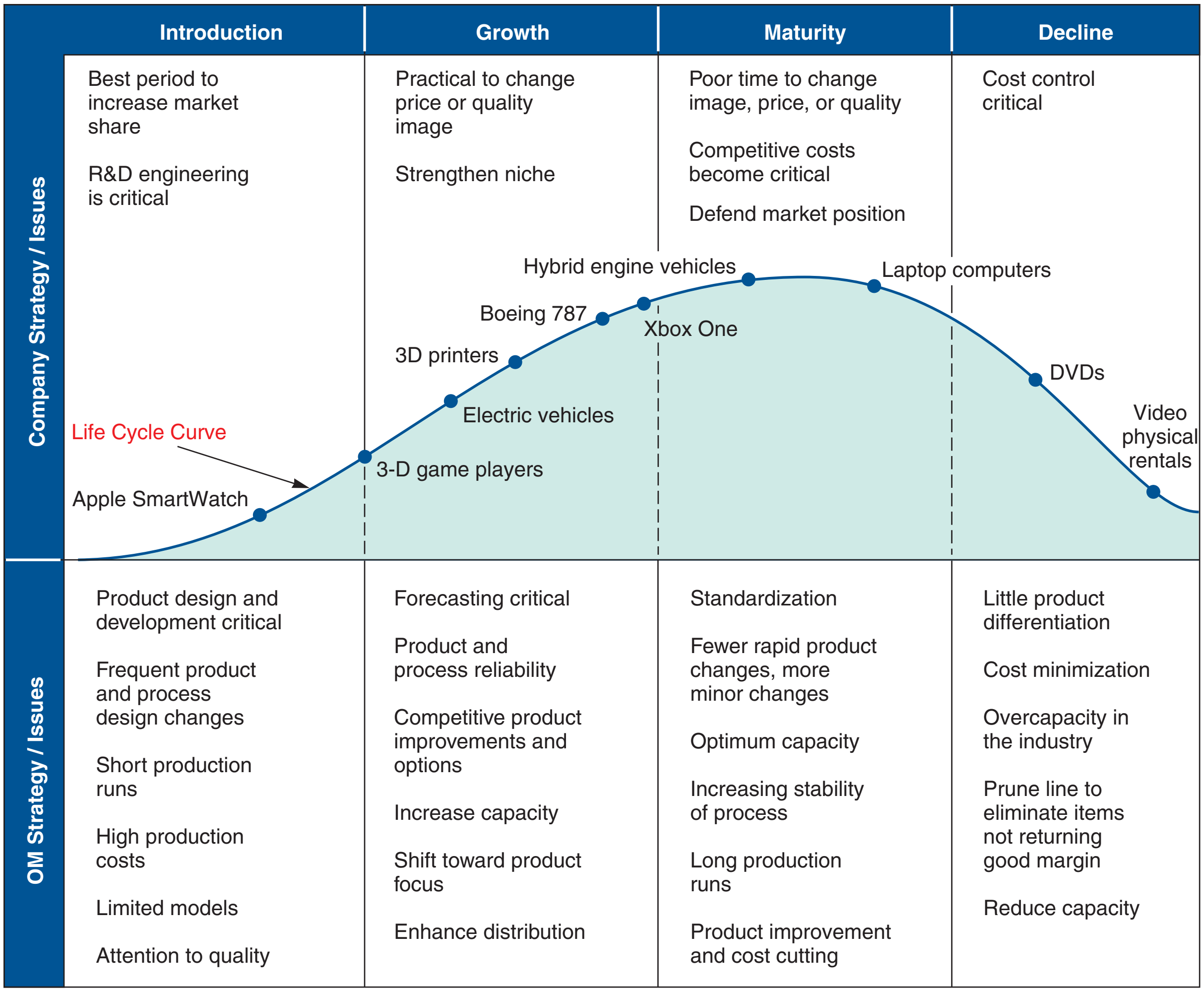


Figure **2.5**

Strategy and Issues During a Product's Life

Strategy Development and Implementation

A **SWOT analysis** is a formal review of internal strengths and weaknesses and external opportunities and threats. Beginning with SWOT analyses, organizations position themselves, through their strategy, to have a competitive advantage. A firm may have excellent design skills or great talent at identifying outstanding locations. However, it may recognize limitations of its manufacturing process or in finding good suppliers. The idea is to maximize opportunities and minimize threats in the environment while maximizing the advantages of the organization's strengths and minimizing the weaknesses. Any preconceived ideas about mission are then reevaluated to ensure they are consistent with the SWOT analysis. Subsequently, a strategy for achieving the mission is developed. This strategy is continually evaluated against the value provided customers and competitive realities. The process is shown in Figure 2.6. From this process, key success factors are identified.

STUDENT TIP

A SWOT analysis provides an excellent model for evaluating a strategy.

SWOT analysis

A method of determining internal strengths and weaknesses and external opportunities and threats.

Key Success Factors and Core Competencies

Because no firm does everything exceptionally well, a successful strategy requires determining the firm's key success factors and core competencies. **Key success factors (KSFs)** are those activities that are necessary for a firm to achieve its goals. Key success factors can be so significant

Key success factors (KSFs)

Activities or factors that are *key* to achieving competitive advantage.

Figure 2.6

Strategy Development Process

Analyze the Environment

Identify strengths, weaknesses, opportunities, and threats.
Understand the environment, customers, industry, and competitors.

↓

Determine the Corporate Mission

State the reason for the firm's existence and identify the value it wishes to create.

↓

Form a Strategy

Build a competitive advantage, such as low price, design or volume flexibility, quality, quick delivery, dependability, after-sale services, or broad product lines.

Core competencies

A set of skills, talents, and capabilities in which a firm is particularly strong.

that a firm must get them right to survive. A KSF for McDonald's, for example, is layout. Without an effective drive-through and an efficient kitchen, McDonald's cannot be successful. KSFs are often necessary, but not sufficient for competitive advantage. On the other hand, **core competencies** are the set of unique skills, talents, and capabilities that a firm does at a world-class standard. They allow a firm to set itself apart and develop a competitive advantage. Organizations that prosper identify their core competencies and nurture them. While McDonald's KSFs may include layout, its core competency may be consistency and quality. Honda Motors' core competence is gas-powered engines—engines for automobiles, motorcycles, lawn mowers, generators, snow blowers, and more. The idea is to build KSFs and core competencies that provide a competitive advantage and support a successful strategy and mission. A core competency may be the ability to perform the KSFs or a combination of KSFs. The operations manager begins this inquiry by asking:

LO 2.3 *Understand* the significance of key success factors and core competencies

- "What tasks must be done particularly well for a given strategy to succeed?"
- "Which activities provide a competitive advantage?"
- "Which elements contain the highest likelihood of failure, and which require additional commitment of managerial, monetary, technological, and human resources?"

Only by identifying and strengthening key success factors and core competencies can an organization achieve sustainable competitive advantage. In this text we focus on the 10 strategic OM decisions that typically include the KSFs. These decisions, plus major decision areas for marketing and finance, are shown in Figure 2.7.

Honda's core competence is the design and manufacture of gas-powered engines. This competence has allowed Honda to become a leader in the design and manufacture of a wide range of gas-powered products. Tens of millions of these products are produced and shipped around the world.

Automobiles

Julie Lucht/Shutterstock

Generators

American Honda Motor Co., Inc.

Motorcycles

Courtesy of www.HondaNews.com

Water Pumps

American Honda Motor Co., Inc.

Marine Motors

American Honda Motor Co., Inc.

Race Cars

American Honda Motor Co., Inc.

4-Wheel Scooters

American Honda Motor Co., Inc.

Snow Blowers

American Honda Motor Co., Inc.

Support a Core Competency and Implement Strategy by Identifying and Executing the Key Success Factors in the Functional Areas

Marketing
Service
Distribution
Promotion
Price
Channels of distribution
Product positioning (image, functions)

Finance/Accounting
Leverage
Cost of capital
Working capital
Receivables
Payables
Financial control
Lines of credit

Operations

10 OM Decisions	Sample Options	Chapter
Product	Customized or standardized; sustainability	5,S5
Quality	Define customer quality expectations and how to achieve them	6,S6
Process	Facility design, capacity, how much automation	7,S7
Location	Near supplier or near customer	8
Layout	Work cells or assembly line	9
Human resources	Specialized or enriched jobs	10
Supply chain	Single or multiple suppliers	11, S11
Inventory	When to reorder; how much to keep on hand	12,14,16
Schedule	Stable or fluctuating production rate	13,15
Maintenance	Repair as required or preventive maintenance	17

Figure 2.7

Implement Strategy by Identifying and Executing Key Success Factors That Support Core Competencies

STUDENT TIP
These 10 decisions are used to implement a specific strategy and yield a competitive advantage.

Integrating OM with Other Activities

Whatever the KSFs and core competencies, they must be supported by the related activities. One approach to identifying the activities is an **activity map**, which links competitive advantage, KSFs, and supporting activities. For example, Figure 2.8 shows how Southwest Airlines, whose core competency is operations, built a set of integrated activities to support its low-cost competitive advantage. Notice how the KSFs support operations and in turn are supported by other activities. The activities fit together and reinforce each other. In this way, all of the areas support the company's objectives. For example, short-term scheduling in the airline industry is dominated by volatile customer travel patterns. Day-of-week preference, holidays, seasonality, college schedules, and so on all play roles in changing flight schedules. Consequently, airline scheduling, although an OM activity, is tied to marketing. Effective scheduling in the trucking industry is reflected in the amount of time trucks travel loaded. But maximizing the time trucks travel loaded requires the integration of information from deliveries completed, pickups pending, driver availability, truck maintenance, and customer priority. Success requires integration of all of these activities.

Activity map
A graphical link of competitive advantage, KSFs, and supporting activities.

The better the activities are integrated and reinforce each other, the more sustainable the competitive advantage. By focusing on enhancing its core competence and KSFs with a supporting set of activities, firms such as Southwest Airlines have built successful strategies.

Building and Staffing the Organization

Once a strategy, KSFs, and the necessary integration have been identified, the second step is to group the necessary activities into an organizational structure. Then, managers must staff the organization with personnel who will get the job done. The manager works with subordinate managers to build plans, budgets, and programs that will successfully implement strategies that achieve missions. Firms tackle this organization of the operations function in a variety of

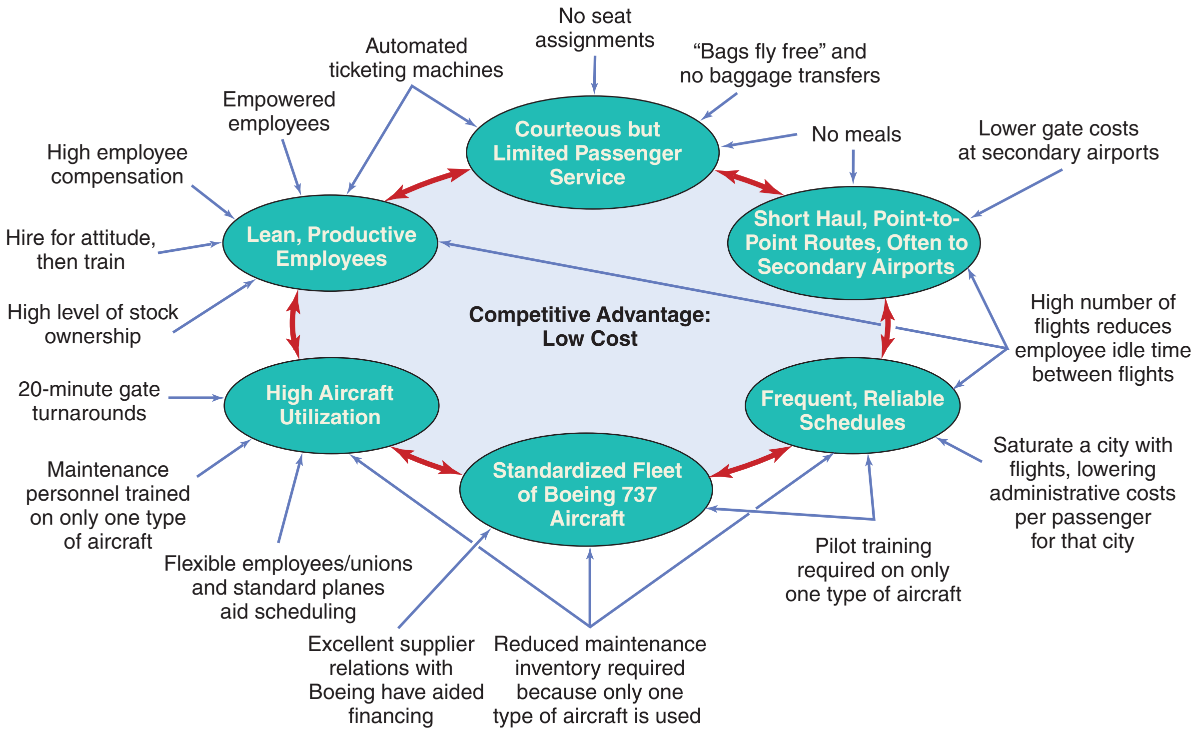


Figure 2.8

Activity Mapping of Southwest Airlines' Low-Cost Competitive Advantage

To achieve a low-cost competitive advantage, Southwest has identified a number of key success factors (connected by red arrows) and support activities (shown by blue arrows). As this figure indicates, Southwest's low-cost strategy is highly dependent on a very well-run operations function.

ways. The organization charts shown in Chapter 1 (Figure 1.1) indicate the way some firms have organized to perform the required activities. *The operations manager's job is to implement an OM strategy, provide competitive advantage, and increase productivity.*

Implementing the 10 Strategic OM Decisions

As mentioned earlier, the implementation of the 10 strategic OM decisions is influenced by a variety of issues—from missions and strategy to key success factors and core competencies—while addressing such issues as product mix, product life cycle, and competitive environment. Because each product brings its own mix of attributes, the importance and method of implementation of the 10 strategic OM decisions will vary. Throughout this text, we discuss how these decisions are implemented in ways that provide competitive advantage. How this might be done for two drug companies, one seeking competitive advantage via differentiation and the other via low cost, is shown in Table 2.1.

Strategic Planning, Core Competencies, and Outsourcing

As organizations develop missions, goals, and strategies, they identify their strengths—what they do as well as or better than their competitors—as their *core competencies*. By contrast, *non-core activities*, which can be a sizable portion of an organization's total business, are good candidates for outsourcing. **Outsourcing** is transferring activities that have traditionally been internal to external suppliers.

Outsourcing
Transferring a firm's activities that have traditionally been internal to external suppliers.

Outsourcing is not a new concept, but it does add complexity and risk to the supply chain. Because of its potential, outsourcing continues to expand. The expansion is accelerating due to

TABLE 2.1 Operations Strategies of Two Drug Companies*

COMPETITIVE ADVANTAGE	BRAND NAME DRUGS, INC. PRODUCT DIFFERENTIATION STRATEGY	GENERIC DRUG CORP. LOW-COST STRATEGY
Product selection and design	Heavy R&D investment; extensive labs; focus on development in a broad range of drug categories	Low R&D investment; focus on development of generic drugs
Quality	Quality is major priority, standards exceed regulatory requirements	Meets regulatory requirements on a country-by-country basis, as necessary
Process	Product and modular production process; tries to have long product runs in specialized facilities; builds capacity ahead of demand	Process focused; general production processes; "job shop" approach, short-run production; focus on high utilization
Location	Still located in city where it was founded	Recently moved to low-tax, low-labor-cost environment
Layout	Layout supports automated product-focused production	Layout supports process-focused "job shop" practices
Human resources	Hire the best; nationwide searches	Very experienced top executives hired to provide direction; other personnel paid below industry average
Supply chain	Long-term supplier relationships	Tends to purchase competitively to find bargains
Inventory	Maintains high finished goods inventory primarily to ensure all demands are met	Process focus drives up work-in-process inventory; finished goods inventory tends to be low
Scheduling	Centralized production planning	Many short-run products complicate scheduling
Maintenance	Highly trained staff; extensive parts inventory	Highly trained staff to meet changing demands

*Notice how the 10 decisions are altered to build two distinct strategies in the same industry.

three global trends: (1) increased technological expertise, (2) more reliable and cheaper transportation, and (3) the rapid development and deployment of advancements in telecommunications and computers. This rich combination of economic advances is contributing to both lower cost and more specialization. As a result more firms are candidates for outsourcing of non-core activities.

VIDEO 2.3
Outsourcing Offshore at Darden

Outsourcing implies an agreement (typically a legally binding contract) with an external organization. The classic make-or-buy decision, concerning which products to make and which to buy, is the basis of outsourcing. When firms such as Apple find that their core competency is in creativity, innovation, and product design, they may want to outsource manufacturing.

Keith Dannemiller/Alamy

Contract manufacturers such as Flextronics provide outsourcing service to IBM, Cisco Systems, HP, Microsoft, Sony, Nortel, Ericsson, and Sun, among many others. Flextronics is a high-quality producer that has won over 450 awards, including the Malcolm Baldrige Award. One of the side benefits of outsourcing is that client firms such as IBM can actually improve their performance by using the competencies of an outstanding firm like Flextronics. But there are risks involved in outsourcing.

Outsourcing manufacturing is an extension of the long-standing practice of *subcontracting* production activities, which when done on a continuing basis is known as *contract manufacturing*. Contract manufacturing is becoming standard practice in many industries, from computers to automobiles. For instance, Johnson & Johnson, like many other big drug companies whose core competency is research and development, often farms out manufacturing to contractors. On the other hand, Sony's core competency is electromechanical design of chips. This is its core competency, but Sony is also one of the best in the world when it comes to rapid response and specialized production of these chips. Therefore, Sony finds that it wants to be its own *manufacturer*, while specialized providers come up with major innovations in such areas as software, human resources, and distribution. These areas are the providers' business, not Sony's, and the provider may very well be better at it than Sony.

Other examples of outsourcing non-core activities include:

- DuPont's legal services routed to the Philippines
- IBM's handing of travel services and payroll and Hewlett-Packard's provision of IT services to P&G
- Production of the Audi A4 convertible and Mercedes CLK convertible by Wilheim Karmann in Osnabruck, Germany
- Blue Cross sending hip resurfacing surgery patients to India

Managers evaluate their strategies and core competencies and ask themselves how to use the assets entrusted to them. Do they want to be the company that does low-margin work at 3%–4% or the innovative firm that makes a 30%–40% margin? PC and iPad contract manufacturers in China and Taiwan earn 3%–4%, but Apple, which innovates, designs, and sells, has a margin 10 times as large.

The Theory of Comparative Advantage

Theory of comparative advantage

A theory which states that countries benefit from specializing in (and exporting) goods and services in which they have relative advantage, and they benefit from importing goods and services in which they have a relative disadvantage.

The motivation for international outsourcing comes from the **theory of comparative advantage**. This theory focuses on the economic concept of relative advantage. According to the theory, if an external provider, regardless of its geographic location, can perform activities more productively than the purchasing firm, then the external provider should do the work. This allows the purchasing firm to focus on what it does best—its core competencies. Consistent with the theory of comparative advantage, outsourcing continues to grow. But outsourcing the wrong activities can be a disaster. And even outsourcing non-core activities has risks.

Risks of Outsourcing

STUDENT TIP

The substantial risk of outsourcing requires managers to invest in the effort to make sure they do it right.

Risk management starts with a realistic analysis of uncertainty and results in a strategy that minimizes the impact of these uncertainties. Indeed, outsourcing *is* risky, with roughly half of all outsourcing agreements failing because of inadequate planning and analysis. Timely delivery and quality standards can be major problems, as can underestimating increases in inventory and logistics costs. Some potential advantages and disadvantages of outsourcing are shown in Table 2.2. A survey of North American companies found that, as a group, those that outsourced customer service saw a drop in their score on the American Consumer Satisfaction Index. The declines were roughly the same whether companies outsourced domestically or overseas.[4]

However, when outsourcing is overseas, additional issues must be considered. These issues include financial attractiveness, people skills and availability, and the general business environment. Another risk of outsourcing overseas is the political backlash that results from moving jobs to foreign countries. The perceived loss of jobs has fueled anti-outsourcing rhetoric. This rhetoric is contributing to a process known as *reshoring*, the return of business activity to the originating country. (See the *OM in Action* box "Reshoring to Small-Town U.S.A.")

TABLE 2.2 Potential Advantages and Disadvantages of Outsourcing

ADVANTAGES	DISADVANTAGES
Cost savings	Increased logistics and inventory costs
Gaining outside expertise that comes with specialization	Loss of control (quality, delivery, etc.)
Improving operations and service	Potential creation of future competition
Maintaining a focus on core competencies	Negative impact on employees
Accessing outside technology	Risks may not manifest themselves for years

In addition to the external risks, operations managers must deal with other issues that outsourcing brings. These include: (1) reduced employment levels, (2) changes in facility requirements, (3) potential adjustments to quality control systems and manufacturing processes, and (4) expanded logistics issues, including insurance, tariffs, customs, and timing.

To summarize, managers can find substantial efficiencies in outsourcing non-core activities, but they must be cautious in outsourcing those elements of the product or service that provide a competitive advantage. The next section provides a methodology that helps analyze the outsourcing decision process.

Rating Outsource Providers

Research indicates that the most common reason for the failure of outsourcing agreements is that the decisions are made without sufficient analysis. The *factor-rating method* provides an objective way to evaluate outsource providers. We assign points for each factor to each provider and then importance weights to each of the factors. We now apply the technique in Example 1 to compare outsourcing providers being considered by a firm.

LO 2.4 *Use* factor rating to evaluate both country and outsource providers

OM in Action Reshoring to Small-Town U.S.A.

U.S. companies continue their global search for efficiency by outsourcing call centers and back-office operations, but many find they need to look no farther than a place like Dubuque, Iowa.

To U.S. firms facing quality problems with their outsourcing operations overseas and bad publicity at home, small-town America is emerging as a pleasant alternative. Dubuque (population 57,313), Nacogdoches, Texas (population 29,914), or Twin Falls, Idaho (population 34,469), may be the perfect call center location. Even though the pay is low, the jobs are some of the best available to small-town residents.

By moving out of big cities to the cheaper labor and real estate of small towns, companies can save millions and still increase productivity. A call center in a town that just lost its major manufacturing plant finds the jobs easy to fill.

IBM, which has been criticized in the past for moving jobs to India and other offshore locations, picked Dubuque for its new remote computer-services center with 1,300 jobs.

Taking advantage of even cheaper wages in other countries will not stop soon, though. Is India the unstoppable overseas call center capital that people think it is? Not at all. Despite its population of 1.3 billion, only a small percentage of its workers have the language skills and technical education to work in Western-style industries. Already, India has been warned that if call centers can't recruit at reasonable wages, its jobs will move to the Philippines, South Africa, and Ghana. And indeed, Dell, Apple, and Britain's Powergen are reshoring from Indian call centers, claiming their costs had become too high.

Keith Dannemiller/Alamy

Sources: Industry Week (August 5, 2014) and *The Wall Street Journal*, (November 27, 2013).

Example 1

RATING PROVIDER SELECTION CRITERIA

National Architects, Inc., a San Francisco–based designer of high-rise office buildings, has decided to outsource its information technology (IT) function. Three outsourcing providers are being actively considered: one in the U.S., one in India, and one in Israel.

APPROACH ▶ National's VP–Operations, Susan Cholette, has made a list of seven criteria she considers critical. After putting together a committee of four other VPs, she has rated each firm (boldface type, on a 1–5 scale, with 5 being highest) and has also placed an importance weight on each of the factors, as shown in Table 2.3.

TABLE 2.3 Factor Ratings Applied to National Architects' Potential IT Outsourcing Providers

FACTOR (CRITERION)*	IMPORTANCE WEIGHT	OUTSOURCE PROVIDERS: BIM (U.S.)	S.P.C. (INDIA)	TELCO (ISRAEL)
1. Can reduce operating costs	.2	.2 × **3** = .6	.2 × **3** = .6	.2 × **5** = 1.0
2. Can reduce capital investment	.2	.2 × **4** = .8	.2 × **3** = .6	.2 × **3** = .6
3. Skilled personnel	.2	.2 × **5** = 1.0	.2 × **4** = .8	.2 × **3** = .6
4. Can improve quality	.1	.1 × **4** = .4	.1 × **5** = .5	.1 × **2** = .2
5. Can gain access to technology not in company	.1	.1 × **5** = .5	.1 × **3** = .3	.1 × **5** = .5
6. Can create additional capacity	.1	.1 × **4** = .4	.1 × **2** = .2	.1 × **4** = .4
7. Aligns with policy/philosophy/culture	.1	.1 × **2** = .2	.1 × **3** = .3	.1 × **5** = .5
Total Weighted Score		3.9	3.3	3.8

*These seven major criteria are based on a survey of 165 procurement executives, as reported in J. Schildhouse, *Inside Supply Management* (December 2005): 22–29.

SOLUTION ▶ Susan multiplies each rating by the weight and sums the products in each column to generate a total score for each outsourcing provider. She selects BIM, which has the highest overall rating.

INSIGHT ▶ When the total scores are as close (3.9 vs. 3.8) as they are in this case, it is important to examine the sensitivity of the results to inputs. For example, if one of the importance weights or factor scores changes even marginally, the final selection may change. Management preference may also play a role here.

LEARNING EXERCISE ▶ Susan decides that "Skilled personnel" should instead get a weight of 0.1 and "Aligns with policy/philosophy/culture" should increase to 0.2. How do the total scores change? [Answer: BIM = 3.6, S.P.C. = 3.2, and Telco = 4.0, so Telco would be selected.]

RELATED PROBLEMS ▶ 2.8–2.12

EXCEL OM Data File **Ch02Ex1.xls** can be found in MyOMLab.

A. Ramey/PhotoEdit, Inc.

Most U.S. toy companies now outsource their production to Chinese manufacturers. Cost savings are significant, but there are several downsides, including loss of control over such issues as quality. A few years ago, Mattel had to recall 10.5 million Elmos, Big Birds, and SpongeBobs. These made-in-China toys contained excessive levels of lead in their paint. More recently, quality issues have dealt with poisonous pet food, tainted milk products, and contaminated sheetrock.

Global Operations Strategy Options

As we suggested early in this chapter, many operations strategies now require an international dimension. An **international business** is any firm that engages in international trade or investment. A **multinational corporation (MNC)** is a firm with *extensive* international business involvement. MNCs buy resources, create goods or services, and sell goods or services in a variety of countries. The term *multinational corporation* applies to most of the world's large, well-known businesses. Certainly IBM is a good example of an MNC. It imports electronics components to the U.S. from over 50 countries, exports to over 130 countries, has facilities in 45 countries, and earns more than half its sales and profits abroad.

International business
A firm that engages in cross-border transactions.

Multinational corporation (MNC)
A firm that has extensive involvement in international business, owning or controlling facilities in more than one country.

Operations managers of international and multinational firms approach global opportunities with one of four strategies: *international*, *multidomestic*, *global*, or *transnational* (see Figure 2.9). The matrix of Figure 2.9 has a vertical axis of cost reduction and a horizontal axis of local responsiveness. Local responsiveness implies quick response and/or the differentiation necessary for the local market. The operations manager must know how to position the firm in this matrix. Let us briefly examine each of the four strategies.

An **international strategy** uses exports and licenses to penetrate the global arena. This strategy is the least advantageous, with little local responsiveness and little cost advantage. But an international strategy is often the easiest, as exports can require little change in existing operations, and licensing agreements often leave much of the risk to the licensee.

International strategy
A strategy in which global markets are penetrated using exports and licenses.

The **multidomestic strategy** has decentralized authority with substantial autonomy at each business. These are typically subsidiaries, franchises, or joint ventures with substantial independence. The advantage of this strategy is maximizing a competitive response for the local market; however, the strategy has little or no cost advantage. Many food producers, such as Heinz, use a multidomestic strategy to accommodate local tastes because global integration of the production process is not critical. The concept is one of "we were successful in the home market; let's export the management talent and processes, not necessarily the product, to accommodate another market."

Multidomestic strategy
A strategy in which operating decisions are decentralized to each country to enhance local responsiveness.

A **global strategy** has a high degree of centralization, with headquarters coordinating the organization to seek out standardization and learning between plants, thus generating economies of scale. This strategy is appropriate when the strategic focus is cost reduction but has little to recommend it when the demand for local responsiveness is high. Caterpillar, the world leader in earth-moving equipment, and Texas Instruments, a world leader in semiconductors, pursue global strategies. Caterpillar and Texas Instruments find this strategy advantageous because the end products are similar throughout the world. Earth-moving equipment is the same in Nigeria as in Iowa.

Global strategy
A strategy in which operating decisions are centralized and headquarters coordinates the standardization and learning between facilities.

LO 2.5 *Identify* and explain four global operations strategy options

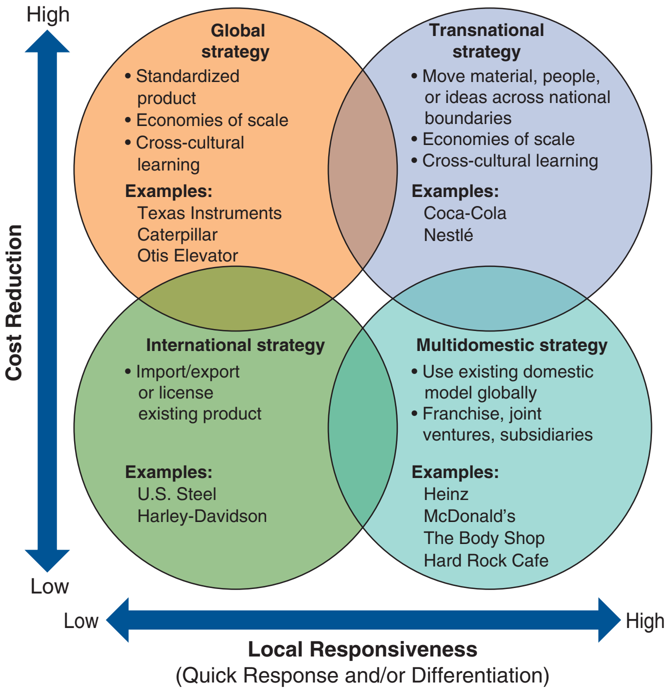


Figure **2.9**

Four International Operations Strategies

Source: See a similar presentation in M. Hitt, R. D. Ireland, and R. E. Hoskisson, *Strategic Management: Concepts, Competitiveness, and Globalization,* 8th ed. (Cincinnati: Southwestern College Publishing).

In a continuing fierce worldwide battle, both Komatsu and Caterpillar seek global advantage in the heavy equipment market. As Komatsu (left) moved west to the UK, Caterpillar (right) moved east, with 13 facilities and joint ventures in China. Both firms are building equipment throughout the world as cost and logistics dictate. Their global strategies allow production to move as markets, risk, and exchange rates suggest.

Washington Imaging/Alamy

Bernd Wüstneck/dpa/picture-alliance/Newscom

Transnational strategy
A strategy that combines the benefits of global-scale efficiencies with the benefits of local responsiveness.

A **transnational strategy** exploits the economies of scale and learning, as well as pressure for responsiveness, by recognizing that core competence does not reside in just the "home" country but can exist anywhere in the organization. *Transnational* describes a condition in which material, people, and ideas cross—or *transgress*—national boundaries. These firms have the potential to pursue all three operations strategies (i.e., differentiation, low cost, and response). Such firms can be thought of as "world companies" whose country identity is not as important as their interdependent network of worldwide operations. Nestlé is a good example of such a company. Although it is legally Swiss, 95% of its assets are held and 98% of its sales are made outside Switzerland. Fewer than 10% of its workers are Swiss.

Summary

Global operations provide an increase in both the challenges and opportunities for operations managers. Although the task is difficult, operations managers can and do improve productivity. They build and manage global OM functions and supply chains that contribute in a significant way to competitiveness. Organizations identify their strengths and weaknesses. They then develop effective missions and strategies that account for these strengths and weaknesses and complement the opportunities and threats in the environment. If this procedure is performed well, the organization can have competitive advantage through some combination of product differentiation, low cost, and response.

Increasing specialization provides economic pressure to build organizations that focus on core competencies and to outsource the rest. But there is also a need for planning outsourcing to make it beneficial to all participants. In this increasingly global world, competitive advantage is often achieved via a move to international, multidomestic, global, or transnational strategies.

Effective use of resources, whether domestic or international, is the responsibility of the professional manager, and professional managers are among the few in our society who *can* achieve this performance. The challenge is great, and the rewards to the manager and to society are substantial.

Key Terms

Maquiladoras (p. 34)
World Trade Organization (WTO) (p. 34)
North American Free Trade Agreement (NAFTA) (p. 34)
European Union (EU) (p. 34)
Mission (p. 36)
Strategy (p. 36)
Competitive advantage (p. 36)
Differentiation (p. 38)
Experience differentiation (p. 38)
Low-cost leadership (p. 38)
Response (p. 39)
Resources view (p. 40)
Value-chain analysis (p. 40)
Five forces model (p. 40)
SWOT analysis (p. 41)
Key success factors (KSFs) (p. 41)
Core competencies (p. 42)
Activity map (p. 43)
Outsourcing (p. 44)
Theory of comparative advantage (p. 46)
International business (p. 49)
Multinational corporation (MNC) (p. 49)
International strategy (p. 49)
Multidomestic strategy (p. 49)
Global strategy (p. 49)
Transnational strategy (p. 50)

Ethical Dilemma

As a manufacturer of athletic shoes whose image—indeed performance—is widely regarded as socially responsible, you find your costs increasing. Traditionally, your athletic shoes have been made in Indonesia and South Korea. Although the ease of doing business in those countries has been improving, wage rates have also been increasing. The labor-cost differential between your current suppliers and a contractor who will get the shoes made in China now exceeds $1 per pair. Your sales next year are projected to be 10 million pairs, and your analysis suggests that this cost differential is not offset by any other tangible costs; you face only the political risk and potential damage to your commitment to social responsibility. Thus, this $1 per pair savings should flow directly to your bottom line. There is no doubt that the Chinese government engages in censorship, remains repressive, and is a long way from a democracy. Moreover, you will have little or no control over working conditions, sexual harassment, and pollution. What do you do, and on what basis do you make your decision?

Michael S. Yamashita/Corbis

Discussion Questions

1. Based on the descriptions and analyses in this chapter, would Boeing be better described as a global firm or a transnational firm? Discuss.
2. List six reasons to internationalize operations.
3. Coca-Cola is called a global product. Does this mean that Coca-Cola is formulated in the same way throughout the world? Discuss.
4. Define *mission*.
5. Define *strategy*.
6. Describe how an organization's *mission* and *strategy* have different purposes.
7. Identify the mission and strategy of your automobile repair garage. What are the manifestations of the 10 strategic OM decisions at the garage? That is, how is each of the 10 decisions accomplished?
8. As a library or Internet assignment, identify the mission of a firm and the strategy that supports that mission.
9. How does an OM strategy change during a product's life cycle?
10. There are three primary ways to achieve competitive advantage. Provide an example, not included in the text, of each. Support your choices.
11. Given the discussion of Southwest Airlines in the text, define an *operations* strategy for that firm now that it has purchased AirTran.
12. How must an operations strategy integrate with marketing and accounting?
13. How would you summarize outsourcing trends?
14. What potential cost-saving advantages might firms experience by using outsourcing?
15. What internal issues must managers address when outsourcing?
16. How should a company select an outsourcing provider?
17. What are some of the possible consequences of poor outsourcing?
18. What global operations strategy is most descriptive of McDonald's?

Using Software to Solve Outsourcing Problems

Excel, Excel OM, and POM for Windows may be used to solve many of the problems in this chapter.

CREATING YOUR OWN EXCEL SPREADSHEETS

Program 2.1 illustrates how to build an Excel spreadsheet for the data in Example 1. In this example the factor rating method is used to compare National Architects' three potential outsourcing providers.

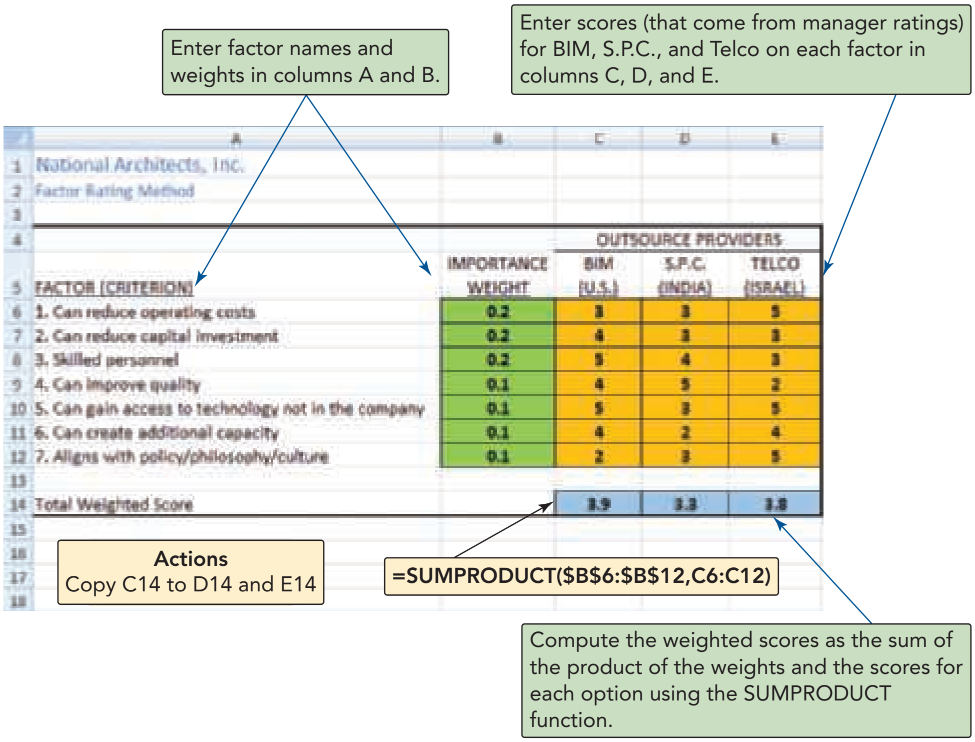
This program provides the data inputs for seven important factors, including their weights (0.0–1.0) and ratings (1–5 scale where 5 is the highest rating) for each country. As we see, BIM is most highly rated, with a 3.9 score, versus 3.3 for S.P.C. and 3.8 for Telco.

USING EXCEL OM

Excel OM (free with your text and also found in MyOMLab) may be used to solve Example 1 (with the Factor Rating module).

USING POM FOR WINDOWS

POM for Windows also includes a factor rating module. For details, refer to Appendix IV. POM for Windows is also found in MyOMLab and can solve all problems labeled with a P.



	A	B	C	D	E
1	National Architects, Inc.				
2	Factor Rating Method				
3					
4			OUTSOURCE PROVIDERS		
5	FACTOR (CRITERION)	IMPORTANCE WEIGHT	BIM (U.S.)	S.P.C. (INDIA)	TELCO (ISRAEL)
6	1. Can reduce operating costs	0.2	3	3	5
7	2. Can reduce capital investment	0.2	4	3	3
8	3. Skilled personnel	0.2	5	4	3
9	4. Can improve quality	0.1	4	5	2
10	5. Can gain access to technology not in the company	0.1	5	3	5
11	6. Can create additional capacity	0.1	4	2	4
12	7. Aligns with policy/philosophy/culture	0.1	2	3	5
13					
14	Total Weighted Score		3.9	3.3	3.8

Program **2.1**

Using Excel to Develop a Factor Rating Analysis, With Data from Example 1.

Solved Problems

Virtual Office Hours help is available in MyOMLab.

SOLVED PROBLEM 2.1

The global tire industry continues to consolidate. Michelin buys Goodrich and Uniroyal and builds plants throughout the world. Bridgestone buys Firestone, expands its research budget, and focuses on world markets. Goodyear spends almost 4% of its sales revenue on research. These three aggressive firms have come to dominate the world tire market, with total market share approaching 60%. And the German tire maker Continental AG has strengthened its position as fourth in the world, with a dominant presence in Germany and a research budget of 6%. Against this formidable array, the old-line Italian tire company Pirelli SpA is challenged to respond effectively. Although Pirelli still has almost 5% of the market, it is a relatively small player in a tough, competitive business.

And although the business is reliable even in recessions, as motorists still need replacement tires, the competition is getting stronger. The business rewards companies that have large market shares and long production runs. Pirelli, with its small market share and 1,200 specialty tires, has neither. However, Pirelli has some strengths: an outstanding reputation for tire research and excellent high-performance tires, including supplying specially engineered tires for performance automobiles, Ducati motorcycles, and Formula 1 racing teams. In addition, Pirelli's operations managers complement the creative engineering with world-class innovative manufacturing processes that allow rapid changeover to different models and sizes of tires.

Use a SWOT analysis to establish a feasible strategy for Pirelli.

SOLUTION

First, find an opportunity in the world tire market that avoids the threat of the mass-market onslaught by the big-three tire makers. Second, use the internal marketing strength represented by Pirelli's strong brand name supplying Formula 1 racing and a history of winning World Rally Championships. Third, maximize the innovative capabilities of an outstanding operations function. This is a classic differentiation strategy, supported by activity mapping that ties Pirelli's marketing strength to research and its innovative operations function.

To implement this strategy, Pirelli is differentiating itself with a focus on higher-margin performance tires and away from the low-margin standard tire business. Pirelli has established deals with luxury brands Jaguar, BMW, Maserati, Ferrari, Bentley, and Lotus Elise and established itself as a provider of a large share of the tires on new Porsches and S-class Mercedes. Pirelli also made a strategic decision to divest itself of other businesses. As a result, the vast majority of the company's tire production is now high-performance tires. People are willing to pay a premium for Pirellis.

The operations function continued to focus its design efforts on performance tires and developing a system of modular tire manufacture that allows much faster switching between models. This modular system, combined with billions of dollars in new manufacturing investment, has driven batch sizes down to as small as 150 to 200, making small-lot performance tires economically feasible. Manufacturing innovations at Pirelli have streamlined the production process, moving it from a 14-step process to a 3-step process.

Pirelli still faces a threat from the big three going after the performance market, but the company has bypassed its weakness of having a small market share with a substantial research budget and an innovative operations function. The firm now has 19 plants in 13 countries and a presence in more than 160 countries, with sales approaching $8 billion.

Sources: Based on *The Economist* (January 8, 2011): 65; **www.pirelli.com**; and **RubberNews.com**.

SOLVED PROBLEM 2.2

DeHoratius Electronics, Inc., is evaluating several options for sourcing a critical processor for its new modem. Three sources are being considered: Hi-Tech in Canada, Zia in Hong Kong, and Zaragoza in Spain. The owner, Nicole DeHoratius, has determined that only three criteria are critical. She has rated each firm on a 1–5 scale (with 5 being highest) and has also placed an importance weight on each of the factors, as shown below:

		OUTSOURCE PROVIDERS					
FACTOR (CRITERION)	IMPORTANCE WEIGHT	HI-TECH (CANADA)		ZIA (HONG KONG)		ZARAGOZA (SPAIN)	
		Rating	Wtd. Score	Rating	Wtd.score	Rating	Wtd. Score
1. Cost	.5	3	1.5	3	1.5	5	2.5
2. Reliability	.2	4	.8	3	.6	3	.6
3. Competence	.3	5	1.5	4	1.2	3	.9
Totals	1.0		3.8		3.3		4.0

SOLUTION

Nicole multiplies each rating by the weight and sums the products in each column to generate a total score for each outsourcing provider. For example the weighted score for Hi-Tech equals $(.5 \times 3) + (.2 \times 4) + (.3 \times 5) = 1.5 + .8 + 1.5 = 3.8$. She selects Zaragoza, which has the highest overall rating.

Problems

Note: Px means the problem may be solved with POM for Windows and/or Excel OM.

Problems 2.1–2.3 relate to A Global View of Operations and Supply Chains

•• **2.1** Match the product with the proper parent company and country in the table below:

PRODUCT	PARENT COMPANY	COUNTRY
Arrow Shirts	a. Volkswagen	1. France
Braun Household Appliances	b. Bidermann International	2. Great Britain
Volvo Autos	c. Bridgestone	3. Germany
Firestone Tires	d. Campbell Soup	4. Japan
Godiva Chocolate	e. Credit Lyonnais	5. U.S.
Häagen-Dazs Ice Cream (USA)	f. Tata	6. Switzerland
Jaguar Autos	g. Procter & Gamble	7. China
MGM Movies	h. Michelin	8. India
Lamborghini Autos	i. Nestlé	
Goodrich Tires	j. Geely	
Alpo Pet Foods		

•• **2.2** Based on the corruption perception index developed by Transparency International (**www.transparency.org**), rank the following countries from most corrupt to least: Venezuela, Denmark, the U.S., Switzerland, and China.

•• **2.3** Based on the competitiveness ranking developed by the Global Competitiveness Index (**www.weforum.org**), rank the following countries from most competitive to least: Mexico, Switzerland, the U.S., and China.

Problems 2.4 and 2.5 relate to Achieving Competitive Advantage Through Operations

• **2.4** The text provides three primary strategic approaches (differentiation, cost, and response) for achieving competitive advantage. Provide an example of each not given in the text. Support your choices. (*Hint:* Note the examples provided in the text.)

•• **2.5** Within the food service industry (restaurants that serve meals to customers, but not just fast food), find examples of firms that have sustained competitive advantage by competing on the basis of (1) cost leadership, (2) response, and (3) differentiation. Cite one example in each category; provide a sentence or two in support of each choice. Do not use fast-food chains for all categories. (*Hint:* A "99¢ menu" is very easily copied and is not a good source of sustained advantage.)

Problem 2.6 relates to Issues in Operations Strategy

••• **2.6** Identify how changes within an organization affect the OM strategy for a company. For instance, discuss what impact the following internal factors might have on OM strategy:
a) Maturing of a product.
b) Technology innovation in the manufacturing process.
c) Changes in laptop computer design that builds in wireless technology.

Problem 2.7 relates to Strategy Development and Implementation

••• **2.7** Identify how changes in the external environment affect the OM strategy for a company. For instance, discuss what impact the following external factors might have on OM strategy:
a) Major increases in oil prices.
b) Water- and air-quality legislation.

c) Fewer young prospective employees entering the labor market.
d) Inflation versus stable prices.
e) Legislation moving health insurance from a pretax benefit to taxable income.

Problems 2.8–2.12 relate to Strategic Planning, Core Competencies, and Outsourcing

•• **2.8** Claudia Program Technologies, Inc., has narrowed its choice of outsourcing provider to two firms located in different countries. Program wants to decide which one of the two countries is the better choice, based on risk-avoidance criteria. She has polled her executives and established four criteria. The resulting ratings for the two countries are presented in the table below, where 1 is a lower risk and 3 is a higher risk.

SELECTION CRITERION	ENGLAND	CANADA
Price of service from outsourcer	2	3
Nearness of facilities to client	3	1
Level of technology	1	3
History of successful outsourcing	1	2

The executives have determined four criteria weightings: Price, with a weight of 0.1; Nearness, with 0.6; Technology, with 0.2; and History, with 0.1.

a) Using the factor-rating method, which country would you select?
b) Double each of the weights used in part (a) (to 0.2, 1.2, 0.4, and 0.2, respectively). What effect does this have on your answer? Why? PX

•• **2.9** Ranga Ramasesh is the operations manager for a firm that is trying to decide which one of four countries it should research for possible outsourcing providers. The first step is to select a country based on cultural risk factors, which are critical to eventual business success with the provider. Ranga has reviewed outsourcing provider directories and found that the four countries in the table that follows have an ample number of providers from which they can choose. To aid in the country selection step, he has enlisted the aid of a cultural expert, John Wang, who has provided ratings of the various criteria in the table. The resulting ratings are on a 1 to 10 scale, where 1 is a low risk and 10 is a high risk.

John has also determined six criteria weightings: Trust, with a weight of 0.4; Quality, with 0.2; Religious, with 0.1; Individualism, with 0.1; Time, with 0.1; and Uncertainty, with 0.1. Using the factor-rating method, which country should Ranga select? PX

CULTURE SELECTION CRITERION	MEXICO	PANAMA	COSTA RICA	PERU
Trust	1	2	2	1
Society value of quality work	7	10	9	10
Religious attitudes	3	3	3	5
Individualism attitudes	5	2	4	8
Time orientation attitudes	4	6	7	3
Uncertainty avoidance attitudes	3	2	4	2

•• **2.10** Fernando Garza's firm wishes to use factor rating to help select an outsourcing provider of logistics services.

a) With weights from 1–5 (5 highest) and ratings 1–100 (100 highest), use the following table to help Garza make his decision:

		RATING OF LOGISTICS PROVIDERS		
CRITERION	WEIGHT	OVERNIGHT SHIPPING	WORLDWIDE DELIVERY	UNITED FREIGHT
Quality	5	90	80	75
Delivery	3	70	85	70
Cost	2	70	80	95

b) Garza decides to increase the weights for quality, delivery, and cost to 10, 6, and 4, respectively. How does this change your conclusions? Why?
c) If Overnight Shipping's ratings for each of the factors increase by 10%, what are the new results? PX

••• **2.11** Walker Accounting Software is marketed to small accounting firms throughout the U.S. and Canada. Owner George Walker has decided to outsource the company's help desk and is considering three providers: Manila Call Center (Philippines), Delhi Services (India), and Moscow Bell (Russia). The following table summarizes the data Walker has assembled. Which outsourcing firm has the best rating? (Higher weights imply higher importance and higher ratings imply more desirable providers.) PX

		PROVIDER RATINGS		
CRITERION	IMPORTANCE WEIGHT	MANILA	DELHI	MOSCOW
Flexibility	0.5	5	1	9
Trustworthiness	0.1	5	5	2
Price	0.2	4	3	6
Delivery	0.2	5	6	6

•••• **2.12** Rao Technologies, a California-based high-tech manufacturer, is considering outsourcing some of its electronics production. Four firms have responded to its request for bids, and CEO Mohan Rao has started to perform an analysis on the scores his OM team has entered in the table below.

		RATINGS OF OUTSOURCE PROVIDERS			
FACTOR	WEIGHT	A	B	C	D
Labor	*w*	5	4	3	5
Quality procedures	30	2	3	5	1
Logistics system	5	3	4	3	5
Price	25	5	3	4	4
Trustworthiness	5	3	2	3	5
Technology in place	15	2	5	4	4
Management team	15	5	4	2	1

Weights are on a scale from 1 through 30, and the outsourcing provider scores are on a scale of 1 through 5. The weight for the labor factor is shown as a w because Rao's OM team cannot agree on a value for this weight. For what range of values of w, if any, is company C a recommended outsourcing provider, according to the factor-rating method?

Problem 2.13 relates to Global Operations Strategy Options

•• **2.13** Does Boeing practice a multinational operations strategy, a global operations strategy, or a transnational operations strategy? Support your choice with specific references to Boeing's operations and the characteristics of each type of organization.

CASE STUDIES

Rapid-Lube

A huge market exists for automobile tune-ups, oil changes, and lubrication service for more than 250 million vehicles on U.S. roads. Some of this demand is filled by full-service auto dealerships, some by Walmart and Firestone, and some by other tire/service dealers. However, Rapid-Lube, Mobil-Lube, Jiffy-Lube and others have also developed strategies to accommodate this opportunity.

Rapid-Lube stations perform oil changes, lubrication, and interior cleaning in a spotless environment. The buildings are clean, usually painted white, and often surrounded by neatly trimmed landscaping. To facilitate fast service, cars can be driven through three abreast. At Rapid-Lube, the customer is greeted by service representatives who are graduates of Rapid-Lube U. The Rapid-Lube school is not unlike McDonald's Hamburger University near Chicago or Holiday Inn's training school in Memphis. The greeter takes the order, which typically includes fluid checks (oil, water, brake fluid, transmission fluid, differential grease) and the necessary lubrication, as well as filter changes for air and oil. Service personnel in neat uniforms then move into action. The standard three-person team has one person checking fluid levels under the hood, another assigned interior vacuuming and window cleaning, and the third in the garage pit, removing the oil filter, draining the oil, checking the differential and transmission, and lubricating as necessary. Precise task assignments and good training are designed to move the car into and out of the bay in 10 minutes. The business model is to charge no more, and hopefully less, than gas stations, automotive repair chains, and auto dealers, while providing better and faster service.

Discussion Questions

1. What constitutes the mission of Rapid-Lube?
2. How does the Rapid-Lube operations strategy provide competitive advantage? (*Hint:* Evaluate how Rapid-Lube's traditional competitors perform the 10 decisions of operations management vs. how Rapid-Lube performs them.)
3. Is it likely that Rapid-Lube has increased productivity over its more traditional competitors? Why? How would we measure productivity in this industry?

Strategy at Regal Marine

Video Case

Regal Marine, one of the U.S.'s 10 largest power-boat manufacturers, achieves its mission—providing luxury performance boats to customers worldwide—using the strategy of differentiation. It differentiates its products through constant innovation, unique features, and high quality. Increasing sales at the Orlando, Florida, family-owned firm suggest that the strategy is working.

As a quality boat manufacturer, Regal Marine starts with continuous innovation, as reflected in computer-aided design (CAD), high-quality molds, and close tolerances that are controlled through both defect charts and rigorous visual inspection. In-house quality is not enough, however. Because a product is only as good as the parts put into it, Regal has established close ties with a large number of its suppliers to ensure both flexibility and perfect parts. With the help of these suppliers, Regal can profitably produce a product line of 22 boats, ranging from the \$14,000 19-foot boat to the \$500,000 44-foot Commodore yacht.

"We build boats," says VP Tim Kuck, "but we're really in the 'fun' business. Our competition includes not only 300 other boat, canoe, and yacht manufacturers in our \$17 billion industry, but home theaters, the Internet, and all kinds of alternative family entertainment." Fortunately Regal has been paying down debt and increasing market share.

Regal has also joined with scores of other independent boat makers in the American Boat Builders Association. Through economies of scale in procurement, Regal is able to navigate against billion-dollar competitor Brunswick (makers of the Sea Ray and Bayliner brands). The *Global Company Profile* featuring Regal Marine (which opens Chapter 5) provides further background on Regal and its strategy.

Discussion Questions*

1. State Regal Marine's mission in your own words.
2. Identify the strengths, weaknesses, opportunities, and threats that are relevant to the strategy of Regal Marine.
3. How would you define Regal's strategy?
4. How would each of the 10 operations management decisions apply to operations decision making at Regal Marine?

*You may wish to view the video that accompanies the case before addressing these questions.

Hard Rock Cafe's Global Strategy

Video Case

Hard Rock brings the concept of the "experience economy" to its cafe operation. The strategy incorporates a unique "experience" into its operations. This innovation is somewhat akin to mass customization in manufacturing. At Hard Rock, the experience concept is to provide not only a custom meal from the menu but a dining event that includes a unique visual and sound experience not duplicated anywhere else in the world. This strategy is succeeding. Other theme restaurants have come and gone while Hard Rock continues to grow. As Professor C. Markides of the London Business School says, "The trick is not to play the game better than the competition, but to develop and play an altogether different game."* At Hard Rock, the different game is the experience game.

From the opening of its first cafe in London in 1971, during the British rock music explosion, Hard Rock has been serving food and rock music with equal enthusiasm. Hard Rock Cafe has 40 U.S. locations, about a dozen in Europe, and the remainder

*Constantinos Markides, "Strategic Innovation," *MIT Sloan Management Review* 38, no. 3: 9.

scattered throughout the world, from Bangkok and Beijing to Beirut. New construction, leases, and investment in remodeling are long term; so a global strategy means special consideration of political risk, currency risk, and social norms in a context of a brand fit. Although Hard Rock is one of the most recognized brands in the world, this does not mean its cafe is a natural everywhere. Special consideration must be given to the supply chain for the restaurant and its accompanying retail store. About 48% of a typical cafe's sales are from merchandise.

The Hard Rock Cafe business model is well defined, but because of various risk factors and differences in business practices and employment law, Hard Rock elects to franchise about half of its cafes. Social norms and preferences often suggest some tweaking of menus for local taste. For instance, Hard Rock focuses less on hamburgers and beef and more on fish and lobster in its British cafes.

Because 70% of Hard Rock's guests are tourists, recent years have found it expanding to "destination" cities. While this has been a winning strategy for decades, allowing the firm to grow from one London cafe to 145 facilities in 60 countries, it has made Hard Rock susceptible to economic fluctuations that hit the tourist business hardest. So Hard Rock is signing a long-term lease for a new location in Nottingham, England, to join recently opened cafes in Manchester and Birmingham—cities that are not standard tourist destinations. At the same time, menus are being upgraded. Hopefully, repeat business from locals in these cities will smooth demand and make Hard Rock less dependent on tourists.

Discussion Questions*

1. Identify the strategy changes that have taken place at Hard Rock Cafe since its founding in 1971.
2. As Hard Rock Cafe has changed its strategy, how has its responses to some of the 10 decisions of OM changed?
3. Where does Hard Rock fit in the four international operations strategies outlined in Figure 2.9? Explain your answer.

*You may wish to view the video that accompanies the case before addressing these questions.

Outsourcing Offshore at Darden

Video Case

Darden Restaurants, owner of popular brands such as Olive Garden, Bahama Breeze, and Longhorn Grill, serves more than 320 million meals annually in over 1,500 restaurants across the U.S. and Canada. To achieve competitive advantage via its supply chain, Darden must achieve excellence at each step. With purchases from 35 countries, and seafood products with a shelf life as short as 4 days, this is a complex and challenging task.

Those 320 million meals annually mean 40 million pounds of shrimp and huge quantities of tilapia, swordfish, and other fresh purchases. Fresh seafood is typically flown to the U.S. and monitored each step of the way to ensure that 34°F is maintained.

Darden's purchasing agents travel the world to find competitive advantage in the supply chain. Darden personnel from supply chain and development, quality assurance, and environmental relations contribute to developing, evaluating, and checking suppliers. Darden also has seven native-speaking representatives living on other continents to provide continuing support and evaluation of suppliers. All suppliers must abide by Darden's food standards, which typically exceed FDA and other industry standards. Darden expects continuous improvement in durable relationships that increase quality and reduce cost.

Darden's aggressiveness and development of a sophisticated supply chain provide an opportunity for outsourcing. Much food preparation is labor intensive and is often more efficient when handled in bulk. This is particularly true where large volumes may justify capital investment. For instance, Tyson and Iowa Beef prepare meats to Darden's specifications much more economically than can individual restaurants. Similarly, Darden has found that it can outsource both the cutting of salmon to the proper portion size and the cracking/peeling of shrimp more cost-effectively offshore than in U.S. distribution centers or individual restaurants.

Discussion Questions*

1. What are some outsourcing opportunities in a restaurant?
2. What supply chain issues are unique to a firm sourcing from 35 countries?
3. Examine how other firms or industries develop international supply chains as compared to Darden.
4. Why does Darden outsource harvesting and preparation of much of its seafood?

*You may wish to view the video that accompanies this case study before answering these questions.

- **Additional Case Study:** Visit MyOMLab for this free case study:
  Outsourcing to Tata: The Indian outsourcing firm is hired by New Mexico.

Endnotes

1. The 28 members of the European Union (EU) as of 2015 were Austria, Belgium, Bulgaria, Cyprus, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, and United Kingdom. Not all have adopted the euro. In addition, Iceland, Macedonia, Montenegro, and Turkey are candidates for entry into the European Union.
2. M. E. Porter, *Competitive Advantage: Creating and Sustaining Superior Performance.* New York: The Free Press, 1985.
3. M. E. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors.* New York: The Free Press, 1980, 1998.
4. J. Whitaker, M. S. Krishnan, and C. Fornell. "How Offshore Outsourcing Affects Customer Satisfaction." *The Wall Street Journal* (July 7, 2008): R4.

Chapter 2 *Rapid* Review

MyOMLab

Main Heading	Review Material	MyOMLab
A GLOBAL VIEW OF OPERATIONS AND SUPPLY CHAINS (pp. 32–35)	Domestic business operations decide to change to some form of international operations for six main reasons: 1. Improve supply chain 2. Reduce costs and exchange rate risks 3. Improve operations 4. Understand markets 5. Improve products 6. Attract and retain global talent ■ **Maquiladoras**—Mexican factories located along the U.S.–Mexico border that receive preferential tariff treatment. ■ **World Trade Organization (WTO)**—An international organization that promotes world trade by lowering barriers to the free flow of goods across borders. ■ **NAFTA**—A free trade agreement between Canada, Mexico, and the United States. ■ **European Union (EU)**—A European trade group that has 28 member states.	Concept Questions: 1.1–1.4 Problems: 2.1–2.3
DEVELOPING MISSIONS AND STRATEGIES (pp. 35–36)	An effective operations management effort must have a *mission* so it knows where it is going and a *strategy* so it knows how to get there. ■ **Mission**—The purpose or rationale for an organization's existence. ■ **Strategy**—How an organization expects to achieve its missions and goals. The three strategic approaches to competitive advantage are: **1.** Differentiation **2.** Cost leadership **3.** Response	Concept Questions: 2.1–2.4 **VIDEO 2.1** Operations Strategy at Regal Marine
ACHIEVING COMPETITIVE ADVANTAGE THROUGH OPERATIONS (pp. 36–40)	■ **Competitive advantage**—The creation of a unique advantage over competitors. ■ **Differentiation**—Distinguishing the offerings of an organization in a way that the customer perceives as adding value. ■ **Experience differentiation**—Engaging the customer with a product through imaginative use of the five senses, so the customer "experiences" the product. ■ **Low-cost leadership**—Achieving maximum value, as perceived by the customer. ■ **Response**—A set of values related to rapid, flexible, and reliable performance.	Concept Questions: 3.1–3.4 Problems: 2.4–2.5 **VIDEO 2.2** Hard Rock's Global Strategy
ISSUES IN OPERATIONS STRATEGY (pp. 40–41)	■ **Resources view**—A view in which managers evaluate the resources at their disposal and manage or alter them to achieve competitive advantage. ■ **Value-chain analysis**—A way to identify the elements in the product/service chain that uniquely add value. ■ **Five forces model**—A way to analyze the five forces in the competitive environment. Forces in Porter's five forces model are (1) immediate rivals, (2) potential entrants, (3) customers, (4) suppliers, and (5) substitute products. Different issues are emphasized during different stages of the product life cycle: ■ ***Introduction***—Company strategy: Best period to increase market share, R&D engineering is critical. OM strategy: Product design and development critical, frequent product and process design changes, short production runs, high production costs, limited models, attention to quality. ■ ***Growth***—Company strategy: Practical to change price or quality image, strengthen niche. OM strategy: Forecasting critical, product and process reliability, competitive product improvements and options, increase capacity, shift toward product focus, enhance distribution. ■ ***Maturity***—Company strategy: Poor time to change image or price or quality, competitive costs become critical, defend market position. OM strategy: Standardization, less rapid product changes (more minor changes), optimum capacity, increasing stability of process, long production runs, product improvement and cost cutting. ■ ***Decline***—Company strategy: Cost control critical. OM strategy: Little product differentiation, cost minimization, overcapacity in the industry, prune line to eliminate items not returning good margin, reduce capacity.	Concept Questions: 4.1–4.4 Problem: 2.6

Chapter 2 *Rapid Review* *continued*

Main Heading	Review Material	MyOMLab
STRATEGY DEVELOPMENT AND IMPLEMENTATION (pp. 41–44)	■ **SWOT analysis**—A method of determining internal strengths and weaknesses and external opportunities and threats. ■ **Key success factors (KSFs)**—Activities or factors that are key to achieving competitive advantage. ■ **Core competencies**—A set of unique skills, talents, and activities that a firm does particularly well. A core competence may be a combination of KSFs. ■ **Activity map**—A graphical link of competitive advantage, KSFs, and supporting activities.	Concept Questions: 5.1–5.4 Problem: 2.7 Virtual Office Hours for Solved Problem: 2.1
STRATEGIC PLANNING, CORE COMPETENCIES, AND OUTSOURCING (pp. 44–48)	■ **Outsourcing**—Procuring from external sources services or products that are normally part of an organization. ■ **Theory of comparative advantage**—The theory which states that countries benefit from specializing in (and exporting) products and services in which they have relative advantage and importing goods in which they have a relative disadvantage. Perhaps half of all outsourcing agreements fail because of inappropriate planning and analysis. Potential risks of outsourcing include: ■ A drop in quality or customer service ■ Political backlash that results from outsourcing to foreign countries ■ Negative impact on employees ■ Potential future competition ■ Increased logistics and inventory costs The most common reason given for outsourcing failure is that the decision was made without sufficient understanding and analysis. The factor-rating method is an excellent tool for dealing with both country risk assessment and provider selection problems.	Concept Questions: 6.1–6.4 Problems: 2.8–2.12 Virtual Office Hours for Solved Problem: 2.2 **VIDEO 2.3** Outsourcing Offshore at Darden
GLOBAL OPERATIONS STRATEGY OPTIONS (pp. 49–50)	■ **International business**—A firm that engages in cross-border transactions. ■ **Multinational corporation (MNC)**—A firm that has extensive involvement in international business, owning or controlling facilities in more than one country. The four operations strategies for approaching global opportunities can be classified according to local responsiveness and cost reduction: ■ **International strategy**—A strategy in which global markets are penetrated using exports and licenses with little local responsiveness. ■ **Multidomestic strategy**—A strategy in which operating decisions are decentralized to each country to enhance local responsiveness. ■ **Global strategy**—A strategy in which operating decisions are centralized and headquarters coordinates the standardization and learning between facilities. ■ **Transnational strategy**—A strategy that combines the benefits of global-scale efficiencies with the benefits of local responsiveness. These firms transgress national boundaries.	Concept Questions: 7.1–7.4 Problem 2.13

Self Test

■ **Before taking the self-test,** refer to the learning objectives listed at the beginning of the chapter and the key terms listed at the end of the chapter.

LO 2.1 A mission statement is beneficial to an organization because it:
a) is a statement of the organization's purpose.
b) provides a basis for the organization's culture.
c) identifies important constituencies.
d) details specific income goals.
e) ensures profitability.

LO 2.2 The three strategic approaches to competitive advantage are ____, ____, and _____.

LO 2.3 Core competencies are those strengths in a firm that include:
a) specialized skills.
b) unique production methods.
c) proprietary information/knowledge.
d) things a company does better than others.
e) all of the above.

LO 2.4 Evaluating outsourcing providers by comparing their weighted average scores involves:
a) factor-rating analysis.
b) cost-volume analysis.
c) transportation model analysis.
d) linear regression analysis.
e) crossover analysis.

LO 2.5 A company that is organized across international boundaries, with decentralized authority and substantial autonomy at each business via subsidiaries, franchises, or joint ventures, has:
a) a global strategy.
b) a transnational strategy.
c) an international strategy.
d) a multidomestic strategy.

Answers: LO 2.1. a; LO 2.2. differentiation, cost leadership, response; LO 2.3. e; LO 2.4. a; LO 2.5. c.