Principles of Operations Management Sustainability and Supply Chain Management 10th edition Heizer Solutions Manual

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CHAPTER 2

Operations Strategy in a Global Environment

Discussion Questions

1. Global seems the better label for Boeing because authority and responsibility reside in the U.S.—the home country.

LO 2.5: Identify and explain four global operations strategy options

AACSB: Application of knowledge

2. Six reasons to internationalize: Reduce costs, improve supply chain, provide better goods and services, attract new markets, learn to improve operations, attract and retain global talent.

LO 2.5: Identify and explain four global operations strategy options

AACSB: Analytical thinking

3. No. Sweetness at Coca-Cola is adjusted for the tastes of individual countries.

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

4. A *mission* is an organization's purpose—what good or service it will contribute to society.

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

5. *Strategy* is an organization's action plan—how it is going to achieve its purpose.

LO 2.1: Define Mission and strategy.

AACSB: Application of knowledge

6. A *mission* specifies where the organization is going and a *strategy* specifies how it is going to get there.

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

7. The answer to this question will depend on the establishment studied, but should probably include some of the following considerations:

The mission: diagnose automobile problems and make the necessary repair at a fair price for the local customer.

Points to consider, or options, within the 10 decision areas are

Decision:	*Option*:
Product	Repair work of American and/or foreign vehicles; specialized (tune-ups, lubrication, wheel alignment, etc.) versus general repair; frame and body repair versus engine and power train repair; repair and maintenance only versus repair, maintenance, and sales of fuel; professional staffing versus rental of tools and space for do-it-yourself repair work
Quality	Appropriate level of quality; warranty; method of measuring and maintaining quality (customer complaints, inspection by supervising mechanic, etc.)
Process	Use of general versus special-purpose diagnostic and repair equipment (in particular, the degree to which computer controlled diagnostic equipment is employed)
Location	In-town, shopping mall, highway
Layout	Single bay/multibay; general-purpose bay versus special-purpose bay (lubrication/tire repairs and installation/wheel alignment/engine and power train repair, etc.)
Human resources	Employment of certified versus noncertified repairpersons; employment of specialists versus general mechanics
Supply Chain	Choice of supplier(s) for both general and original manufacturer parts and supplies
Scheduling	Hours of operation (8:00 A.M.–5:00 P.M.; 24-hour towing; weekends/holidays), repairs versus motor vehicle safety inspections, etc.; service by appointment versus walk-in (or drive-up) service
Inventory	Quantity and variety of repair parts (fan belts, filters, mufflers, headlights, etc.) to stock; whether to stock generic or original manufacturer parts
Maintenance	Bays with hydraulic lifts versus easier-to-maintain "basement" work areas; preventive maintenance of equipment versus breakdown

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

8. Library or Internet assignment: Student is to identify a mission and strategy for a firm. *BusinessWeek, Fortune, The Wall Street Journal*, and *Forbes* all have appropriate articles.

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

9. OM strategy changes during a product's life cycle: During the introduction stage, issues such as product design and development are critical, then during the growth stage the emphasis changes to product and process reliability; from there we move to concern for increasing the stability of the manufacturing process and cost cutting; and finally, in the decline stage pruning the line to eliminate items not returning good margin becomes important. Figure 2.5 provides a more expansive list.

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

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10. The text focuses on three conceptual strategies—cost leadership, differentiation, and response. Cost leadership by Walmart—via low overhead, vicious cost reduction in the supply chain; differentiation, certainly any premium product—all fine dining restaurants, upscale autos—Lexus, etc.; response, your local pizza delivery service, FedEx, etc.

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

AACSB: Reflective thinking

11. An operations strategy statement for Southwest Airlines would include a focus on efficient, low-cost service with high capital utilization (high aircraft and gate utilization), flexible non-union employees, low administrative overhead, etc. Southwest's strategy is complicated by the purchase of AirTran. First, there is a major organizational culture issue. Southwest's culture is unique. The company really does think of itself as a family, with a fun culture. AirTran's culture is different. Integrating the two cultures will be a challenge. Related to this are human resources issues such as seniority, pay rate, and promotion policies, all of which are complicated by union issues. On the tangible side, Southwest's use of just Boeing 737s is complicated by AirTran's use of several other types of planes. To maintain the "one plane" efficiency (pilot training maintenance, inventory, etc.), Southwest is going to have to replace all those planes. This will be expensive, but so will *not* getting rid of them.

LO 2.1: Define mission and strategy

AACSB: Application of knowledge

12. The integration of OM with marketing and accounting is pervasive. You might want to cite examples such as developing new products. (Marketing must help with the design, the forecast and target costs; accounting must ensure adequate cash for development and the necessary capital equipment.) Similarly, new technology or new processes emanating from operations must meet the approval of marketing and the capital constraints imposed by the accounting department.

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

AACSB: Analytical thinking

13. To summarize outsourcing trends:

- Not everyone who outsources is 100% satisfied, and future arrangements may be revised or insourced.
- IT will be a major expansion area, according to Gartner, Inc.
- More laws may be passed to protect U.S. jobs.
- Foreign firms will increase their outsourcing to the U.S.
- Outsourcing will continue to grow.
- Current practices will be improved.

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

AACSB: Reflective thinking

14. Cost savings in recent years from outsourcing has been significant. It may be possible to reduce labor costs by as much 75%. But more realistically, this figure is in the 20%–40% range. *Overall* savings in the 10%–30% range are possible.

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

AACSB: Analytical thinking

15. Internal issues include

- Employment—morale may drop, and employees may lose their jobs.
- Facilities—may need to be changed if components arrive in different stages of assembly.
- Logistics—now includes customs, timing, and insurance.

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

AACSB: Analytical thinking

16. The company should identify its own core competencies and then consider a list of candidate activities and firms for outsourcing. The factor-rating method can be used to compare various companies on a set of factors that management considers important.

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

AACSB: Analytical thinking

17. Bad outsourcing decisions may result in:

- Higher transportation cost
- Loss of control
- Future competition from the provider
- Negative impact on employees
- Quick gains at the expense of long-term objectives

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

AACSB: Analytical thinking

18. McDonald's fits the categorization in the text as a *multidomestic,* as opposed to *international, global,* or *transnational.* This is the concept of exporting the management talent and process allowing flexibility in the product itself. In the case of McDonald's, this export is operations management expertise, which it has implemented world-wide. Interestingly, McDonald's likes to call itself *multilocal.*

LO 2.5: Identify and explain four global operations strategy options

AACSB: Application of knowledge

ETHICAL DILEMMA

Here is an interesting scenario. A firm can save $10 million in production costs per year. All it has to do is locate manufacturing in China, which is not a democracy, where sustainability is not an issue, and where some employees are exploited. Nike faced a similar dilemma in Vietnam, where it was accused of paying less than a livable wage ($1.60 per day). Students may be prepared to discuss this current and sensitive subject.

END-OF-CHAPTER PROBLEMS

2.1 Arrow; Bidermann International, France
Braun Household Appliances; Procter & Gamble, U.S.
Volvo Autos; Geely, China
Firestone Tires; Bridgestone, Japan
Godiva Chocolate; Campbell Soup, U.S.

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Haagen-Dazs Ice Cream; great globalization discussion example: Haagen-Dazs was established in New York City; now owned by Pillsbury (U.S.A.), which is owned by General Mills (U.S.A.), but Nestlé SA (Switzerland) is licensed to sell Haagen-Dazs in the U.S.
Jaguar Autos; Tata, India
MGM Movies; Credit Lyonnais, France
Lamborghini; Volkswagen, Germany
Goodrich; Michelin, France
Alpo Pet Foods; Nestlé, Switzerland

2.2 The corruption perception index maintained by Transparency International (www.transparency.org) gives a 1-to-10 scale (10 being least corrupt to 1 being most corrupt). Also see Chapter 8, Table 8.2. For 2014 least corrupt: Denmark, #1, Switzerland #5, USA # 17, China #100.

A lively class discussion can also take place regarding who pays bribes, as shown on the same Web site. Other perspectives of culture are shown on the Asia Pacific Management Forum page (www.apmforum.com).

2.3 *The Economist* does an analysis similar to this on occasion, but the "Global Competitiveness Index," *World Economic Forum*, Geneva (www.weforum.org) does one every year. (Also see Table 8.1 in the text.) For 2014-2015 most competitive: Switzerland #1, USA #3, China #28, Mexico #61.

2.4 The three methods are cost leadership, differentiation, and response. Cost leadership can be illustrated by Walmart and Dell, with low overhead and huge buying power to pressure its suppliers into concessions. Differentiation can be illustrated by almost any restaurant or restaurant chain, such as Red Lobster, which offers a distinct menu and style of service than others. Response can be illustrated by a courier service such as FedEx, that guarantees specific delivery schedules; or by a custom tailor, who will hand make a suit specifically for the customer.

2.5 Cost leadership: institutional food services, such as Sodexho, provide meal service to college campuses and similar institutions. Such firms often get their contracts by being low bidder to provide service. Response: a catering firm (the customer picks the menu, time, and date). Differentiation: virtually all restaurants seek differentiation in menu, in taste, in service. This is particularly true of fine dining restaurants, but also true of fast food restaurants. For instance, Burger King likes to talk about meals "anyway you want them," and McDonald's has a playground or seating area for children.

2.6 (a) The maturing of a product may move the OM function to focus on more standardization, make fewer product changes, find optimum capacity, stabilize the manufacturing process, lower labor skills, use longer production runs, and institute cost cutting and design compromises.

(b) Technological innovation in the manufacturing process may mean new human resources skills (either new personnel and/or training of existing personnel), and added capital investment for new equipment or processes. Product design, layout, maintenance procedures, purchasing, inventory, quality standards, and procedures may all need to be revised.

(c) A design change will, at least potentially, require the same changes as noted in (b).

2.7 Specific answers to this question depend on the organization considered. Some general thoughts follow:

(a) For a producer with high energy costs, major oil prices change the cost structure, result in higher selling prices, and, if the company is energy inefficient compared to other producers, result in a change in competitive position. Conversely, when oil prices drop it is a bonanza for heavy fuel users such as airlines.

(b) More restrictive quality of water and air legislation increases the cost of production and may, in some cases, prohibit the use of specific technologies. The high cost of process modification to meet more rigid standards has resulted in the closing of numerous plants including paper mills and steel mills.

(c) A decrease in the number of young prospective employees entering the U.S. labor market can contribute to a tighter job market. High unemployment rates can have the opposite effect.

(d) Inflation, especially at high or uncertain rates, makes it more difficult to predict both the cost of production and the market demand.

(e) Legislation moving health insurance from a before-tax benefit to taxable income will reduce the take-home pay of employees by the amount of the taxes. This could have a significant effect on the income of employees in the lower pay classifications, putting substantial pressure on operations managers to increase wages in these classifications. (This does not mean that it is not a good idea for society—i.e., to make employees more sensitive to the cost of health insurance.)

2.8 (a) Using the weighted model, with the four weights totaling 1.0, England has a risk of 2.3 and Canada a risk of 1.7. Now Canada is selected.

England = .1(2) + .6(3) + .2(1) + .1(1) = 2.3

Canada = .1(3) + .6(1) + .2(3) + .1(2) = 1.7

(b) When each of the weights is doubled, the selection stays the same: Canada.

2.9 With weights given, the results are

Mexico = 3.3 = [.4(1) + .2(7) + .1(3) + .1(5) + .1(4) + .1(3)]

Panama = 4.1

Costa Rica = 4.4

Peru = 4.2

Mexico is the lowest-risk country for the firm to outsource to.

2.10 (a) The results of the factor rating method are

	Overnight Shipping	Worldwide Delivery	United Freight
Weighted total	800	815	775
Weighted average	80	81.5	77.5

The best outsource provider is Worldwide Delivery.

(b) Nothing changes in the weighted averages if every one of the weights is doubled. The weighted totals will double.

(c) If the three Overnight Shipping ratings increase by 10%, to 99, 77, and 77, respectively, the new weighted average is 88, and the weighted sum is 880. So Overnight is now the preferred logistics provider.

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2.11

Selection Criteria	Criterion Weight	Computations for Manila	Computations for Delhi	Computations for Moscow
1. Flexibility	0.5	$0.5 \times 5 = 2.5$	$0.5 \times 1 = 0.5$	$0.5 \times 9 = 4.5$
2. Trustworthiness	0.1	$0.1 \times 5 = 0.5$	$0.1 \times 5 = 0.5$	$0.1 \times 2 = 0.2$
3. Price	0.2	$0.2 \times 4 = 0.8$	$0.2 \times 3 = 0.6$	$0.2 \times 6 = 1.2$
4. Delivery	0.2	$0.2 \times 5 = 1.0$	$0.2 \times 6 = 1.2$	$0.2 \times 6 = 1.2$
Total score	1.0	4.8	2.8	7.1

Moscow Bell is clearly the highest rated for Walker's help desk.

2.12

Provider	Score
A	$5W + 320 = (60 + 15 + 125 + 15 + 30 + 75)$
B	$4W + 330$
C	$3W + 370$
D	$5W + 255$

Find all w from 1–30 so that:

$3w + 370 \geq 5w + 320$, or $50 \geq 2w$, or $w \leq 25$

$3w + 370 \geq 4w + 330$, or $40 \geq w$, or $w \leq 40$

$3w + 370 \geq 5w + 255$, or $115 \geq 2w$, or $w \leq 57.5$

Company C is recommended for all w such that $1.0 \leq w \leq 25.0$

2.13 Global. Its level of integration goes beyond multinational. The collection of parts and subassemblies coming from other countries is carefully orchestrated. It is not transnational because its "home" is clearly the U.S., and there is little sense of "local responsiveness."

CASE STUDY

RAPID-LUBE

1. *What constitutes the mission of Rapid-Lube?*

To provide economical preventative maintenance and interior auto cleaning, primarily to vehicles owned by individuals (as opposed to businesses), in the U.S.

LO 2.1: Define mission and strategy

AACSB: Reflective thinking

2. *How does the Rapid-Lube strategy provide competitive advantage?*

This case is a good way to get the student thinking about the 10 decisions around which the text is organized. Rapid-Lube's approach to these 10 decisions includes

- *Product design:* A narrow product strategy could be defined as "lubricating automobiles" (more in Chapter 5).
- *Quality strategy:* Because of limited task variety, high repetition, good training, and good manuals, quality should be relatively easy to maintain.
- *Process strategy:* The process strategy allows employees and capital investment to focus on doing this mission well, rather than trying to be a "general-purpose" garage or gas station.
- *Location strategy:* Facilities are usually located near residential areas.
- *Layout strategy:* The three bays are designed specifically for the lubrication and vacuuming tasks to minimize wasted movement on the part of the employees and to contribute to the speedier service.
- *Supply-chain management:* Purchasing is facilitated by negotiation of large purchases and custom packaging.
- *Human resources strategy:* Human resources strategy focuses on hiring a few employees with limited skills and training them in a limited number of tasks during the performance of which they can be closely supervised.
- *Inventory:* Inventory investment should be relatively low, and they should expect a high turnover.
- *Scheduling:* Scheduling is quite straightforward with similar times for most cars. Once volume and fluctuation in volume are determined, scheduling should be very direct—assisting both staffing and customer relations.
- *Maintenance:* There is relatively little equipment to be maintained, and therefore little preventive maintenance is required. With three bays and three systems, there is backup available in the case of failure.

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

AACSB: Reflective thinking

3. Specialization of personnel and facilities should make Rapid-Lube more efficient. Jobs/tasks accomplished per man hour would be a good place to start.

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

AACSB: Reflective thinking

VIDEO CASE STUDIES

1 STRATEGY AT REGAL MARINE

There is a short video (7 minutes) available from Pearson and filmed specifically for this text that supplements this case.

1. Regal Marine's mission is to provide luxury performance boats to the world through constant innovation, unique features, and high quality that will differentiate the boats in the marketplace.

LO 2.1: Define mission and strategy

AACSB: Reflective thinking

2. A *strength* of Regal Marine is continued innovation that is being recognized in the marketplace. One current *weakness* is maintaining an effective, well-trained labor force in a tight Florida labor market. The *opportunities* for Regal include an increase in

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boat sales brought about through the reduction of the luxury tax and Regal Marine's increasing market presence in the world boat market. The *threats* to Regal are a huge number of small competitors going after various parts of the market. Brunswick goes after the mass market, and hundreds of small boat manufacturers go after various niche markets.

LO 2.1: Define mission and strategy

AACSB: Reflective thinking

3. Regal Marine's strategy is to focus on constant innovation, high quality, and good value for the money with sales through effective dealers.

LO 2.1: Define mission and strategy

AACSB: Reflective thinking

4. Each of the 10 operations management decisions is important to Regal's success:

- *Product:* Must be unique, full of features, and richly appointed, which puts constant pressure on the design, styling, and appointments.
- *Quality:* Because the typical Regal Marine customer is interested in exceptional quality for his/her substantial investment.
- *Process selection and design:* Because of the large number of boats and custom features, building via repetitive processes in a modular way has proven to be an effective and efficient process.
- *Inventory:* Regal tries to drive down finished goods inventory but must maintain inventory of purchased parts to meet changing production schedules. Additionally, the tooling inventory, that is the various molds, create an inventory problem all their own. This is a good point for class discussion, as most students may not be familiar with the process.
- *Scheduling:* Regal tries to move the components from workstation to workstation on a one-day JIT basis. Good, reliable schedules are necessary to get the job done.
- *Supply-chain management:* Of course suppliers are important because of many of the appointments—from galley features through engines and hardware make a huge difference in the perceptions and performance of marine craft. Consequently, the selection of these suppliers and their performance is critical to Regal.
- *Maintenance:* Much of Regal's maintenance hinges on keeping fiberglass guns and molds ready for use.
- *Location:* Because Florida is one of the major markets for boats in America, Regal is positioned to supply this large market rapidly and economically.
- *Layout:* Because of the bulkiness of the product, the layout must be designed, as it is, to minimize loads times the distances times the difficulty factor. There is a clean logical flow of material through the plant.
- *Human resources:* Is important because boat hulls, decks, assembly, and finishing out the boats have a high labor content. Additionally, the current diverse labor market in Florida creates special challenges for operations managers at Regal.

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

AACSB: Reflective thinking

2 HARD ROCK CAFE'S GLOBAL STRATEGY

There is a short video (9 minutes) available from Pearson, and filmed specifically for this text, that supplements this case.

1. Identify the strategic changes that have taken place at Hard Rock Cafe. What we want to do here is help the student understand that an optimum mix of internal strengths and opportunities drives strategies in a changing environment.

- Initially, Hard Rock was a London cafe serving classic American food.
- Then it became a "theme" chain with memorabilia in tourist destinations.
- Then it added stores.
- Then it added live music and a rock concert.
- Then it became an established name and began opening hotels and casinos.
- Then it upgraded its menu.
- Then it moved into cities that are not the typical tourist destination.

LO 2.1: Define mission and strategy

AACSB: Reflective thinking

2. As these strategic changes have taken place—the 10 decisions of OM change:

- *Location:* From a London cafe, to tourist destinations, to nontourist locations.
- *Product design:* New menu items
- *Quality:* The entire evaluation of quality and quality control got much more complex.
- *Process:* The kitchen process changed when Hard Rock went from hamburgers to lobster, and additional changes were made as the firm moved to retail merchandising.
- *Layout:* Added retail stores, added live music facilities.
- *Supply-chain management:* Purchase memorabilia and lobsters—new expectations of the supply chain.
- *Inventory:* From food to clothing to memorabilia, to expanded food items in inventory—how do you keep lobsters alive and how long?
- *Human resources:* The range of talents needed keeps expanding; from cooks of classic American fare and waitstaff and bartenders, to merchandisers, to cooks for a wider more expensive menu, to coordinators and performers for the live music facilities.

The case says little about scheduling and maintenance, but every change in product (food or merchandise) and every change in equipment and processes changes scheduling and maintenance.

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

AACSB: Application of knowledge

3. Hard Rock fits in the multidomestic strategy, which uses the existing domestic model globally.

LO 2.5: Identify and explain four global operations strategy options

AACSB: Reflective thinking

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3 OUTSOURCING OFFSHORE AT DARDEN

The 10-minute video that accompanies this case study is available from Pearson and was filmed specifically for text. Since this case was written and filmed, Darden spun off in 2015 Red Lobster into a separate company.

1. There are numerous outsourcing opportunities available to a restaurant, including food supplies, all other supplies, janitorial, data processing, benefits, marketing, and bookkeeping. Darden outsources the seafood and produce part of its supply chain, but maintains tight quality standards "from farm to fork."

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

AACSB: Analytical thinking

2. When a giant like Darden procures supplies in 35 countries, it needs to have a large staff "on the ground" to arrange for training, quality control, contracts, expediting, language/cultural issues, and so on. With very tight standards, it will not use a supplier until all its expectations for reliability/quality are met. Once trained, a supplier need not be managed as closely, freeing Darden supply chain personnel to seek out the next provider.

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

AACSB: Analytical thinking

3. In other industries, perhaps where 48-hour freshness is not a critical issue, supply chains may differ. Challenges come from culture, communications, distance, and documents. Companies like Walmart have used alliances. P&G reorganized along product lines instead of geography to increase coordination. Mercedes decided to build some models in the U.S. to get closer to customers.

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

AACSB: Application of knowledge

4. Darden outsources seafood harvesting and preparation offshore because (a) it may not legally own/control the catch in foreign waters; (b) labor intensity of food preparation means it is cheaper for that work to be done offshore; (c) bulk food purchases are capital intensive and not part of Darden's core competence. Darden has recently spun off its Red Lobster restaurants in part because of the special challenges and costs connected with this part of its business.

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

AACSB: Reflective thinking

ADDITIONAL CASE STUDY (available in MyOMLab)

OUTSOURCING TO TATA

Tata is a major Indian industrial and consultancy organization that has used its low-cost, highly skilled software professionals to establish a position in global markets. In this case study, Tata won the bid to revamp New Mexico's state unemployment compensation computer system.

1. The government of New Mexico, like most other state governments, does not have the expertise on staff to complete a major multi-year IT project internally. The factor rating method in this chapter may have helped find the ideal provider and that may be a worthwhile exercise for your students. Perhaps New Mexico should have considered factors that relate to:

- Establishing specific goals and specifications.
- Negotiating goals and performance milestones.
- Monitoring the project.
- Two-way communication on project status and performance.

A class discussion on how well New Mexico performed on the above factors should prove interesting.

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

AACSB: Analytical thinking

2. There are undoubtedly cultural issues that arise the first time an organization deals with any foreign partner (you can probably pick good recent examples from the daily news). Yet each of the issues above needs to be rigorously addressed for any project. IT projects, perhaps more than other outsourced projects, have a very high failure rate for sundry management reasons, which in this case, are complicated by distance and culture. Large long-term projects such as this have an increased chance of budget over runs, delay, and changing specifications.

AACSB: Diverse and multicultural work environments.

3. There are numerous risks associated with outsourcing IT projects. One estimate found that 79% of U.S. firms outsource some phase of their IT and IT projects. Turnover, both internal and at the outsource provider, combined with less communication and control, changing technology, and altered specifications, all contribute to increased risk.

AACSB: Application of knowledge.

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Chapter 2
Operations Strategy in a Global Environment

Background

Of all the chapters in the book, this one has the most references to global operations. Depending on the instructor's preferences, he or she could delve further into global issues and, for example, present some operations practices prevalent in different countries of the world. For the strategy sections of the chapter, it is important to emphasize that these are decisions that firms make that use *operations* to earn and keep business (as opposed to, say, an advertising campaign). Picking a strategy may seem trite to some students, but it important to emphasize that all 10 OM decisions will be geared toward the designated strategy.

Outsourcing is a growing trend in business with many success stories and many failures. It can be an emotional subject for some, so instructors need to be sensitive to potential student concerns and opinions about the subject. At the same time, the existence of strong opinions within the classroom can produce some lively class discussions. Instructors should try to present a balanced view of outsourcing, including the advantage, the risks and disadvantages, and the potential ethical dilemmas.

Class Discussion Ideas

1. When describing slide 2-43, showing the OM Strategy/Issues during different stages of the product life cycle, it can be a useful break to stop and ask students to identify examples from the past of when demand significantly outpaced production—i.e., the existence of "fad" items. Examples might include certain video games, hybrid vehicles, Furbies, Tickle Me Elmo dolls, Cabbage Patch dolls, or even pet rocks from the 1970s.

2. For instructors that want to expand treatment of global operations issues, Chapter 2 is probably the place. One way to do that is to have discussion on aspects of operating in some of the largest or most impactful economies around the world, for example, Japan, Germany, China, India, and South Korea. Input from foreign students can be particularly useful here; in fact, instructors may want to ask foreign students to prepare a five-minute talk on their respective countries (potentially for extra credit). Certain cultural differences, if tactfully presented, can add some humor here. As one of many examples, Frank Perdue's chicken slogan, "It takes a strong man to make a tender chicken," was translated into Spanish as, "It takes an aroused man to make a chicken affectionate."

3. Some students may feel that outsourcing simply should not occur because it is unethical to lay off productive and loyal workers just to save some money. Instructors could explore varying student opinions about this issue and even ask the question, "What if it was your job (or your parent's job) being outsourced?"

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Active Classroom Learning Exercises

1. Have the students split up into small groups to attempt to identify a company (different than ones listed in Figure 2.4 on page 39) that fits into each of the 10 different strategies listed. Have each group report some or all of its ideas to the whole class. They should support their position with references to specific actions, policies, or events that demonstrate why their opinion makes sense.

2. Have the students split up into small groups to conduct a SWOT analysis of their favorite restaurant or retail store. (Make sure that each group examines a different business.) Have each student group report its analysis to the whole class.

3. Pick an industry and ask the students to think about managing a brand new firm trying to join the industry. What strategy should their firm follow? Then ask the students to find someone else in the class with a different opinion—each student should then try to convince the other why his or her strategy is best. Take a poll at the end to see which strategy seems to dominate.

4. Play *The Outsourcing Game* found at http://www.emeraldwise.com/og.html
    - The Scenario: Acme is a well-known company that sells its widgets through retailers across the United States. Acme currently offers two widget products: a high-end version, and a low-end version. Game participants are divided into five teams to play the roles of Acme, BuildIT (contract manufacturer), Design (outsourced design firm), Hi-N (supplier of high-end subassembly), and Loen (supplier of low-end subassembly).
    - The Decision: Acme is interested in using a common subassembly for its widget product line. However, because of outsourcing, Acme must work with its supply chain partners to implement the decision. Participants, through a series of negotiations, determine how the scenario plays out.

Company Videos

1. *Strategy at Regal Marine (5:27)*
   Some of the key mission statement features for this family-owned business are discussed, including: (1) creating best-in-class products with value, quality, and satisfaction; and (2) operating with integrity, honesty, and character. The firm employs a differentiation strategy, manufacturing distinctive and high-value luxury boats. One important means for implementing that strategy is to use very high-caliber dealers (120 of them in 40 countries) that will represent the products in a proper manner. Despite a primary strategy of differentiation, Regal Marine also continues to focus efforts on cost reduction to stay afloat in this highly competitive industry.

   Prior to showing the video, the instructor might ask the students to think about ways that the 10 OM decisions for this firm support its differentiation strategy. A follow-up discussion might explore how some of those decisions might differ if the firm had pursued a cost leadership strategy. Finally, the instructor might ask students to identify the pros and cons for this size of a family-owned company to pursue a differentiation strategy in a highly competitive industry. For example, a lack of economies of scale compared to larger competitors might make cost leadership difficult; however, branding is key when pursuing a differentiation strategy, and that also takes a serious amount of effort and investment to establish in the marketplace—presumably more challenging for smaller firms.

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2. *Hard Rock Cafe's Global Strategy (9:36)*
At the time of the video, Hard Rock had 106 locations in 38 countries and was looking to expand further, particularly in Europe, Latin America, and parts of Asia. Hard Rock's branding has been a key reason why it can so easily enter new markets in new countries. Considerations when expanding into a new market include: political risk, currency risk, social norms, brand fit, social costs, and business practices. The second half of the video focuses on the idea of creating a service "experience." Seventy percent of Hard Rock's customers are tourists seeking a special memory. Not only is each restaurant full of rock-and-roll memorabilia, but each piece also comes with an associated story. Every restaurant has something from Elvis, the Rolling Stones, the Beatles, and Jimmy Hendrix. Restaurant designers try to link older generation musicians with newer ones. Restaurant layout also enhances the rock-and-roll experience, going beyond being a museum to include live and energetic features (e.g., audio-visual, staff members, and a bar) that produce significant sensory stimulation. Finally, a key strategy for merchandise sales is the use of location-specific logos. Despite having an e-commerce presence, a shirt with a city name can only be purchased at that city's Hard Rock Cafe, so tourists will buy these otherwise common-looking logo shirts to advertise/reflect about their trip to that city.

Prior to showing the video, the instructor could ask the students to identify features that make Hard Rock Cafe different from other restaurants, even other themed restaurants. Afterwards, discussion could revolve around the operations decisions that support these features. A different discussion could focus on the international location decisions. What are important considerations for Hard Rock as compared to other businesses (say, manufacturing facilities)? For example, low-cost labor does not seem to even be a consideration for Hard Rock. A follow-up question might ask the students how they, if put in charge of new restaurant location decisions for Hard Rock, would find out if residents and tourists of a potential new city would be interested in that kind of restaurant.

3. *Outsourcing Offshore at Darden (10:56)*
Darden Restaurants imports millions of pounds of seafood annually. The firm achieves this via a complex outsourced network of vendors extending to 40 countries. Darden strives to "source the best suppliers globally" by examining import data and even using its existing network of vendors for referrals. After interest is established, Darden conducts a plant visit to determine the quality of the facilities. If the supplier becomes part of the network, Darden trains the supplier on how to comply with Darden's "cold chain" requirements, including the use of proper containers, gel packs, and temperature monitors. Darden seeks durable long-term relationships with suppliers, not necessarily choosing based on lowest cost. Darden's standards are higher than most U.S. government standards, and it rejects certain shipments that the government would not, based on things like poor color and misshaped product, or anything that might suggest that something in the integrity of the cold chain might have been compromised. Why does Darden outsource its seafood? A primary reason is that many countries will not even grant fishing licenses to non-native fishermen. Furthermore, Darden is not in the seafood production business—it's in the restaurant business. But due to its massive scale, Darden can work directly with suppliers instead of middlemen, allowing the company to remove one layer of cost from the supply chain and in turn invest time and resources into ensuring the highest quality product possible.

Prior to showing the video, instructors might ask the students to guess from which (or how many) countries Darden Restaurants procures its seafood. (Seemingly most students will be surprised to learn that the seafood comes from so many different countries.) The decision to outsource seafood supplies seems to be clear-cut for Darden, so after showing the video, discussion might focus on the management of this outsourced network. What techniques beyond those discussed in the video can managers employ to select the appropriate partners and ensure their compliance with company standards? From another angle, the video did not discuss anything about the labor practices of these

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suppliers, many of whom are from developing countries. Should Darden care about and investigate the labor practices (wage rates, working conditions, use of underage workers, etc.) of all of these suppliers? What might be the repercussions, if any, if Darden does not? Is the media less likely to investigate working conditions on a fishing boat than at a factory, and does that or should that affect Darden's level of interest? Should Darden have global principles of business conduct that it would impose on all of these outsourcing suppliers?

Cinematic Ticklers

1. *Gung Ho (Michael Keaton and Gedde Watanabe), Paramount Pictures, 1986*
   At the beginning of the movie, Michael Keaton's character travels to Japan to meet with the executive board of a Japanese automotive factory. He presents as a typical American might, while the Japanese businessmen sit in silence. The American leaves the meeting thinking that he blew the presentation.

   A second set of scenes can be clipped together to illustrate some of the differences in Japanese vs. American business practices. The scenes are exaggerated to create humor, but they contain some true differences (for example, company uniforms, morning exercises, zero defect policies, strict worker absentee policies, etc.).

2. *The Simpsons Season 3: "Burns Verkaufen Der Kraftwerk," 20th Century Fox Video, 2003 (1991-1992)*
   A German company purchases the Springfield power plant, and Homer ends up being the only worker let go. There's a funny scene where Homer daydreams about living in Germany, "The Land of Chocolate."

Jay, Barry, and Chuck's OM Blog

1. *OM in the News: Reshoring to the U.S. Gains Momentum*
   The share of U.S. executives saying in a BCG survey that their companies are actively reshoring production increased by about 250% since 2012. Factors such as logistics, inventory costs, ease of doing business, and the risks of operating extended supply chains are being cited as factors.

https://heizerrenderom.wordpress.com/2016/02/03/om-in-the-news-reshoring-to-the-u-s-gains-momentum/

2. *OM in the News: China's Fading Factories*
   Chinese leaders have started to encourage the phasing out of low-end exports in favor of promoting the service sector and high-tech manufacturing. Some traditional manufacturers have responded to the downturn by relocating farther inland or overseas, where costs are generally lower.

https://heizerrenderom.wordpress.com/2016/01/21/om-in-the-news-chinas-fading-factories/

3. *OM in the News: The Top 10 Manufacturing Countries in 2020*
   A new study on future global competitiveness, reported by Industry Week (Dec. 9, 2015), predicts that the U.S. will dislodge China as the most competitive manufacturing nation in the world in 2020. The rankings: (1) U.S., (2) China, (3) Germany, (4) Japan, (5) India, (6) Korea, (7) Mexico, (8) Taiwan, (9) Canada, and (10) Singapore.

https://heizerrenderom.wordpress.com/2015/12/11/om-in-the-news-the-top-10-manufacturing-countries-in-2020/

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4. *OM in the News: Amazon—From Warehouse to Retail Bookstore*
   Amazon opened its first-ever retail store in Seattle in November 2015. Amazon is betting that the troves of data it generates from shopping patterns on its website will give it advantages in its retail location that other bookstores can't match.

https://heizerrenderom.wordpress.com/2015/11/04/om-in-the-news-amazon-from-warehouse-to-retail-bookstore/

Presentation Slides

INTRODUCTION (2-1 through 2-8)

Slides 4-6: These Boeing slides (Global Company Profile) can be presented to emphasize the truly global nature of the company's supply network—as a precursor to the discussion about global issues.

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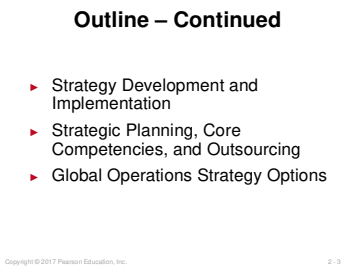

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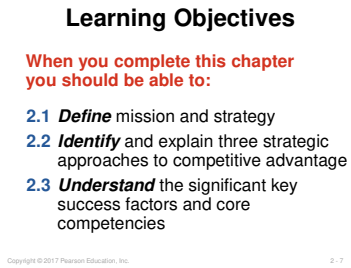

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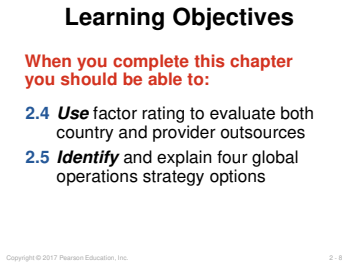

2-8

A GLOBAL VIEW OF OPERATIONS AND SUPPLY CHAINS (2-9 through 2-22)

Slides 9-10: These slides present five examples of companies that are hastily extending their operations globally with innovative strategies.

Slide 11: This slide (Figure 2.1) shows the steady growth of world trade over time.

Slides 12-18: The "Reasons to Globalize" slide (Slide 12) seems particularly important to cover in this chapter, and it is followed by specific discussion on each of the six reasons in Slides 13-18. Slide 13: Low labor cost is often, but not always, the primary draw as firms sometimes

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locate to areas containing particular expertise in whatever they are producing. Slide 14: A very common reason to globalize is to reduce costs, especially labor costs or tariff costs. The numbers can be hard to ignore: for example, saving $10 per hour per worker with 40-hour workweeks (52 weeks per year) and 1000 workers represents a savings in excess of $20 million annually. The agreements and organizations identified in Slide 14 represent ways in which firms can receive preferential tariff treatment. Slide 15: Not all great ideas come from one place—internationalization provides access to great ideas from around the world. Plus, locating overseas can provide better and quicker service to customers located in those countries. Slide 16: International firms inevitably learn about opportunities for new products and services; also, they may be able to sell maturing products longer in less developed countries. Slide 17: Firms can benefit by teaming up with a foreign partner to learn from each other and develop products and processes based on the unique knowledge of both firms. Slide 18: Great employees are attracted to firms that offer more worldwide employment opportunities, as well as better insulation from unemployment.

Slides 19-20: These slides are useful for discussing global location decisions. Slide 24 emphasizes that managers must become aware of cultural differences, and they should adjust their expectations and management styles accordingly. Slide 25 identifies some of the many factors that may need to be considered in global location decisions.

Slides 21-22: These slides represent a nice exercise in perhaps dispelling pre-conceived notions about parent companies and home countries of certain products. Student participation can be solicited here.

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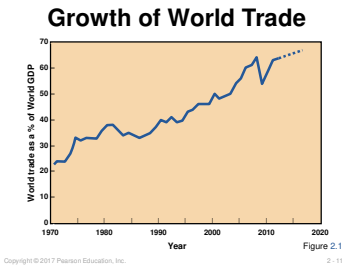

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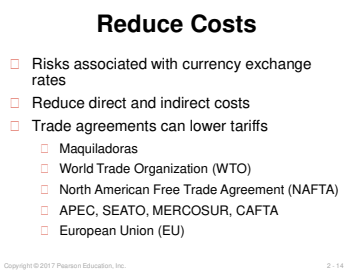

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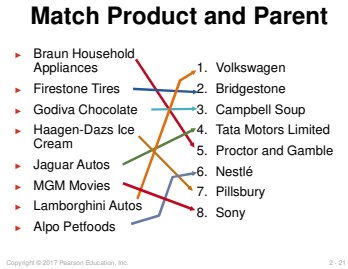

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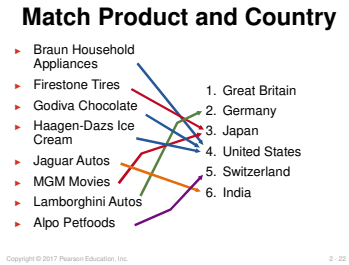

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DEVELOPING MISSIONS AND STRATEGIES (2-23 through 2-35)

Slides 23-24: An organization's mission is its purpose—what it will contribute to society. Its strategy is more specific—it represents an action plan to achieve the mission.

Slides 25-27: These slides (Figure 2.2) present examples of three corporate mission statements.

Slide 28: This slide suggests that several more considerations than profit maximization play a role in shaping a firm's mission.

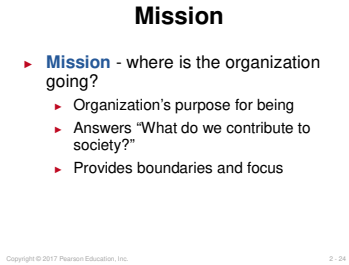
Slide 29: Functional areas have their own missions and strategies, which usually are based on higher-level missions and strategies in the organization.

Slides 30-33: These slides (Figure 2.3) present sample missions for a company, the operations function, and major OM departments.

Slide 34: A SWOT analysis can help managers identify strengths, weaknesses, opportunities, and threats to shape their strategies.

Slide 35: The three major strategies for competitive advantage are *differentiation*, *cost leadership*, and *response*. While it may be possible to compete on all three at once, most firms focus on one of these major strategies.

2-23



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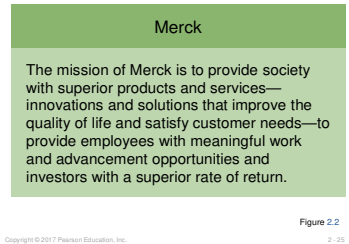

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PespsiCo

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.

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2-26

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.

Figure 2.2

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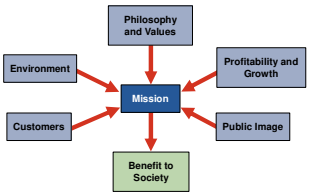
2-27

Factors Affecting Mission



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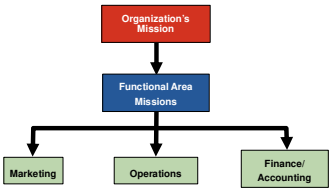
2-28

Strategic Process



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2-29

Sample Missions

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.

Figure 2.3

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2-30

Sample Missions

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, procurement, production, and field service operations
Process design	To determine, design, and produce the production process and equipment that will be compatible with low-cost product, high quality, and good quality of work life at economical cost.

Figure 2.3

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2-31

Sample Missions

Sample OM Department Missions	
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.

Figure 2.3

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2-32

Sample Missions

Sample OM Department Missions	
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

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2-33

Strategy

- Action plan to achieve mission
- Functional areas have strategies
- Strategies exploit opportunities and strengths, neutralize threats, and avoid weaknesses

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2-34

Strategies for Competitive Advantage

1. Differentiation – *better*, or at least different
2. Cost leadership – *cheaper*
3. Response – more *responsive*

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2-35

ACHIEVING COMPETITIVE ADVANTAGE THROUGH OPERATIONS (2-36 through 2-40)

Slides 36-40: The competitive strategies slides (36-40) are particularly important because an organization's chosen strategy very much shapes how it approaches the 10 OM decisions. Slides 36-39 provide some specific examples of firms implementing these strategies. Slide 40 (Figure 2.4) provides some additional examples, and it emphasizes that firms can achieve competitive advantage via their *operations* function, by applying the 10 OM decisions to implement one or more of the competitive strategies.

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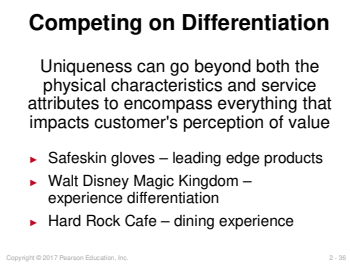

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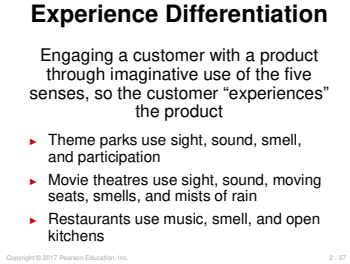

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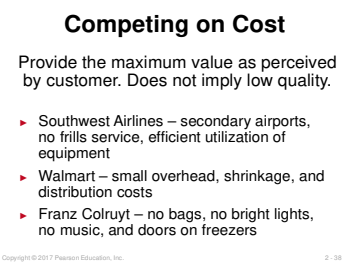

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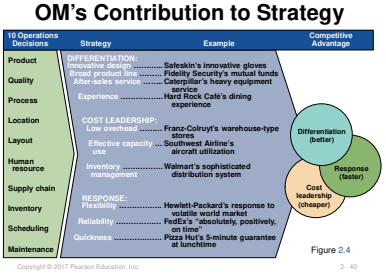
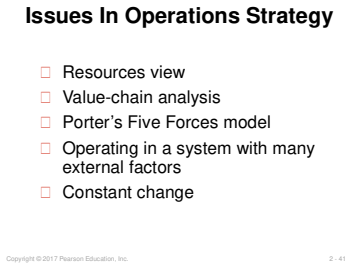


2-40

ISSUES IN OPERATIONS STRATEGY (2-41 through 2-43)

Slide 41: This slide identifies some alternative perspectives that may be helpful prior to establishing and attempting to implement a strategy. A *resources view* is a method that managers use to evaluate the resources at their disposal and manage or alter them to achieve competitive advantage. *Value-chain analysis* is a way to identify those elements in the production/service chain that uniquely add value. *Porter's five forces model* is a method of analyzing the five forces in the competitive environment: immediate rivals, potential entrants, customers, suppliers, and substitute products. Because the firm operates in a system with many external factors, constant scanning of the environment is required. Finally, strategies need to be dynamic to deal with constant internal and external change.

Slides 42-43: These slides (from Figure 2.5) are valuable, especially to emphasize that the point in the product life cycle helps to determine the areas of emphasis for operations management.



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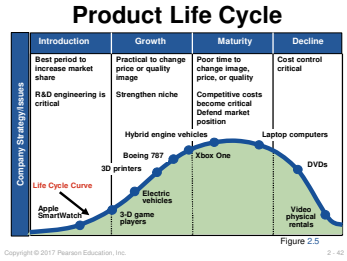

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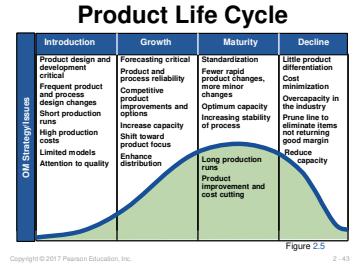

2-43

STRATEGY DEVELOPMENT AND IMPLEMENTATION (2-44 through 2-54)

Slide 44: A SWOT analysis is a formal review of the internal strengths and weaknesses and the external opportunities and threats. It represents an excellent model for evaluating a strategy.

Slide 45: This slide (Figure 2.6) illustrates the strategy development process, in which SWOT analysis plays a key role.

Slide 46: *Key success factors* are those activities that are necessary for a firm to achieve its goals. Once identified, the next step is to group the necessary activities into an organizational structure. That structure then needs to be staffed with personnel who will get the job done

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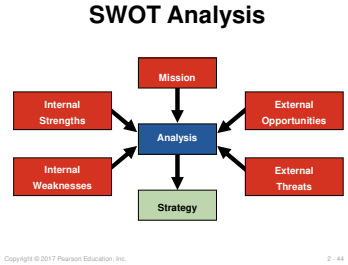
right. The operations function is most likely to be successful when the operations strategy is integrated with other functional areas of the firm, such as marketing, finance, HR, IT, etc.

Slide 47: The 10 OM decisions typically include the key success factors. This slide (Figure 2.7) identifies potential key success factors for marketing, finance, and operations. The 10 OM decisions provide an excellent initial checklist for determining key success factors and identifying core competencies within the operations function.

Slides 48-54: These slides present Figure 2.8 from the text in an eye-appealing, dynamic manner. An *activity map* is a graphical link of competitive advantage, key success factors, and supporting activities. This figure presents an example activity mapping of Southwest Airline's low-cost competitive advantage.



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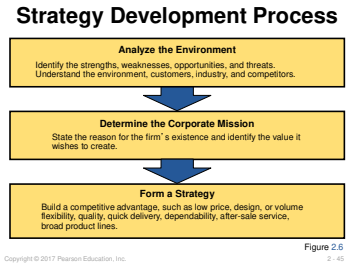

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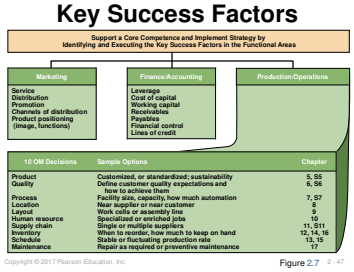

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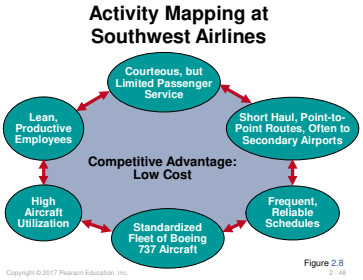

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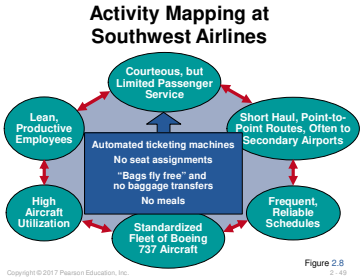

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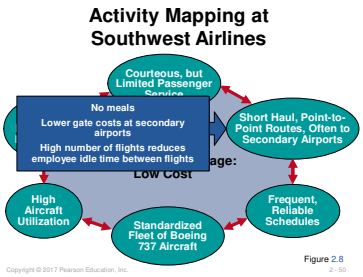

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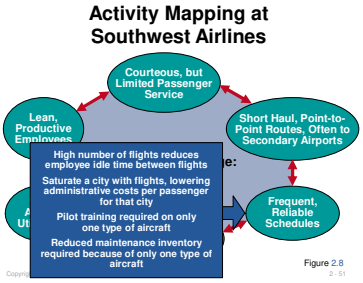

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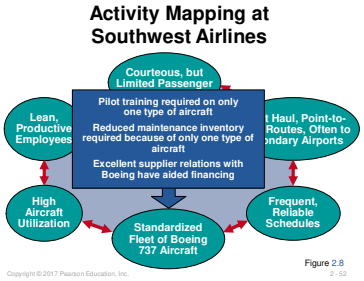

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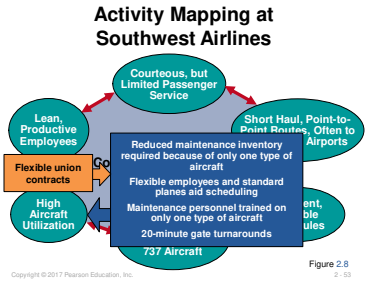

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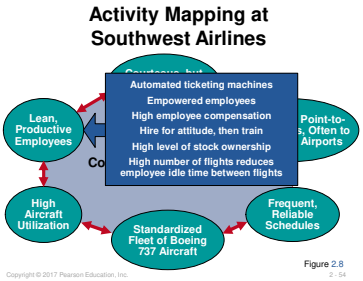

2-54

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STRATEGIC PLANNING, CORE COMPETENCIES, AND OUTSOURCING (2-55 through 2-62)

Slides 55-56: From Table 2.1 in the text, notice how the 10 OM decisions are altered to build two distinct strategies within the same industry.

Slides 57-59: These slides introduce the concept of *outsourcing*, which transfers certain activities to specialty providers, allowing firms to focus on their core competencies. We often assume that outsourcing always implies that jobs are sent to other countries, but that is not always the case. Processes are often outsourced to domestic suppliers, as occurs when firms use 3rd-party logistics providers (see Chapter 11). The concept of outsourcing is not new, but Slide 57 shows why the use of outsourcing has been increasing in recent years. Slide 58 describes how the outsourcing of manufacturing represents an extension of the long-standing practice of subcontracting. When performed on a continuing basis, this becomes *contract manufacturing*. In addition, these days numerous non-core internal service functions, such as payroll and legal, are being outsourced to specialists. Slide 59 describes the theory of comparative advantage from economics, which provides the impetus behind *international outsourcing*.

Slide 60: This slide (Table 2.2) identifies potential advantages and disadvantages of outsourcing. Risks can be significant; roughly half of all outsourcing agreements fail due to inadequate planning and analysis. The final disadvantage identified on the slide refers to the phenomenon that many of the risks that firms incur by outsourcing may not show up in profit statements until some time in the future, encouraging short-run-thinking, fast-track managers to produce short-run profit increases that they can attribute to their outsourcing decisions.

Slides 61-62: The factor-rating method can be applied to outsourcing provider selection. Different factors are assigned difference importance weights, so a weighted average must be computed. Slide 62 is based on Example 1 from the book. In other real applications, managers can add factors and assign different weights as they deem fit. To keep things simple, all factors should move in the same direction, that is, either low scores are good for all factors or high scores are good for all factors.

Implementing Strategic Decisions

TABLE 2.1 Operations Strategies of Two Drug Companies

	BRAND NAME DRUGS, INC.	GENERIC DRUGS CORP.
COMPETITIVE ADVANTAGE	PRODUCT DIFFERENTIATION STRATEGY	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

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2-55

Implementing Strategic Decisions

TABLE 2.1 Operations Strategies of Two Drug Companies

	BRAND NAME DRUGS, INC.	GENERIC DRUGS CORP.
COMPETITIVE ADVANTAGE	PRODUCT DIFFERENTIATION STRATEGY	LOW COST STRATEGY
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 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

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2-56

Strategic Planning, Core Competencies, and Outsourcing

- **Outsourcing** – transferring activities that traditionally been internal to external suppliers
- Accelerating due to
  1) Increased technological expertise
  2) More reliable and cheaper transportation
  3) Rapid development and deployment of advancements in telecommunications and computers

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2-57

Strategic Planning, Core Competencies, and Outsourcing

- Subcontracting - contract manufacturing
- Outsourced activities
  - Legal services
  - IT services
  - Travel services
  - Payroll
  - Production
  - Surgery

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2-58

Theory of Comparative Advantage

- If an external provider can perform activities more productively than the purchasing firm, then the external provider should do the work
- Purchasing firm focuses on core competencies
- Drives outsourcing

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2-59

Risks of Outsourcing

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

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2-60

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Rating Outsourcing Providers

- Insufficient analysis most common reason for failure
- *Factor-rating method*
- Points and weights assigned for each factor to each

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2-61

Rating Provider Selection Criteria

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

FACTOR (CRITERION)	IMPORTANCE WEIGHTS	OUTSOURCING PROVIDERS		
		BIM (U.S.)	S.P.C. (INDIA)	TELCO (ISRAEL)
1. Can reduce operating costs	.2	3	3	5
2. Can reduce capital investment	.2	4	3	3
3. Skilled personnel	.2	5	4	3
4. Can improve quality	.1	4	5	2
5. Can gain access to technology not in company	.1	5	3	5
6. Can create additional capacity	.1	4	2	4
7. Aligns with policy/philosophy/culture	.1	2	3	5
Total Weighted Score	1.0	3.9	3.2	3.8

Score for BIM = (.2 * 3) + (.2 * 4) + (.2 * 5) + (.1 * 4) + (.1 * 5) + (.1 * 4) + (.1 * 2) = 3.9

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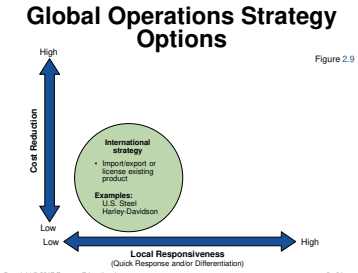
2-62

GLOBAL OPERATIONS STRATEGY OPTIONS (2-63 through 2-71)

Slides 63-70: These slides present Figure 2.9 from the text in an eye-appealing, dynamic manner. The figure places the four international operations strategies on a graph with *local responsiveness* on the *x*-axis and *cost reduction* on the *y*-axis. A *transnational strategy* has the potential to pursue all three operations strategies (differentiation, low cost, and response). Such firms can be thought of as "world companies," whose country identity is not as important as its interdependent network of worldwide operations.

Slide 71: This slide is an interesting way to end the chapter discussion by presenting a ranking of the most corrupt countries.

2-63



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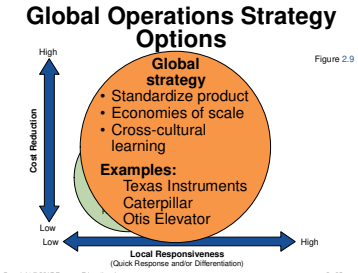

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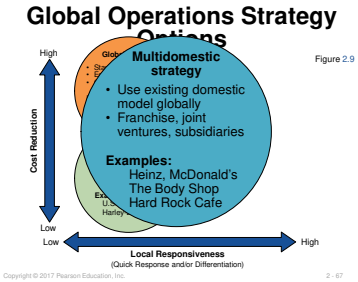

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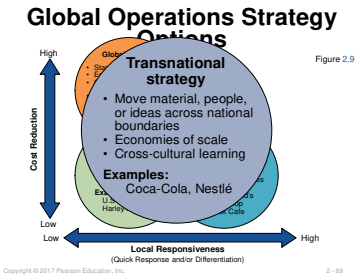

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2-70

2-71

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Additional Assignment Ideas

1. Ask students to prepare for class by visiting several company websites and, for each company, locating the company mission and printing a copy of it to bring to class. The students should also be asked to, if possible, determine the strategy used by the company to achieve its published mission.

2. Look at the websites for two different companies and determine how they operate in the global business environment. Students should try to address the following questions:

    - How is a global strategy in evidence from their websites?
    - What sort of global operations strategy do they seem to be adopting—international, multidomestic, global, or transnational?
    - Do their facility locations reflect their global strategy?
    - How much of their business is done globally?
    - How do their work forces reflect their global strategy?

3. A number of opportunities and trends regarding outsourcing can be found at The Outsourcing Institute (www.outsourcing.com). Report on two outsourcing or offshoring opportunities/trends.

Internet Resources

Center for Global Outsourcing	www.outsourceglobal.org
Foreign Affairs (published by the Council on Foreign Relations)	www.foreignaffairs.com
European Union	http://europa.eu/
International Trade Administration	www.ita.doc.gov
The Outsourcing Institute	www.outsourcing.com
Transparency International maintains a Bribe Payers Perception Index (PBI)	www.transparency.de
World Bank	www.worldbank.org
World Economic Forum	www.weforum.org
World Trade Organization	www.wto.org

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Other Supplementary Material

Videos

1. *Wall Street*
   This movie illustrates very different corporate missions between the established company and the one trying to take it over.

2. Films available from:
   Humanities and Sciences
   (P) 800-257-5126
   (F) 609-275-1400
   (E) custserv@films.com
   http://www.films.com

   - *Outsourcing: White Collar Exodus* (Item# BVL34962)
   - *Toyota's Drive to the Top* (Item# BVL37611)
   - *Product Design: A Hand-Made Stereo for a Hand-Made Car* (Item# BVL33025)

Exercise

Steven S. Harrod provides a nice critical thinking exercise below, "Stents Versus Drug Therapy," in which students can compare and contrast the strategies of two different doctors.

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Stents Versus Drug Therapy

A critical thinking exercise on the topic of health care.

Copyright 2013, Steven S. Harrod

This is an introductory exercise suitable for the first lecture of a beginning course in Operations Management. No prior knowledge of Operations Management is required. A large component of Operations Management concerns quantitative decision-making. However, quantitative analysis is only successful if the underlying measures or objective functions are aligned with the envisioned outcomes. Thus, a fundamental task before any quantitative methodology is applied (such as forecasting, statistical process control, or optimization) is selecting the measures or numerical quantities to monitor and evaluate.

This task immediately raises questions of mission, strategy, and global social welfare, because some performance measures will react counter cyclically to each other. For example, queue length and server utilization are fundamentally conflicted with one another. Choosing either of these measures as an objective for improvement will likely lead to opposing results in the other.

The discussion topic for this exercise is whether surgically implanted blood vessel stents are better for patients and the health care system than alternative therapy with clot reducing medication. The problem statement is obtained by listening to a National Public Radio news item, "Doctors Disagree About Effectiveness, Cost Of Stents", August 26, 2009, by Chana Joffe-Walt. The audio for the story may be found online at http://www.npr.org/templates/story/story.php?storyId=112264556 . A transcript of the story may be found at http://www.npr.org/templates/transcript/transcript.php?storyId=112264556

Instructions

Open your lecture by explaining that Operations Management frequently concerns quantitative analysis of data, but that analysis is only valuable if the data studied represents the objectives of the firm. A critical first step in problem solving and managerial analysis is then choosing which data measures to study. Emphasize to your class that "measurements" are important factors to choose with care, and that much of Operations Management ultimately is about choosing and evaluating measurements.

Clarify to your class that measurements must be tangible, visible, and "measureable". They cannot be feelings or vague desires. Also discuss how measurements must be defined so that there is mutual agreement, so that all parties agree on how the data is collected and what the data means.

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Prepare your students to listen to the news story by asking them to answer fundamental questions from the news story:

1. What are the goals and objectives
    a. Of the doctors
    b. Of the patients
    c. Of other interested parties (government, citizens, family members)
2. How should we measure progress to these goals and objectives?
3. What defines "success"?

Play the news story to the students (if presenting live in class).

Afterward, moderate a discussion to answer the questions above, as well as the following questions:

1. Are doctors recommending stents to increase their income?
2. Is one procedure better than the other? Ask your students to explain their decision.

As you question the students, consciously drill them, and analyze their answers. When students give vague answers like "Improve the quality of health care", ask the student to modify their answer and give some measureable, tangible item. Force students to modify their answers so that they are thinking about real, quantitative measures that can be mutually verified.

A reasonable assertion, both from the story description and for the purposes of discussion, is that both treatments result in equal effectiveness outcomes at the end of their normal treatment time.

Assuming the doctors are unselfish, the goals and objectives are fairly universal for all: longer life expectancy (fewer cardiac deaths), better quality of life (return to work, return to recreation), and access to treatment for all (low cost, or cost within ability to pay).

What are the measures? Note and emphasize that these are all transparently *measureable* statistics.

- Cost of treatment
    - Cost of labor
    - Cost of materials
    - Cost of lost work time by patient
- Cost of failure
    - Cost of death
    - Cost of disability
- Treatment outcome
    - Time to complete treatment
    - Dimensions of blockage in artery (verified by diagnostic scan)
    - Pain, measured by survey or by brain scan
    - Heart rate, blood pressure, other health statistics

What defines success?

- Treatment without errors or accidents
- Patient returns to work, normal life
- Discuss longer life versus quality of life

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Final Answer

Ultimately this discussion hinges on the objectives of the two doctors in the story. Their disagreement is fundamentally driven by a lack of awareness of each other's primary objective. Dr. Teirstein's objective is speed of treatment. This is clear from the story's emphasis on the patient's instant relief after insertion of the stent. Dr. Topol's objective is low cost treatment. Neither doctor is "correct" in their assessment, because they do not share the same objectives. Neither doctor is "wrong" in their treatment, because both treatments will ultimately lead to a successful cure.

It is reasonable to claim that Dr. Teirstein is in fact NOT motivated by greed.

Discuss with the class how this is emblematic of the debate over health care nationally. Discuss how later topics in the Operations Management course will demonstrate a hard, quantitative tradeoff between speed and cost (specifically in queuing, but also in other topics). The health care debate is difficult because some parties seek lower cost, some parties seek responsive service, and some parties believe both may be achieved simultaneously. Discuss how currently national health systems like Canada focus on low cost, while the current U.S. health system is motivated more by responsiveness, and thus is more expensive.

This could be tied to Chapter 2 of Heizer/Render, Strategy, by including the topic of competitive advantage. Dr. Topol pursues a low cost competitive advantage, and Dr. Teirstein pursues a response advantage.

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Operations Strategy in a Global Environment

2

PowerPoint presentation to accompany
Heizer, Render, Munson
Operations Management, Twelfth Edition
Principles of Operations Management, Tenth Edition

PowerPoint slides by Jeff Heyl

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Outline

- Global Company Profile: Boeing
- A Global View of Operations and Supply Chains
- Developing Missions and Strategies
- Achieving Competitive Advantage Through Operations
- Issues in Operations Strategy

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Outline – Continued

- Strategy Development and Implementation
- Strategic Planning, Core Competencies, and Outsourcing
- Global Operations Strategy Options

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Boeing's Global Supply-Chain Strategy

Some of the International Suppliers of Boeing 787 Components

SUPPLIER	HEADQUARTERS COUNTRY	COMPONENT
Latecoere	France	Passenger doors
Labinel	France	Wiring
Dassault	France	Design and PLM software
Messier-Bugatti	France	Electric brakes
Thales	France	Electrical power conversion system
Messier-Dowty	France	Landing gear structure
Diehl	Germany	Interior lighting

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Boeing's Global Supply-Chain Strategy

Some of the International Suppliers of Boeing 787 Components

SUPPLIER	HEADQUARTERS COUNTRY	COMPONENT
Cobham	UK	Fuel pumps and valves
Rolls-Royce	UK	Engines
Smiths Aerospace	UK	Central computer systems
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

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Boeing's Global Supply-Chain Strategy

Some of the International Suppliers of Boeing 787 Components

SUPPLIER	HEADQUARTERS COUNTRY	COMPONENT
Kawasaki Heavy Industries	Japan	Forward fuselage, fixed sections of wing
Teijin Seiki	Japan	Hydraulic actuators
Mitsubishi Heavy Industries	Japan	Wing box
Chengdu Aircraft	China	Rudder
Hafei Aviation	China	Parts
Korean Airlines	South Korea	Wingtips
Saab	Sweden	Cargo and access doors

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Learning Objectives

When you complete this chapter you should be able to:

2.1 ***Define*** mission and strategy

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

2.3 ***Understand*** the significant key success factors and core competencies

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Learning Objectives

When you complete this chapter you should be able to:

2.4 ***Use*** factor rating to evaluate both country and provider outsources

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

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Global Strategies

- Boeing – sales and supply chain are worldwide
- Benetton – moves inventory to stores around the world faster than its competition by building flexibility into design, production, and distribution
- Sony – purchases components from suppliers in Thailand, Malaysia, and around the world

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Global Strategies

- Volvo – considered a Swedish company, purchased by a Chinese company, Geely. 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).
- Haier – A Chinese company, produces compact refrigerators (it has one-third of the U.S. market) and wine cabinets (it has half of the U.S. market) in South Carolina

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Growth of World Trade

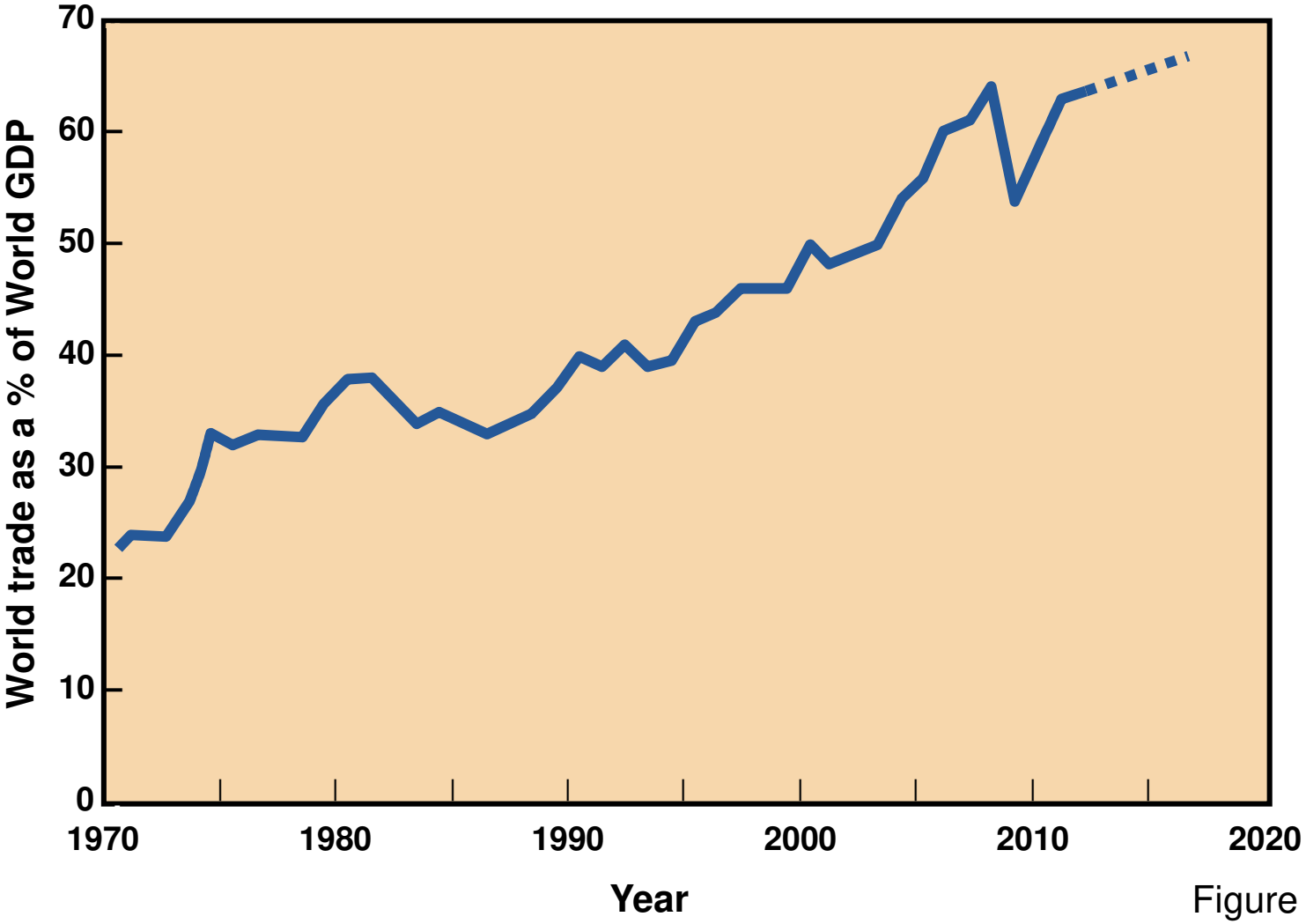

Figure 2.1

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Reasons to Globalize

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

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Improve the Supply Chain

- Locating facilities closer to unique resources
  - Auto design to California
  - Athletic shoe production to China
  - Perfume manufacturing in France

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Reduce Costs

- Risks associated with currency exchange rates
- Reduce direct and indirect costs
- Trade agreements can lower tariffs
  - Maquiladoras
  - World Trade Organization (WTO)
  - North American Free Trade Agreement (NAFTA)
  - APEC, SEATO, MERCOSUR, CAFTA
  - European Union (EU)

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Improve Operations

- Understand differences between how business is handled in other countries
  - Japanese – inventory management
  - Germans – robots
  - Scandinavians – ergonomics
- International operations can improve response time and customer service

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Understand Markets

- Interacting with foreign customers, suppliers, competition can lead to new opportunities
  - Cell phone design moved from Europe to Japan
  - Extend the product *life cycle*

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Improve Products

- Remain open to free flow of ideas
- Toyota and BMW manage joint research and development
  - Reduced risk, state-of-the-art design, lower costs
- Samsung and Bosch jointly produce batteries

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Attract and Retain Global Talent

- Offer better employment opportunities
  - Better growth opportunities and insulation against unemployment
  - Relocate unneeded personnel to more prosperous locations

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Cultural and Ethical Issues

- Social and cultural behavior differs
- International laws, agreements, codes of conduct for ethical behaviors
- Mobility of capital, information, goods, and people

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Companies Want To Consider

- National literacy rate
- Rate of innovation
- Rate of technology change
- Number of skilled workers
- Political stability
- Product liability laws
- Export restrictions
- Variations in language
- Work ethic
- Tax rates
- Inflation
- Availability of raw materials
- Interest rates
- Population
- Transportation infrastructure
- Communication system

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Match Product and Parent

- Braun Household Appliances
- Firestone Tires
- Godiva Chocolate
- Haagen-Dazs Ice Cream
- Jaguar Autos
- MGM Movies
- Lamborghini Autos
- Alpo Petfoods

1. Volkswagen
2. Bridgestone
3. Campbell Soup
4. Tata Motors Limited
5. Proctor and Gamble
6. Nestlé
7. Pillsbury
8. Sony

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Match Product and Country

- Braun Household Appliances
- Firestone Tires
- Godiva Chocolate
- Haagen-Dazs Ice Cream
- Jaguar Autos
- MGM Movies
- Lamborghini Autos
- Alpo Petfoods

1. Great Britain
2. Germany
3. Japan
4. United States
5. Switzerland
6. India

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Developing Missions and Strategies

Mission statements tell an organization where it is going

The **Strategy** tells the organization how to get there

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Mission

- **Mission** - where is the organization going?
  - Organization's purpose for being
  - Answers "What do we contribute to society?"
  - Provides boundaries and focus

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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.

Figure 2.2

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PespsiCo

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.

Figure 2.2

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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.

Figure 2.2

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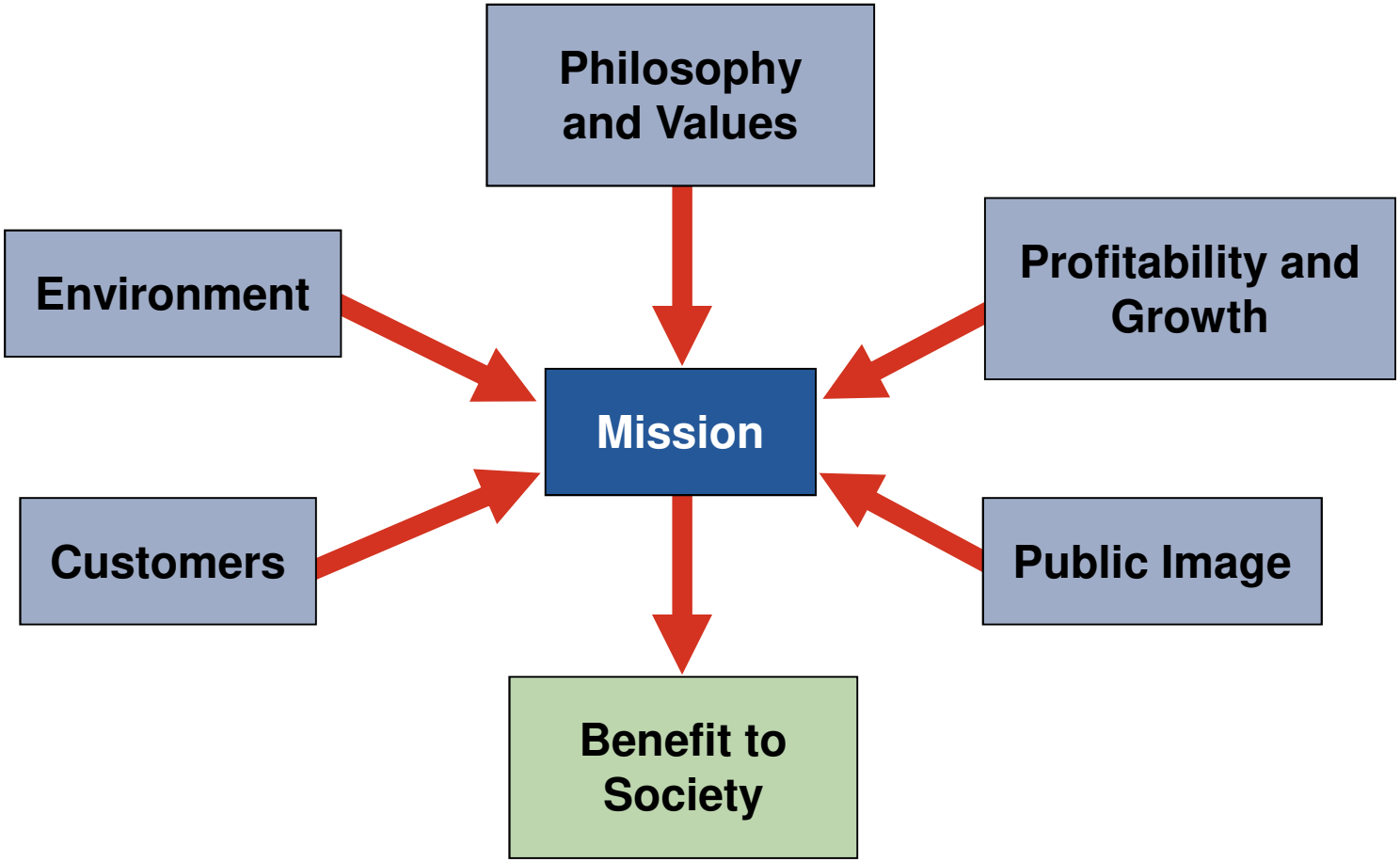
Factors Affecting Mission



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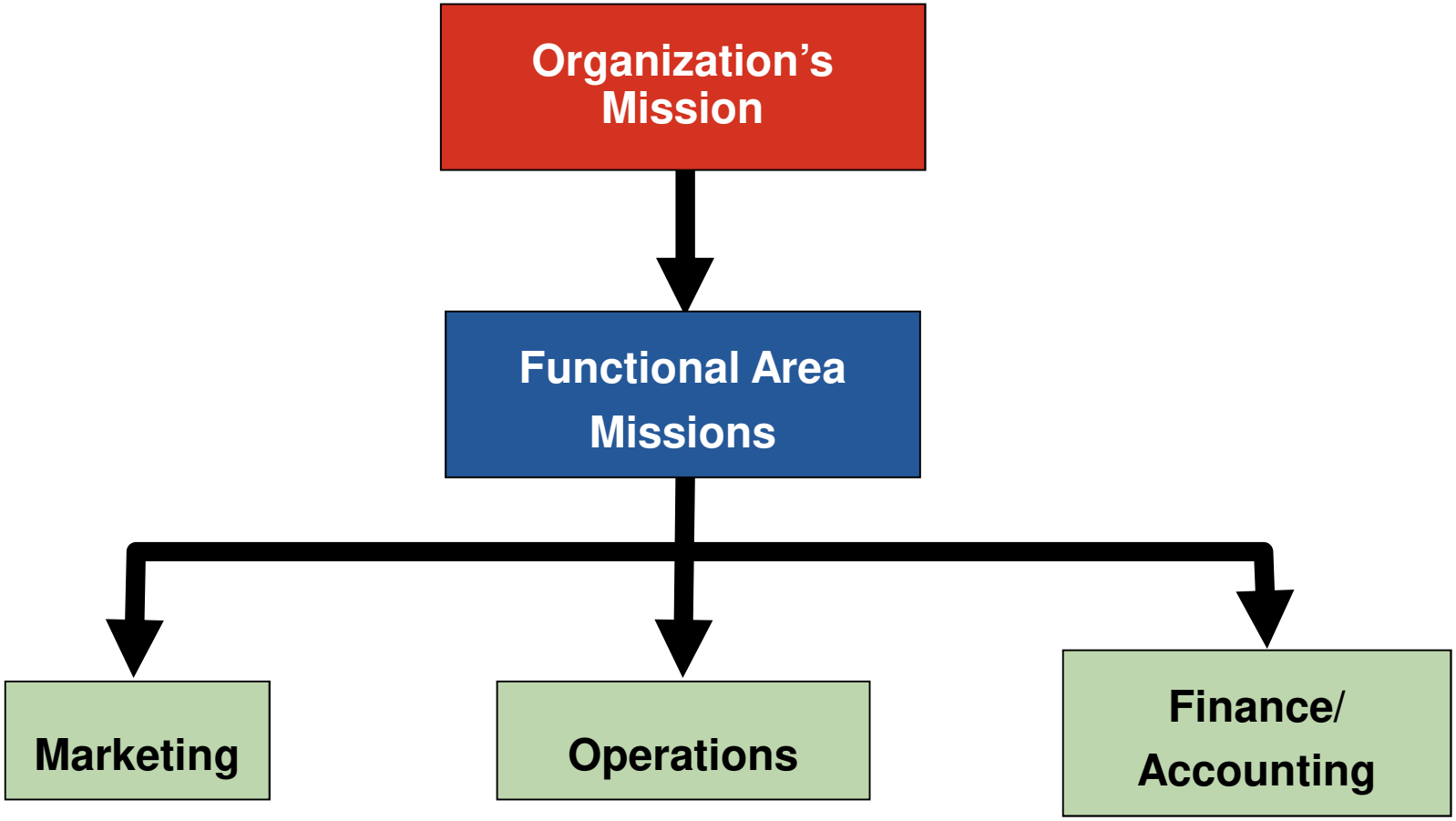
Strategic Process



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Sample Missions

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.

Figure 2.3

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Sample Missions

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, procurement, production, and field service operations
Process design	To determine, design, and produce the production process and equipment that will be compatible with low-cost product, high quality, and good quality of work life at economical cost.

Figure 2.3

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Sample Missions

Sample OM Department Missions	
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.

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Sample Missions

Sample OM Department Missions	
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.

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Strategy

- Action plan to achieve mission
- Functional areas have strategies
- Strategies exploit opportunities and strengths, neutralize threats, and avoid weaknesses

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Strategies for Competitive Advantage

1. Differentiation – *better*, or at least different
2. Cost leadership – *cheaper*
3. Response – more *responsive*

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Competing on Differentiation

Uniqueness can go beyond both the physical characteristics and service attributes to encompass everything that impacts customer's perception of value

- Safeskin gloves – leading edge products
- Walt Disney Magic Kingdom – experience differentiation
- Hard Rock Cafe – dining experience

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Experience Differentiation

Engaging a customer with a product through imaginative use of the five senses, so the customer “experiences” the product

- Theme parks use sight, sound, smell, and participation
- Movie theatres use sight, sound, moving seats, smells, and mists of rain
- Restaurants use music, smell, and open kitchens

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Competing on Cost

Provide the maximum value as perceived by customer. Does not imply low quality.

- Southwest Airlines – secondary airports, no frills service, efficient utilization of equipment
- Walmart – small overhead, shrinkage, and distribution costs
- Franz Colruyt – no bags, no bright lights, no music, and doors on freezers

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Competing on Response

- Flexibility is matching market changes in design innovation and volumes
  - A way of life at Hewlett-Packard
- Reliability is meeting schedules
  - German machine industry
- Quickness in design, production, and delivery
  - Johnson Electric, Pizza Hut

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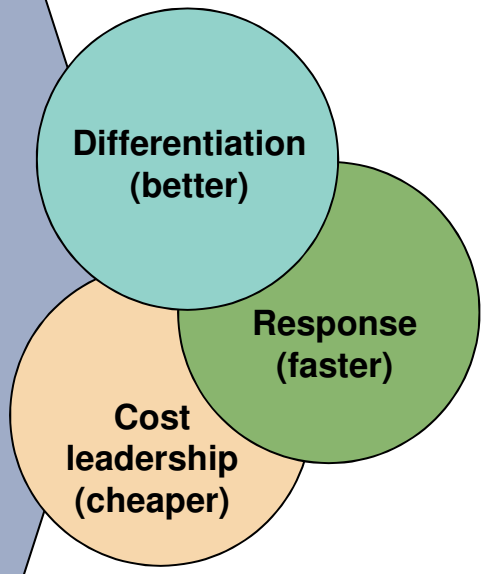
OM's Contribution to Strategy

10 Operations Decisions	Strategy	Example	Competitive Advantage
Product Quality Process Location Layout Human resource Supply chain Inventory Scheduling Maintenance	**DIFFERENTIATION:**		
	Innovative design	Safeskin's innovative gloves	
	Broad product line	Fidelity Security's mutual funds	
	After-sales service	Caterpillar's heavy equipment service	
	Experience	Hard Rock Café's dining experience	
	COST LEADERSHIP:		
	Low overhead	Franz-Colruyt's warehouse-type stores	
	Effective capacity use	Southwest Airline's aircraft utilization	
	Inventory management	Walmart's sophisticated distribution system	
	RESPONSE:		
	Flexibility	Hewlett-Packard's response to volatile world market	
	Reliability	FedEx's "absolutely, positively, on time"	
	Quickness	Pizza Hut's 5-minute guarantee at lunchtime	



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Issues In Operations Strategy

- Resources view
- Value-chain analysis
- Porter's Five Forces model
- Operating in a system with many external factors
- Constant change

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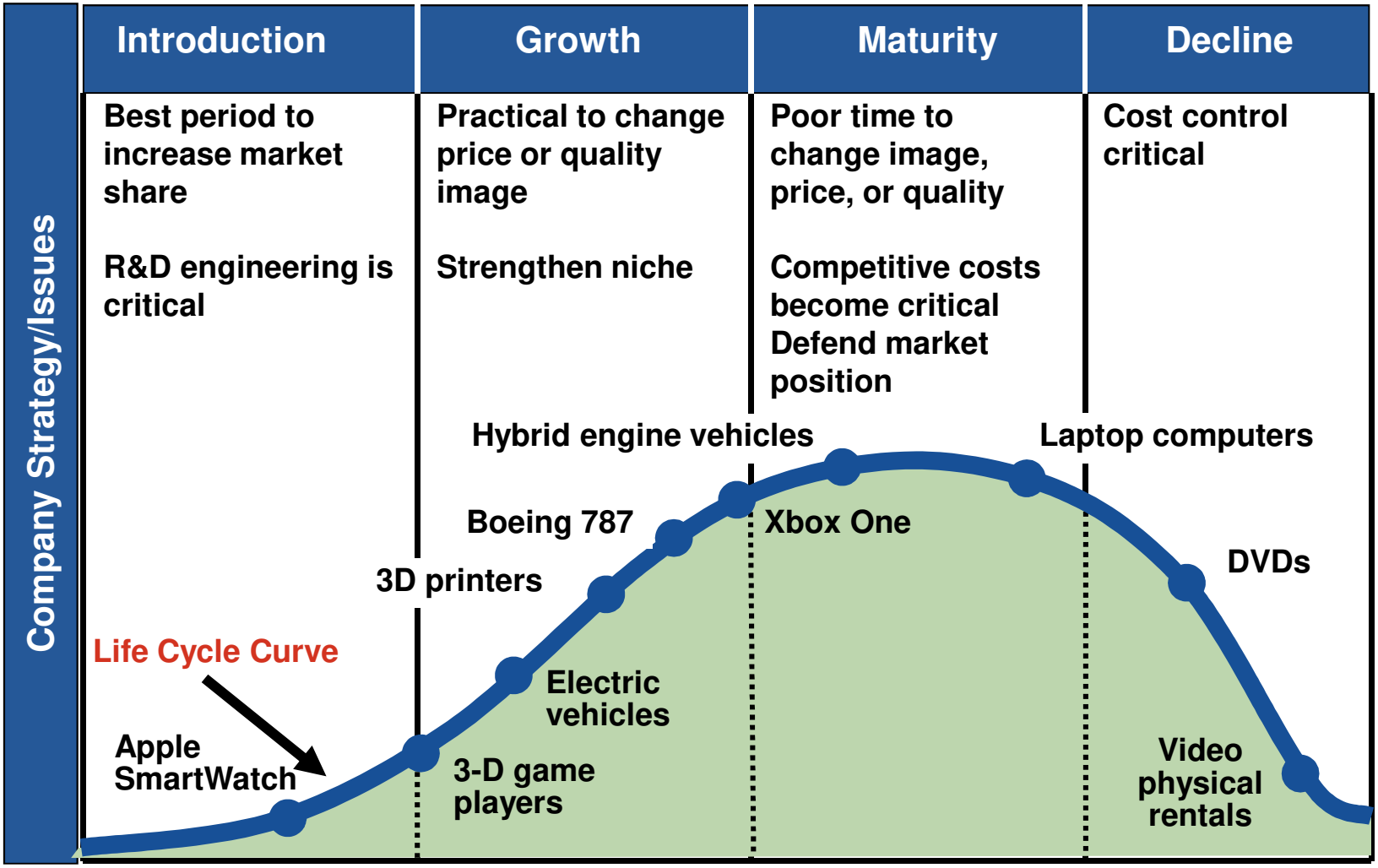
Product Life Cycle



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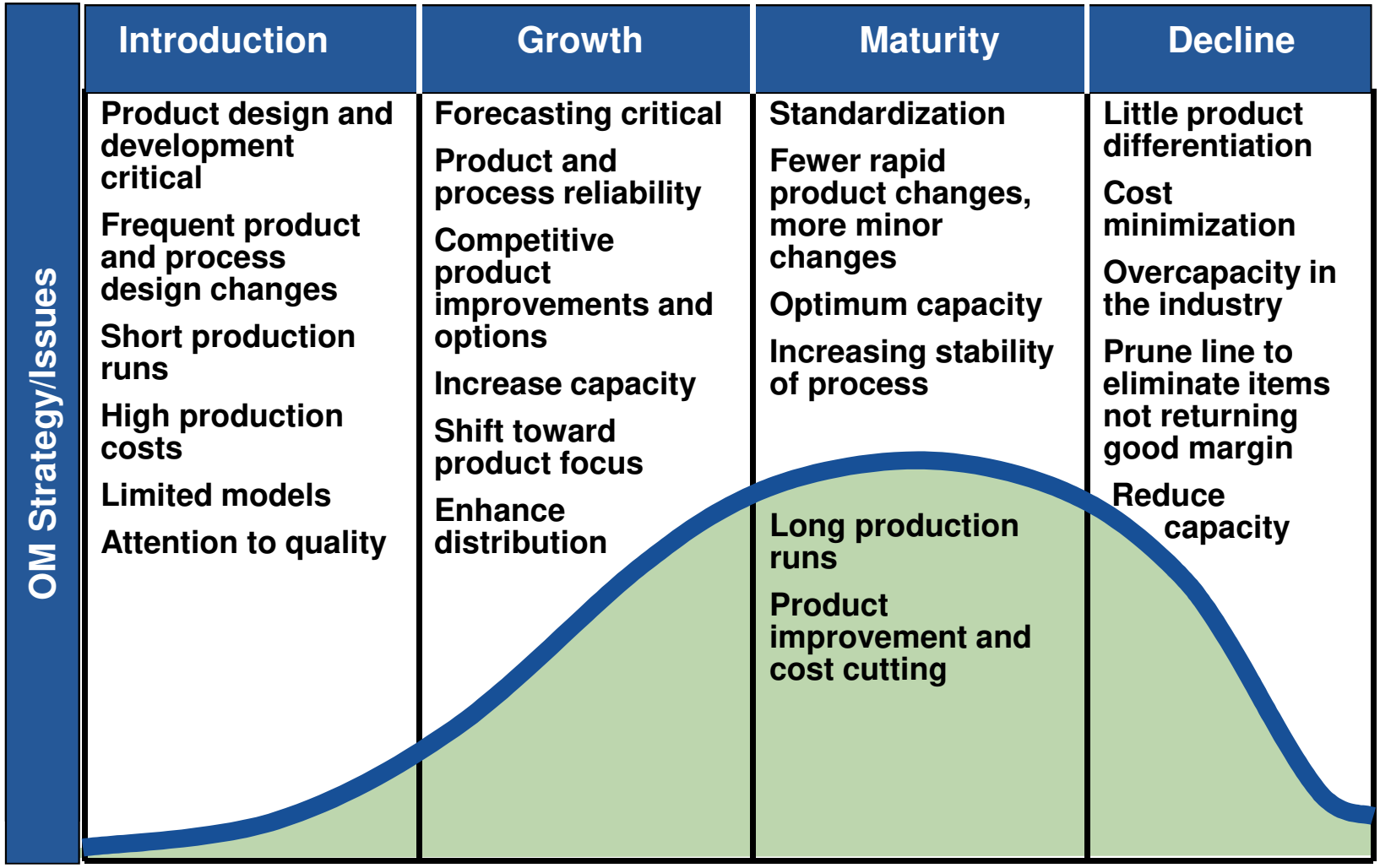
Product Life Cycle



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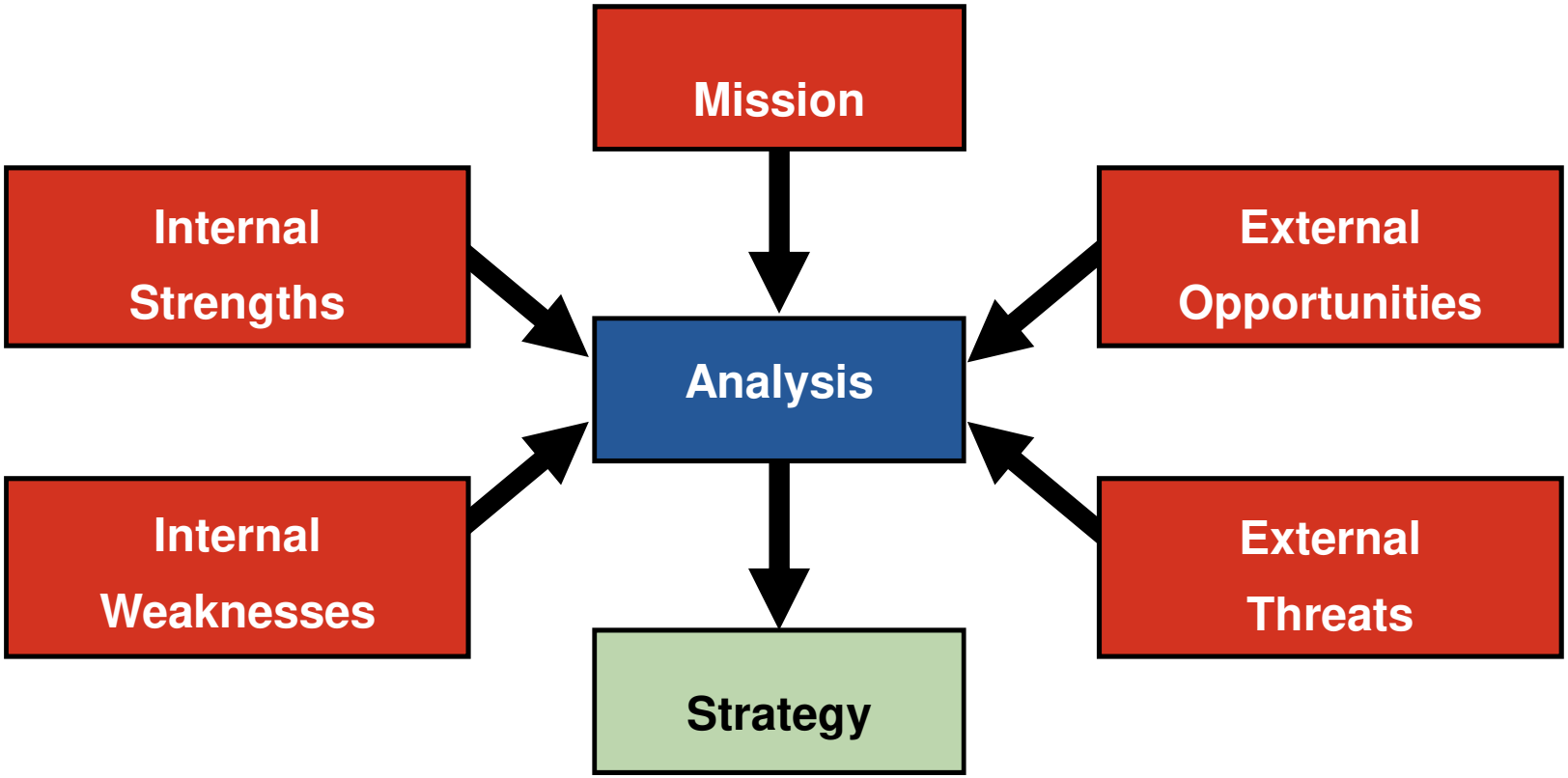
SWOT Analysis



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Strategy Development Process

Analyze the Environment

Identify the 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 service, broad product lines.

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Strategy Development and Implementation

- Identify key success factors
- Integrate OM with other activities
- Build and staff the organization

The operations manager's job is to implement an OM strategy, provide competitive advantage, and increase productivity

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Key Success Factors

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

Marketing	Finance/Accounting	Production/Operations
Service Distribution Promotion Channels of distribution Product positioning (image, functions)	Leverage Cost of capital Working capital Receivables Payables Financial control Lines of credit	

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 size, capacity, how much automation	7, S7
Location	Near supplier or near customer	8
Layout	Work cells or assembly line	9
Human resource	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

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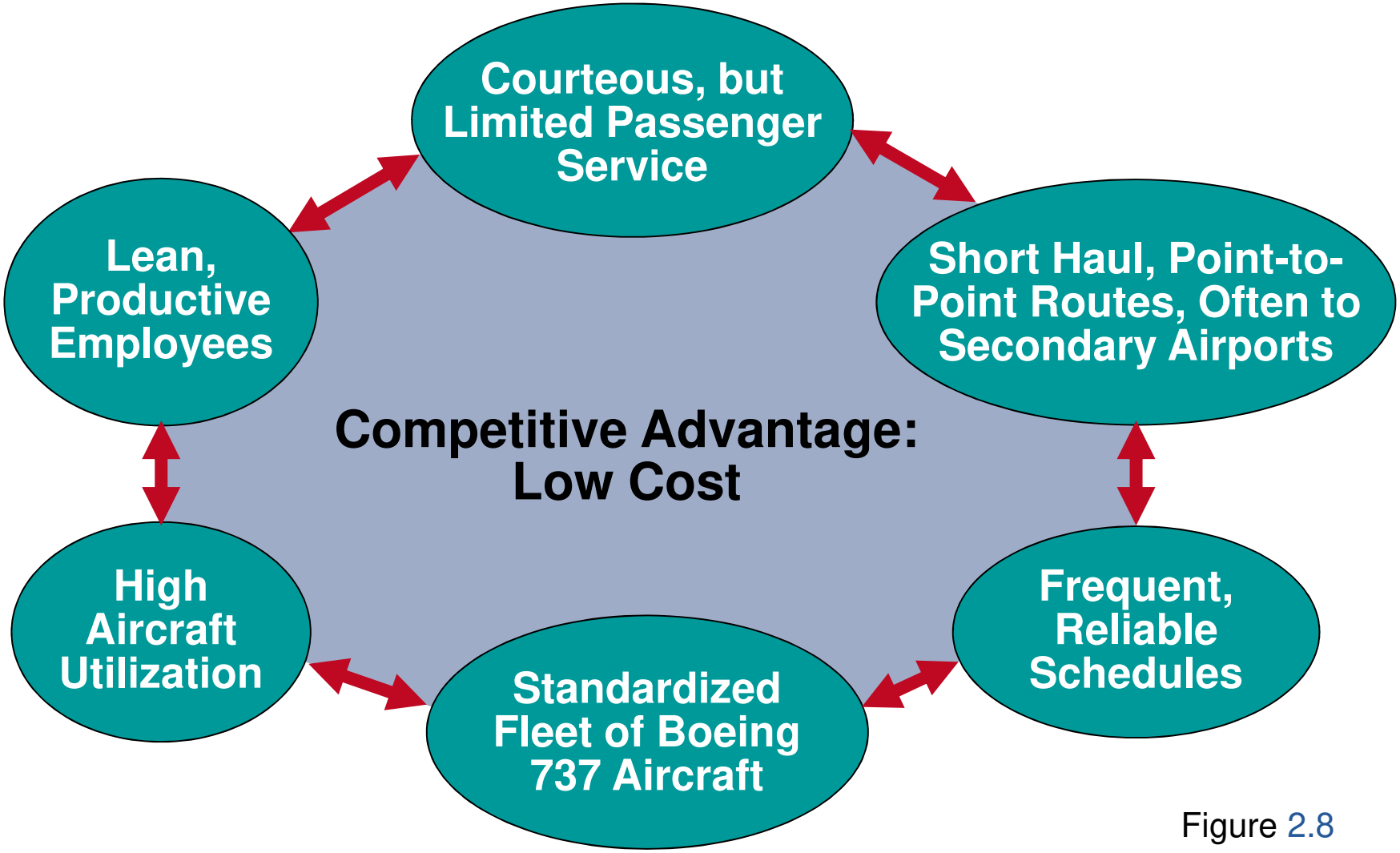
Figure 2.7

Activity Mapping at Southwest Airlines



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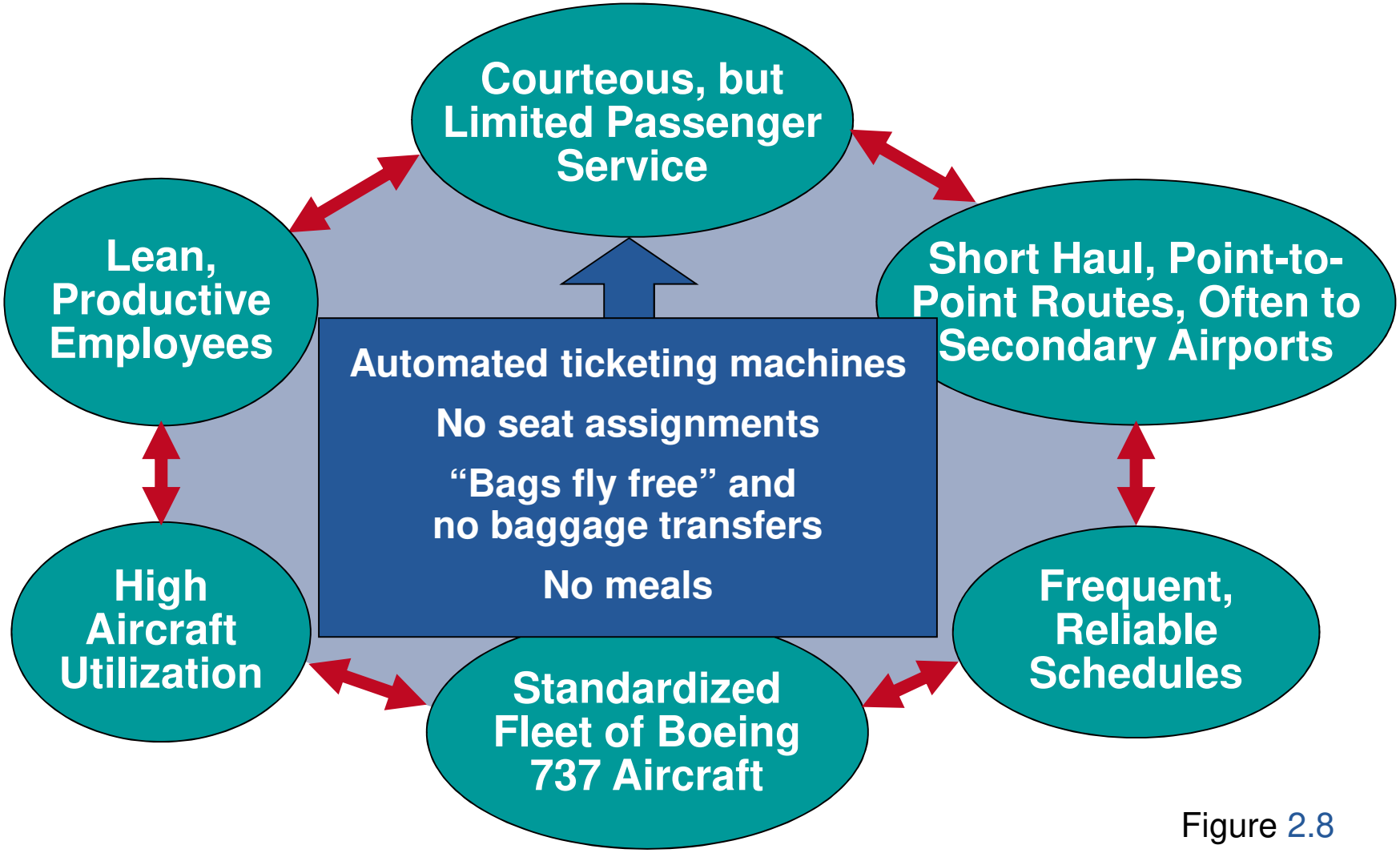
Activity Mapping at Southwest Airlines



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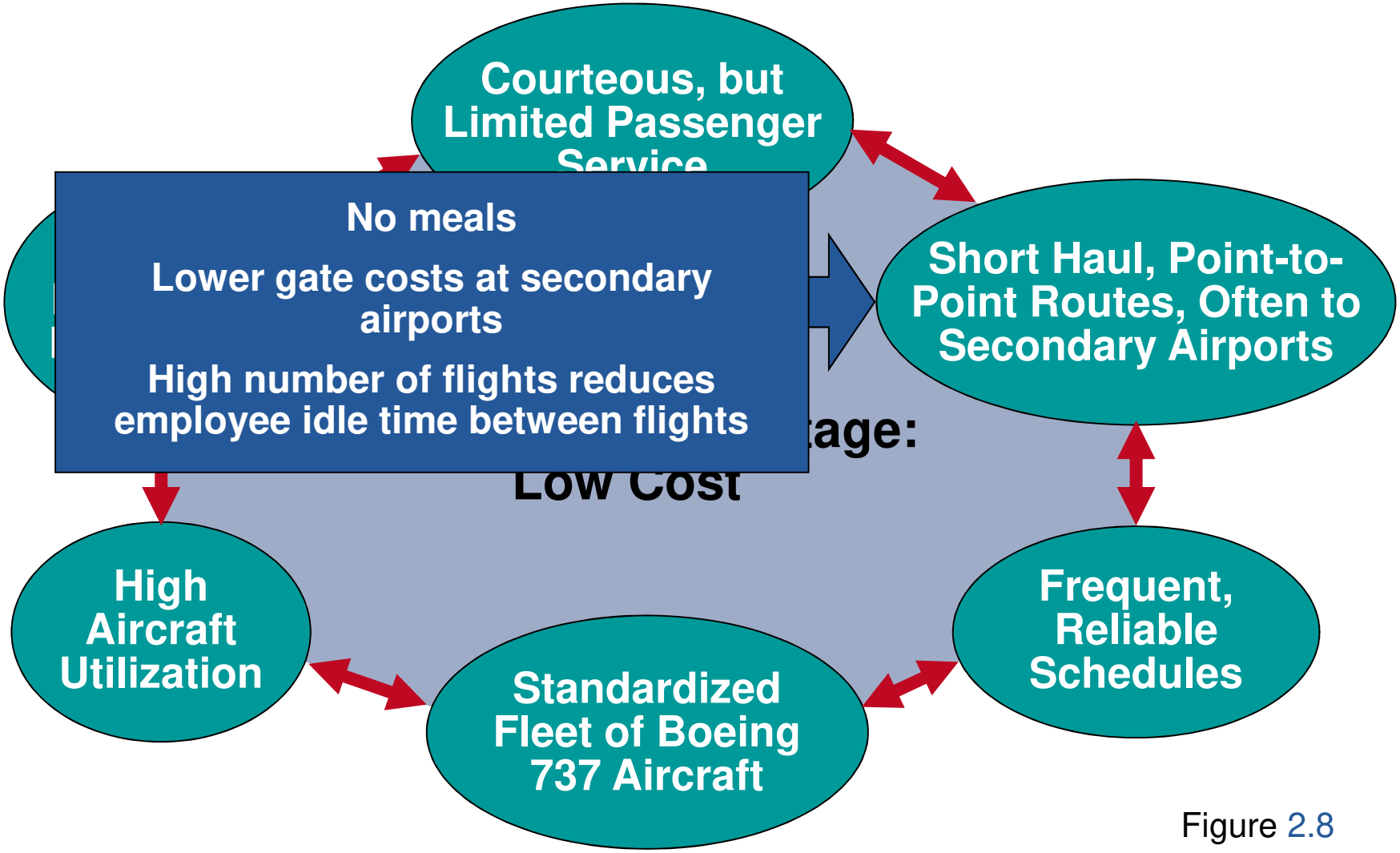
Activity Mapping at Southwest Airlines



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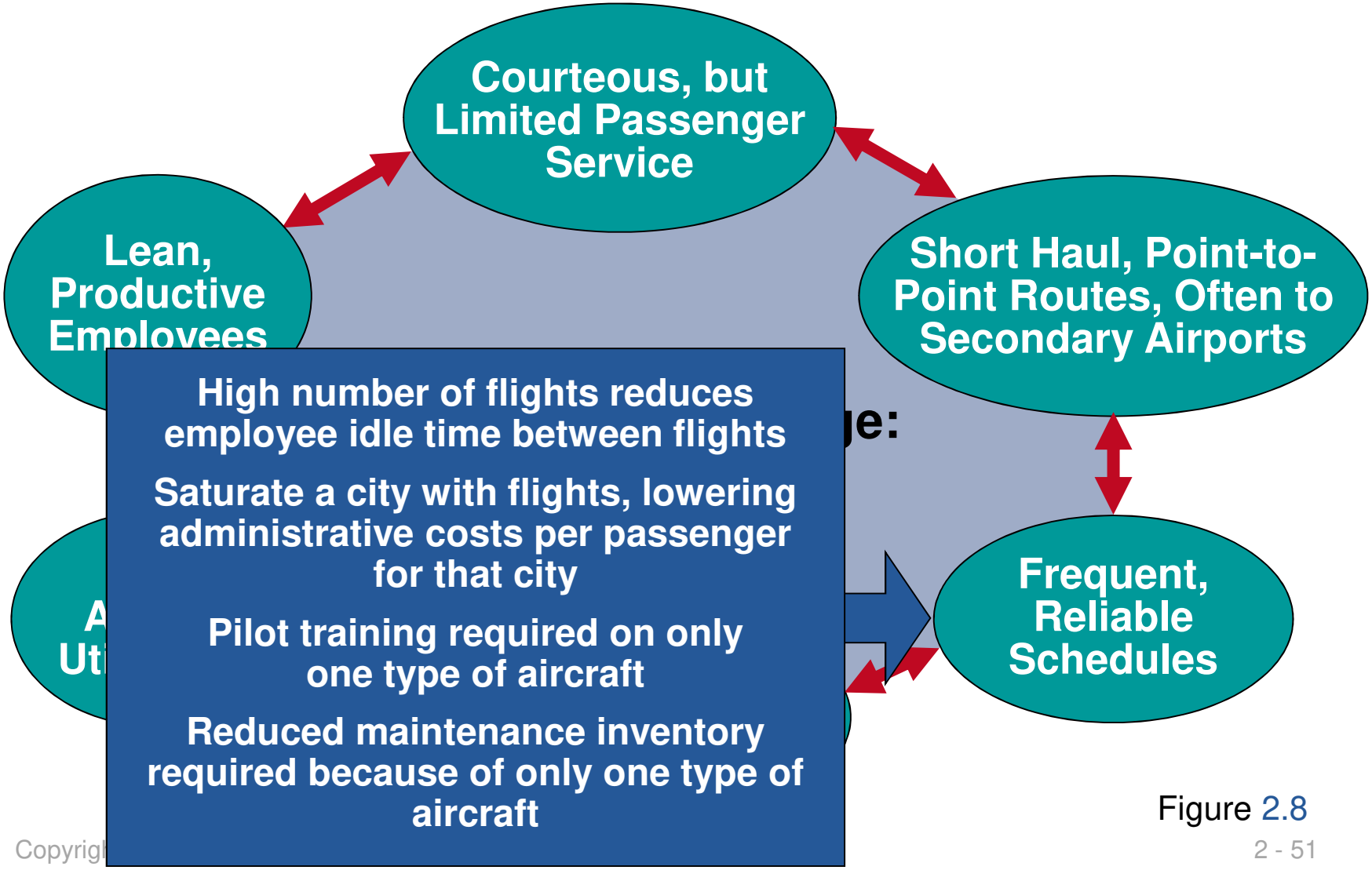
Activity Mapping at Southwest Airlines



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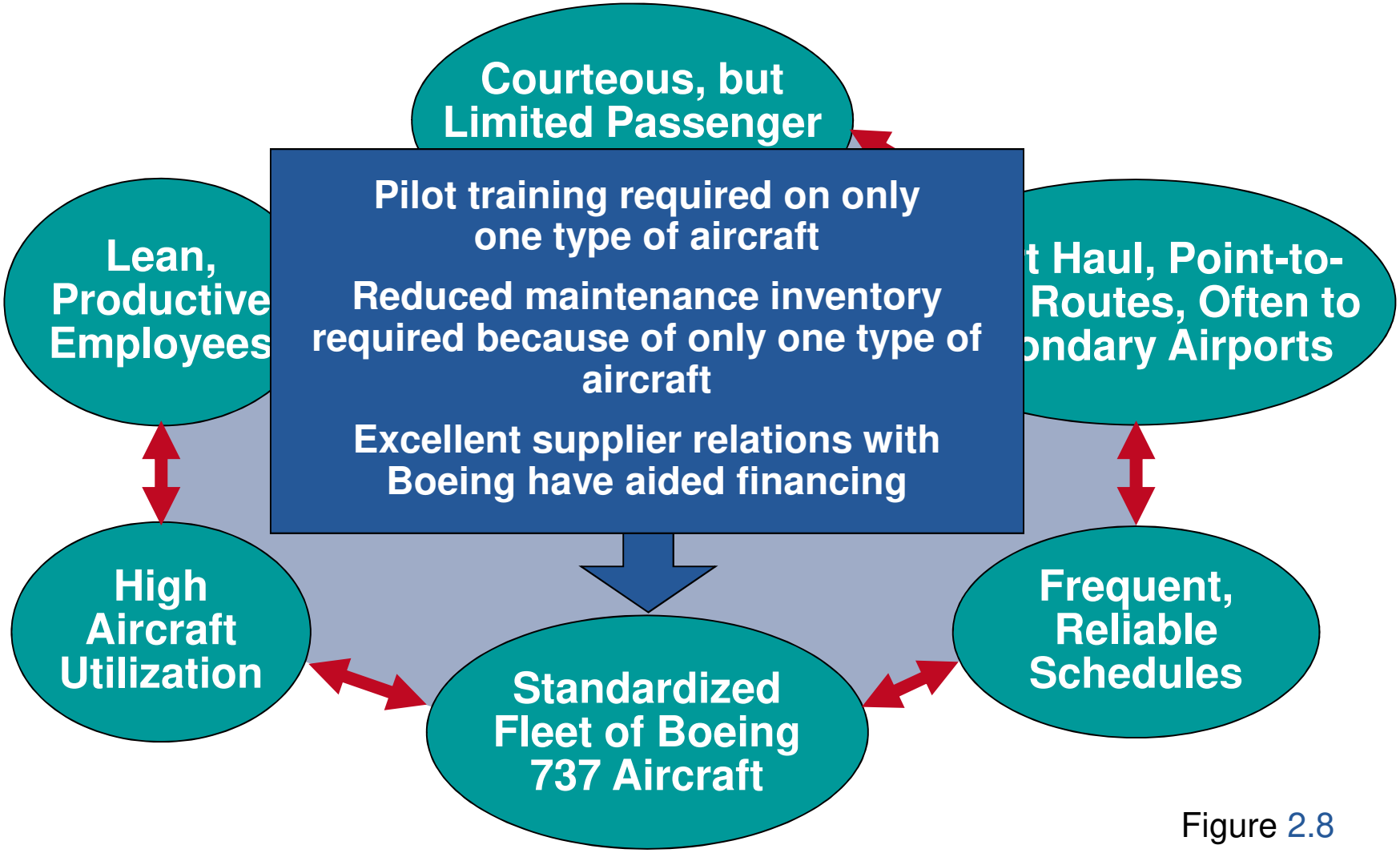
Activity Mapping at Southwest Airlines



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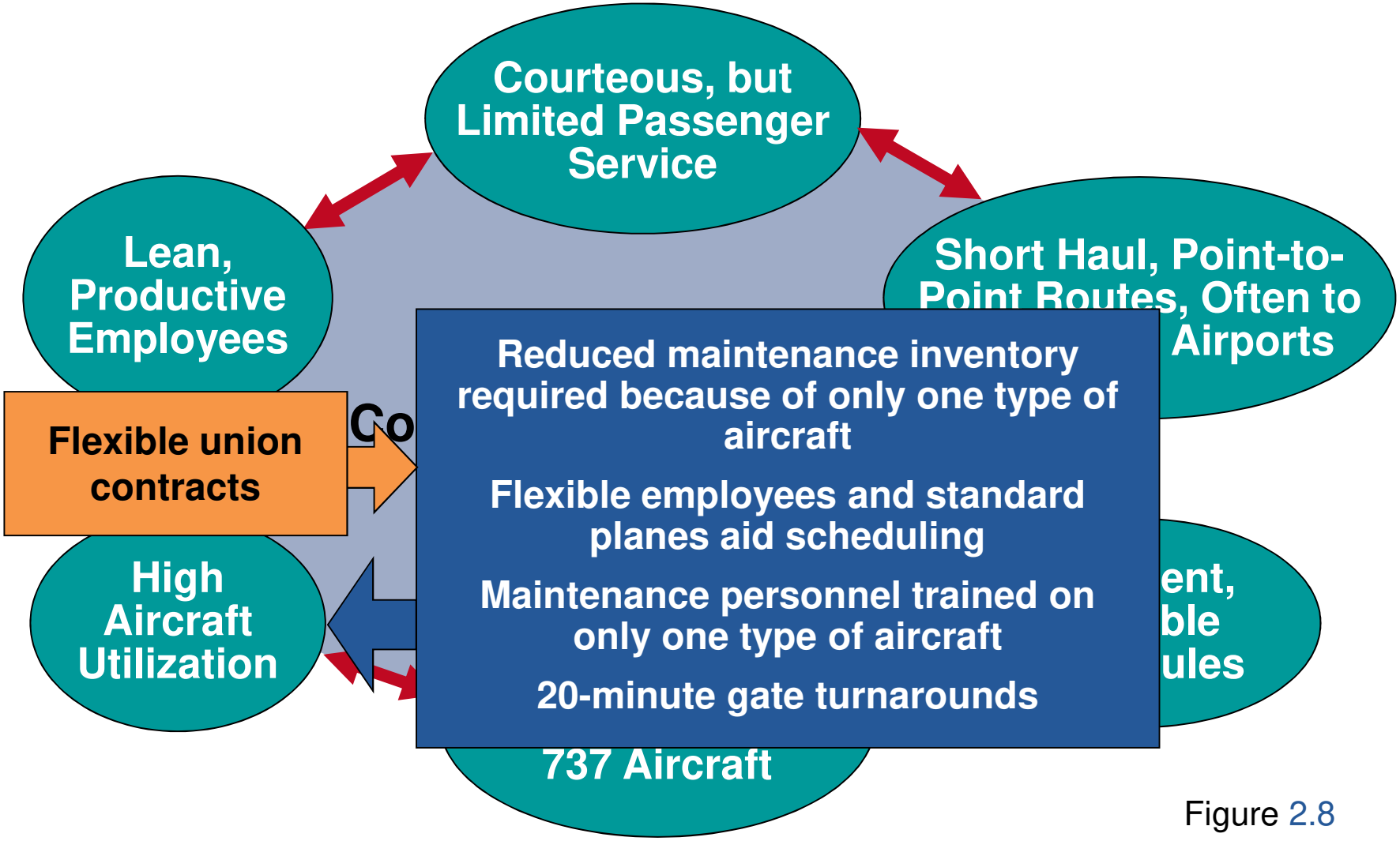
Activity Mapping at Southwest Airlines



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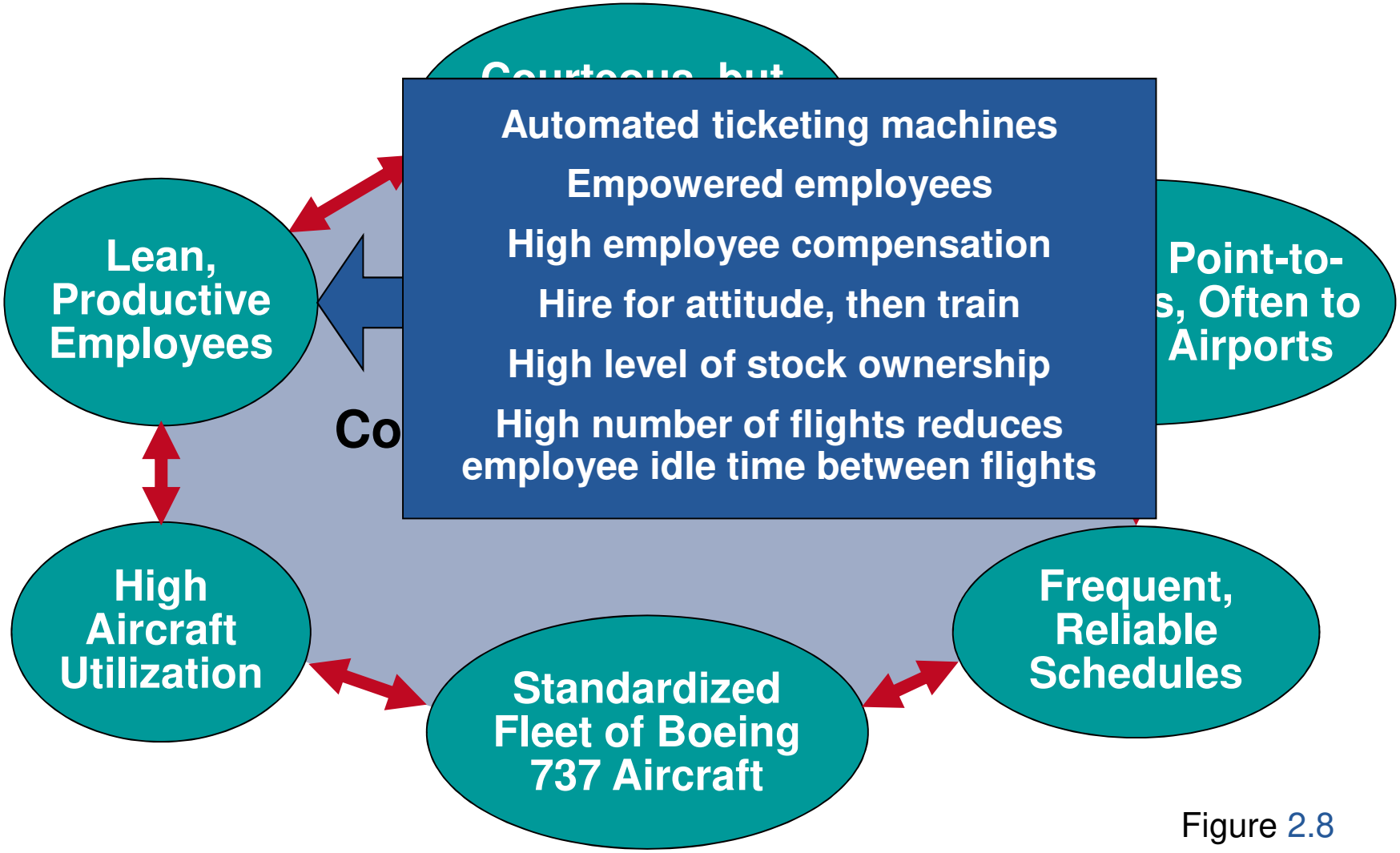
Activity Mapping at Southwest Airlines



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Implementing Strategic Decisions

TABLE 2.1 **Operations Strategies of Two Drug Companies**

COMPETITIVE ADVANTAGE	BRAND NAME DRUGS, INC. PRODUCT DIFFERENTIATION STRATEGY	GENERIC DRUGS 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

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Implementing Strategic Decisions

TABLE 2.1 **Operations Strategies of Two Drug Companies**

COMPETITIVE ADVANTAGE	BRAND NAME DRUGS, INC. PRODUCT DIFFERENTIATION STRATEGY	GENERIC DRUGS CORP. LOW COST STRATEGY
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 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

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Strategic Planning, Core Competencies, and Outsourcing

- **Outsourcing** – transferring activities that traditionally been internal to external suppliers
- Accelerating due to
  1) Increased technological expertise
  2) More reliable and cheaper transportation
  3) Rapid development and deployment of advancements in telecommunications and computers

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Strategic Planning, Core Competencies, and Outsourcing

- Subcontracting - contract manufacturing
- Outsourced activities
  - Legal services
  - IT services
  - Travel services
  - Payroll
  - Production
  - Surgery

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Theory of Comparative Advantage

- If an external provider can perform activities more productively than the purchasing firm, then the external provider should do the work
- Purchasing firm focuses on core competencies
- Drives outsourcing

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Risks of Outsourcing

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

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Rating Outsourcing Providers

- Insufficient analysis most common reason for failure
- *Factor-rating method*
- Points and weights assigned for each factor to each

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Rating Provider Selection Criteria

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

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

Score for BIM = (.2 * 3) + (.2 * 4) + (.2 * 5) + (.1 * 4) + (.1 * 5) + (.1 * 4) + (.1 * 2) = 3.9

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Global Operations Strategy Options

Figure 2.9

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Global Operations Strategy Options

Figure 2.9

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Global Operations Strategy Options

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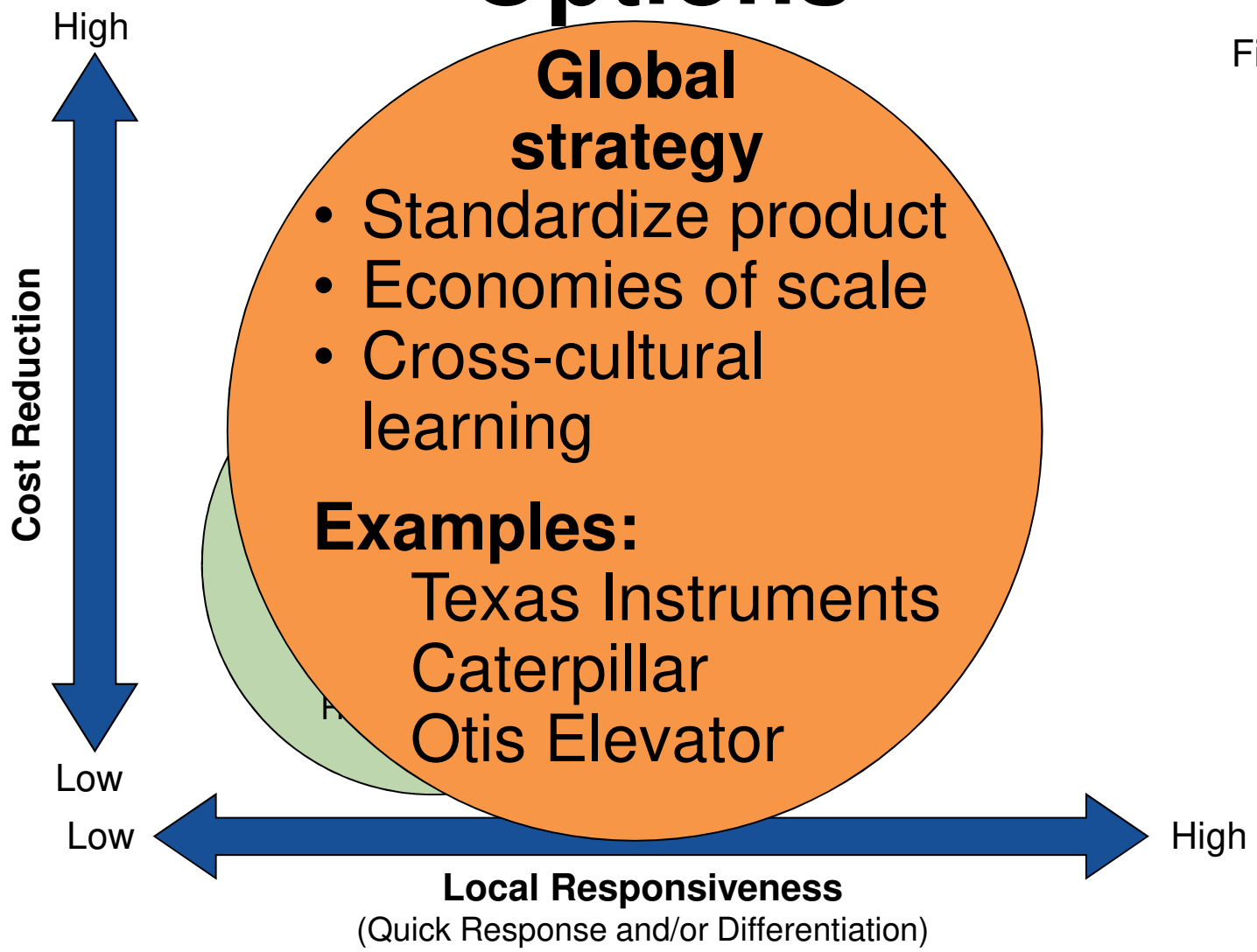

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Global Operations Strategy Options

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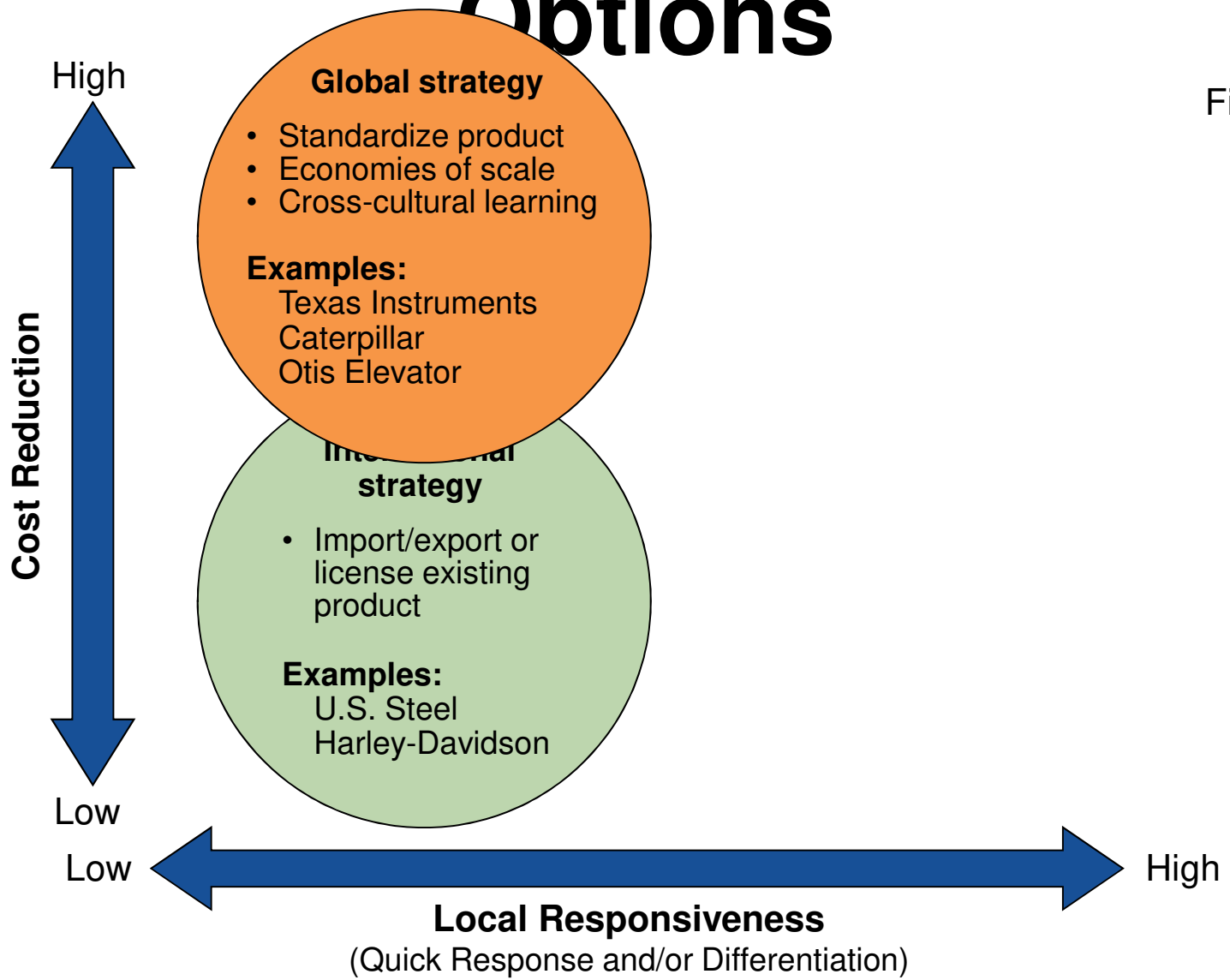

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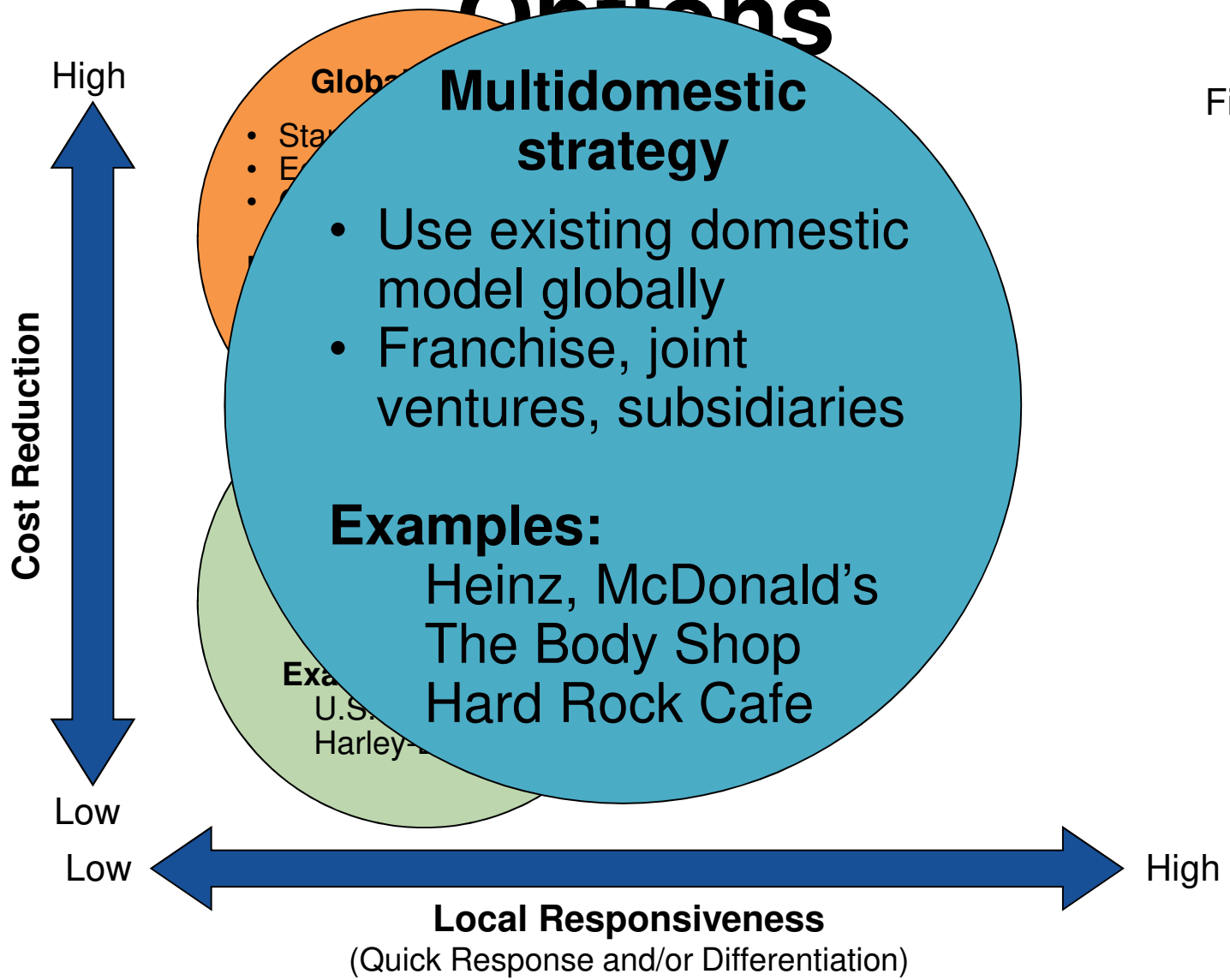

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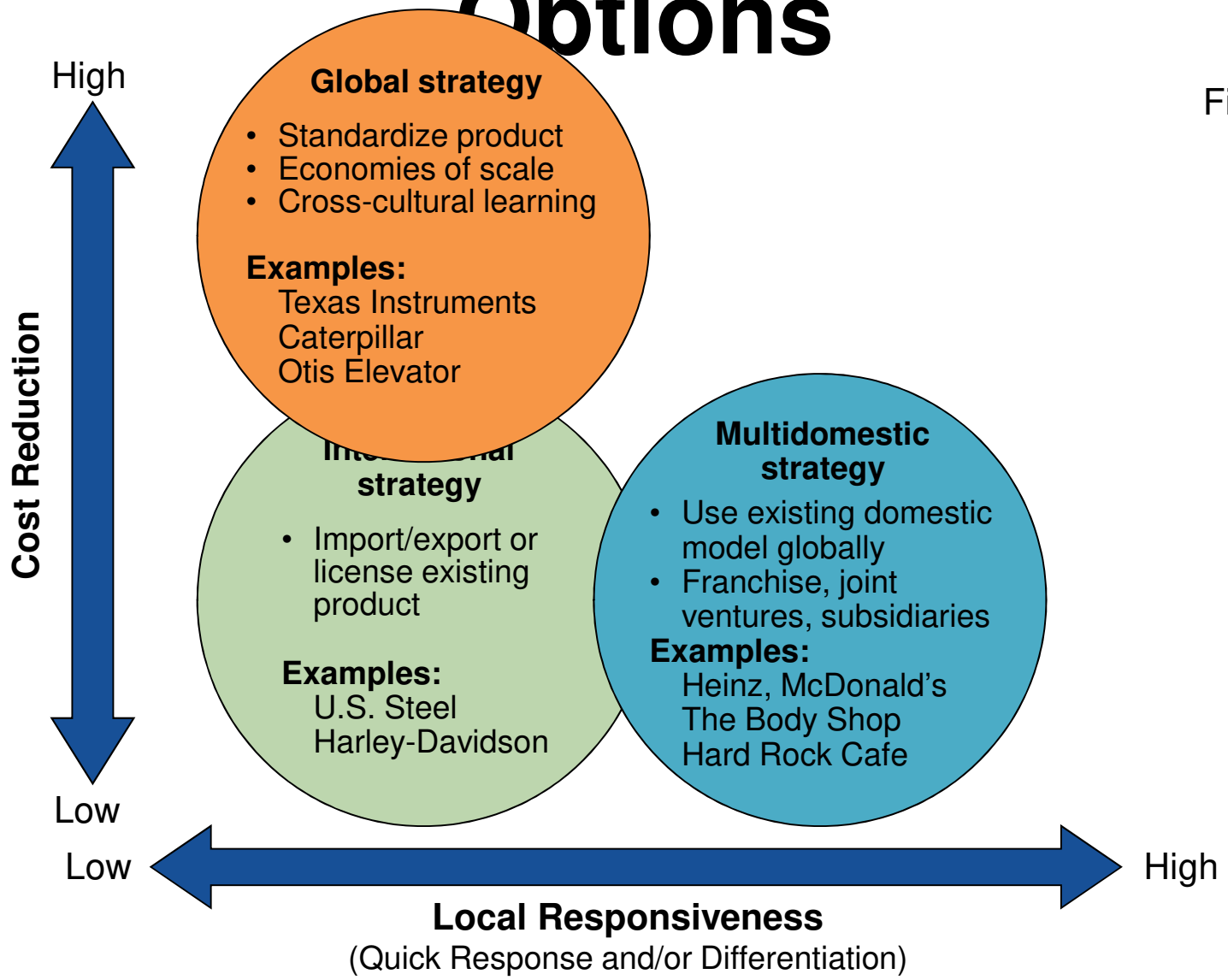

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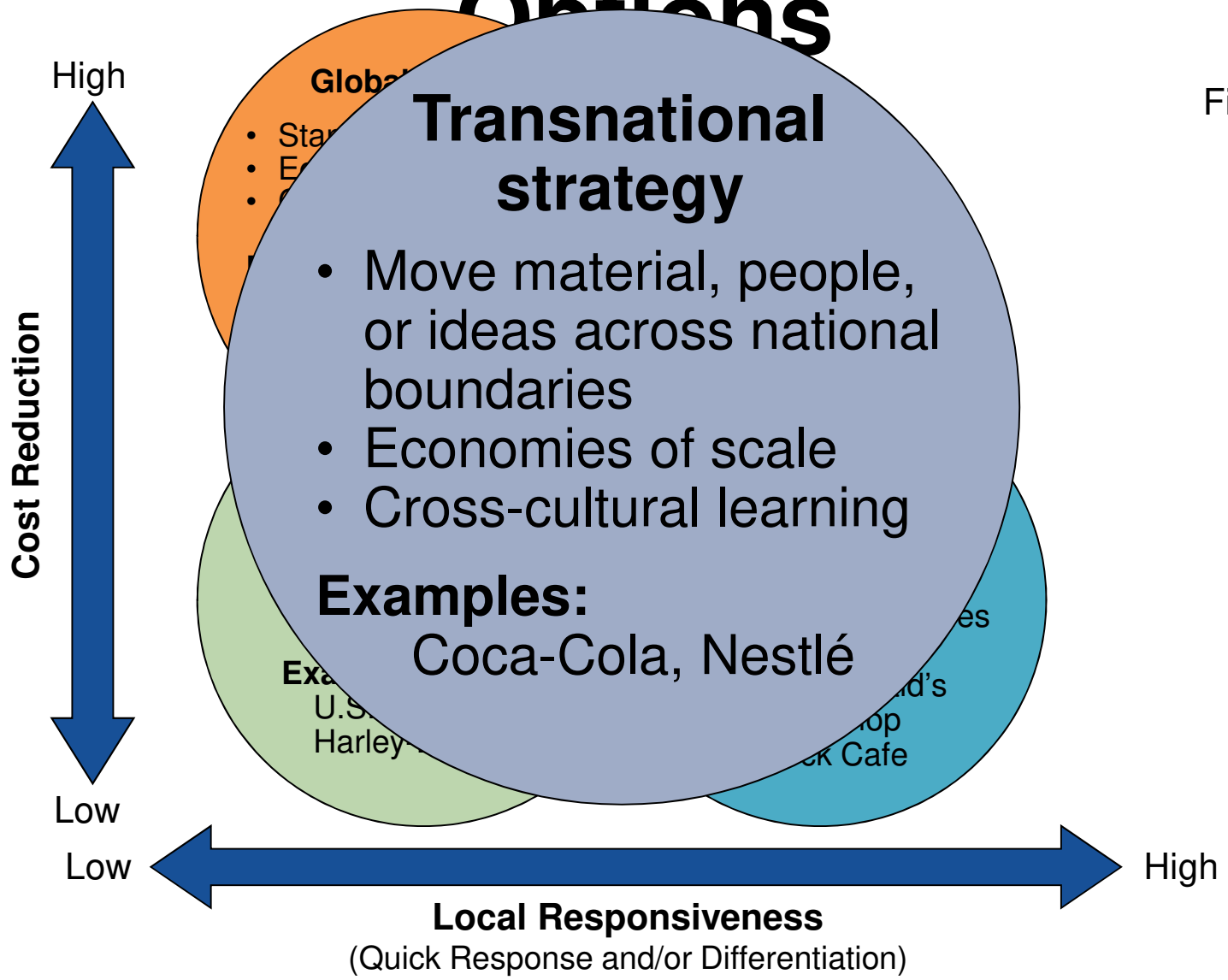

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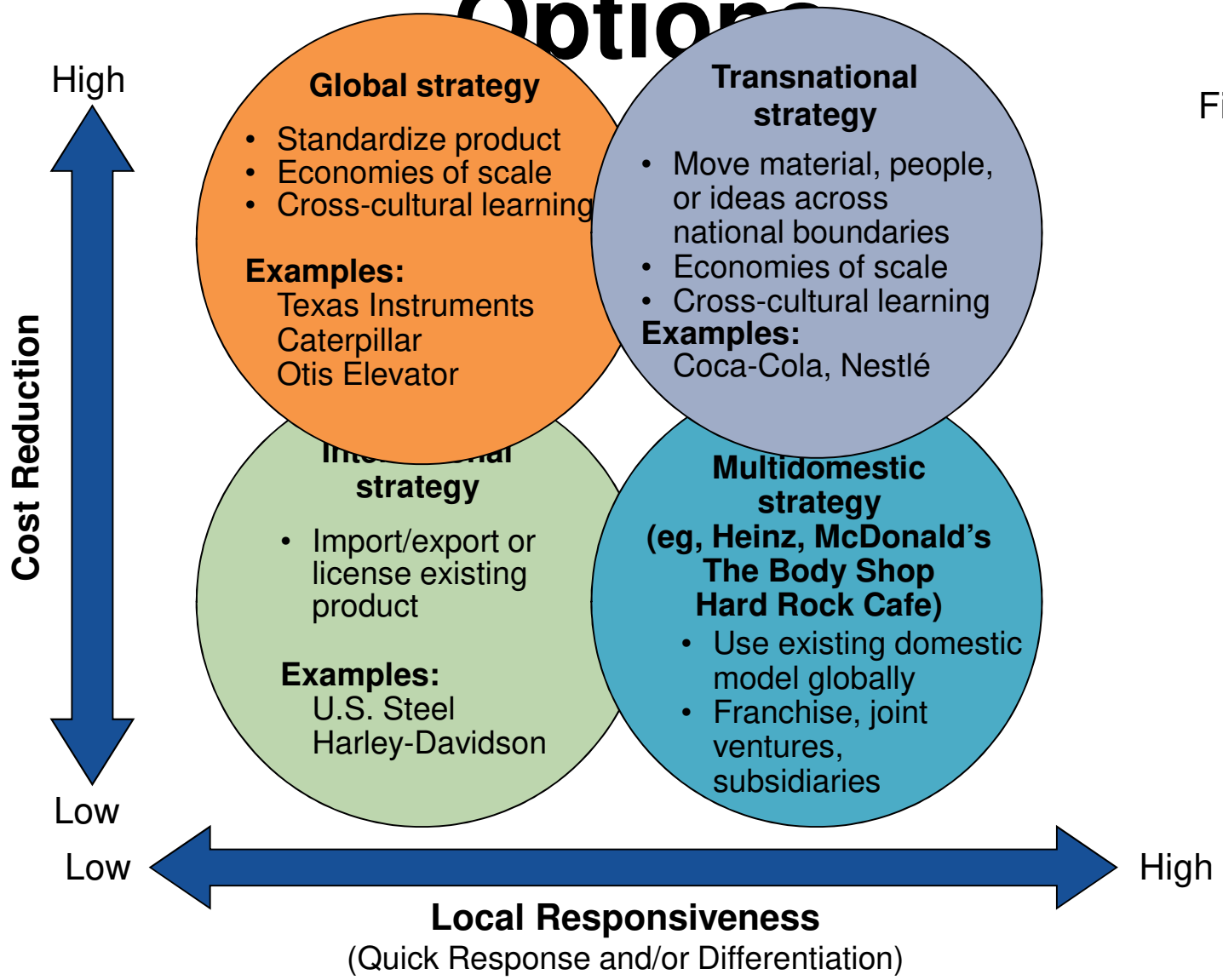

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Ranking Corruption

Rank	Country	2015 CPI Score (out of 100)
1	Demark	91
2	Finland	90
3	Sweden	89
4	New Zealand	88
5	Netherlands, Norway,	87
7	Switzerland	86
8	Singapore	85
9	Canada	83
10	Germany, UK	81
16	USA	76
18	Japan	75
17	USA	74
30	Taiwan	62
37	South Korea	56
83	China	37
119	Russia	29

Least Corrupt

Most Corrupt

TRANSPARENCY INTERNATIONAL
the global coalition against corruption

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