



## Outline

- ☑ **Global Company Profile: Boeing**
- ☑ **A Global View of Operations**
  - ☑ **Cultural and Ethical Issues**
- ☑ **Developing Missions And Strategies**
  - ☑ **Mission**
  - ☑ **Strategy**

## **Outline – Continued**

- ☑ ***Achieving Competitive Advantage Through Operations***
  - ☑ ***Competing On Differentiation***
  - ☑ ***Competing On Cost***
  - ☑ ***Competing On Response***
- ☑ ***Ten Strategic OM Decisions***

2 - 3

## **Outline – Continued**

- ☑ ***Issues In Operations Strategy***
  - ☑ ***Research***
  - ☑ ***Preconditions***
  - ☑ ***Dynamics***
- ☑ ***Strategy Development And Implementation***
  - ☑ ***Identify Critical Success Factors***
  - ☑ ***Build and Staff the Organization***
  - ☑ ***Integrate OM with Other Activities***

2 - 4

## **Outline – Continued**

- ☑ **Global Operations Strategy Options**
  - ☑ **International Strategy**
  - ☑ **Multidomestic Strategy**
  - ☑ **Global Strategy**
  - ☑ **Transnational Strategy**

2 - 5

## **Learning Objectives**

**When you complete this chapter, you should be able to:**

**Identify or Define:**

- ☑ **Mission**
- ☑ **Strategy**
- ☑ **Ten decisions of OM**
- ☑ **Multinational corporation**

2 - 6

## **Learning Objectives**

***When you complete this chapter, you should be able to:***

***Describe or Explain:***

- Specific approaches used by OM to achieve strategies***
- Differentiation***
- Low cost***
- Response***

2 - 7

## **Learning Objectives**

***When you complete this chapter, you should be able to:***

***Describe or Explain:***

- Four global operations strategies***
- Why global issues are important***

2 - 8

## **Global Strategies**

- ☑ ***Boeing – sales and production 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***

2 - 9

## **Global Strategies**

- ☑ ***Volvo – considered a Swedish company but it is controlled by an American company, Ford. The current Volvo S40 is built in Belgium and shares its platform 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 US market) and wine cabinets (it has half of the US market) in South Carolina***

2 - 10

## Some Multinational Corporations

<i>Company</i>	<i>Home Country</i>	<i>% Sales Outside Home Country</i>	<i>% Assets Outside Home Country</i>	<i>% Foreign Workforce</i>
<i>Citicorp</i>	<i>USA</i>	<i>34</i>	<i>46</i>	<i>NA</i>
<i>Colgate-Palmolive</i>	<i>USA</i>	<i>72</i>	<i>63</i>	<i>NA</i>
<i>Dow Chemical</i>	<i>USA</i>	<i>60</i>	<i>50</i>	<i>NA</i>
<i>Gillette</i>	<i>USA</i>	<i>62</i>	<i>53</i>	<i>NA</i>
<i>Honda</i>	<i>Japan</i>	<i>63</i>	<i>36</i>	<i>NA</i>
<i>IBM</i>	<i>USA</i>	<i>57</i>	<i>47</i>	<i>51</i>

2 - 11

## Some Multinational Corporations

<i>Company</i>	<i>Home Country</i>	<i>% Sales Outside Home Country</i>	<i>% Assets Outside Home Country</i>	<i>% Foreign Workforce</i>
<i>ICI</i>	<i>Britain</i>	<i>78</i>	<i>50</i>	<i>NA</i>
<i>Nestle</i>	<i>Switzerland</i>	<i>98</i>	<i>95</i>	<i>97</i>
<i>Philips Electronics</i>	<i>Netherlands</i>	<i>94</i>	<i>85</i>	<i>82</i>
<i>Siemens</i>	<i>Germany</i>	<i>51</i>	<i>NA</i>	<i>38</i>
<i>Unilever</i>	<i>Britain &amp; Netherlands</i>	<i>95</i>	<i>70</i>	<i>64</i>

2 - 12

## Boeing Suppliers (787)

<i><b>Firm</b></i>	<i><b>Country</b></i>	<i><b>Component</b></i>
<i><b>Dassault</b></i>	<i><b>France</b></i>	<i><b>Design and PLM software</b></i>
<i><b>Messier-Bugatti</b></i>	<i><b>France</b></i>	<i><b>Landing gear</b></i>
<i><b>Thales</b></i>	<i><b>France</b></i>	<i><b>Electrical power conversion system and integrated standby flight display</b></i>
<i><b>Diehl</b></i>	<i><b>Germany</b></i>	<i><b>Interior lighting</b></i>
<i><b>FR-HiTemp</b></i>	<i><b>UK</b></i>	<i><b>Fuel pumps and valves</b></i>
<i><b>Smiths Aerospace</b></i>	<i><b>UK</b></i>	<i><b>Central computer system</b></i>

2 - 13

## Boeing Suppliers (787)

<i><b>Firm</b></i>	<i><b>Country</b></i>	<i><b>Component</b></i>
<i><b>BAE SYSTEMS</b></i>	<i><b>UK</b></i>	<i><b>Electronics</b></i>
<i><b>Alenia Aeronautics</b></i>	<i><b>Italy</b></i>	<i><b>Upper center fuselage &amp; horizontal stabilizer</b></i>
<i><b>Toray Industries</b></i>	<i><b>Japan</b></i>	<i><b>Carbon fiber for wing and tail units</b></i>
<i><b>Fuji Heavy Industries</b></i>	<i><b>Japan</b></i>	<i><b>Center wing box</b></i>
<i><b>Kawasaki Heavy Industries</b></i>	<i><b>Japan</b></i>	<i><b>Forward fuselage, fixed section of wing, landing gear well</b></i>

2 - 14

## Boeing Suppliers (787)

<i>Firm</i>	<i>Country</i>	<i>Component</i>
<i>Teijin Seiki</i>	<i>Japan</i>	<i>Hydraulic actuators</i>
<i>Mitsubishi Heavy Industries</i>	<i>Japan</i>	<i>Wing box</i>
<i>Chengdu Aircraft Group</i>	<i>China</i>	<i>Rudder</i>
<i>Hafei Aviation</i>	<i>China</i>	<i>Parts</i>

2 - 15

## Reasons to Globalize

### Reasons to Globalize

**Tangible Reasons**



**Intangible Reasons**

- Reduce costs (labor, taxes, tariffs, etc.)*
- Improve supply chain*
- Provide better goods and services*
- Understand markets*
- Learn to improve operations*
- Attract and retain global talent*

Figure 2.1

2 - 16

## **Reduce Costs**

- ☑ ***Foreign locations with lower wage rates can lower direct and indirect costs***
  - ☑ ***Maquiladoras***
  - ☑ ***World Trade Organization (WTO)***
  - ☑ ***North American Free Trade Agreement (NAFTA)***
  - ☑ ***APEC, SEATO, MERCOSUR***
  - ☑ ***European Union (EU)***

2 - 17

## **Improve the Supply Chain**

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

2 - 18

## ***Provide Better Goods and Services***

- Objective and subjective characteristics of goods and services***
  - On-time deliveries***
  - Cultural variables***
  - Improved customer service***

2 - 19

## ***Understand Markets***

- Interacting with foreign customer and suppliers can lead to new opportunities***
  - Cell phone design from Europe***
  - Cell phone fads from Japan***
  - Extend the product life cycle***

2 - 20

## **Learn to Improve Operations**

- ☑ **Remain open to the free flow of ideas**
  - ☑ **General Motors partnered with a Japanese auto manufacturer to learn**
  - ☑ **Scandinavian design ideas have been used to improve equipment design and layout**

2 - 21

## **Attract and Retain Global Talent**

- ☑ **Offer better employment opportunities**
  - ☑ **Better growth opportunities and insulation against unemployment**
  - ☑ **Relocate unneeded personnel to more prosperous locations**
  - ☑ **Incentives for people who like to travel**

2 - 22

## Cultural and Ethical Issues

- ☑ **Cultures can be quite different**
- ☑ **Attitudes can be quite different towards**
  - ☑ **Punctuality**
  - ☑ **Lunch breaks**
  - ☑ **Environment**
  - ☑ **Intellectual property**
  - ☑ **Thievery**
  - ☑ **Bribery**
  - ☑ **Child labor**

2 - 23

## You May Wish 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**
- ☑ **Number of miles of highway**
- ☑ **Phone system**

2 - 24

## Match Product & 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. **Ford Motor Company**
  - 5. **Gillette**
  - 6. **Nestlé**
  - 7. **Pillsbury**
  - 8. **Sony**

2 - 25

## Match Product & 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. **Ford Motor Company**
  - 5. **Gillette**
  - 6. **Nestlé**
  - 7. **Pillsbury**
  - 8. **Sony**
- 

2 - 26

## Match Product & 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**

2 - 27

## Match Product & 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**
- 

2 - 28

## Developing Missions and Strategies

**Mission** statements tell an organization where it is going

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

2 - 29

## Mission

- ☑ **Mission - where are you going?**
  - ☑ **Organization's purpose for being**
  - ☑ **Answers 'What do we provide society?'**
  - ☑ **Provides boundaries and focus**



2 - 30

# The Art of War: *Suntzu*

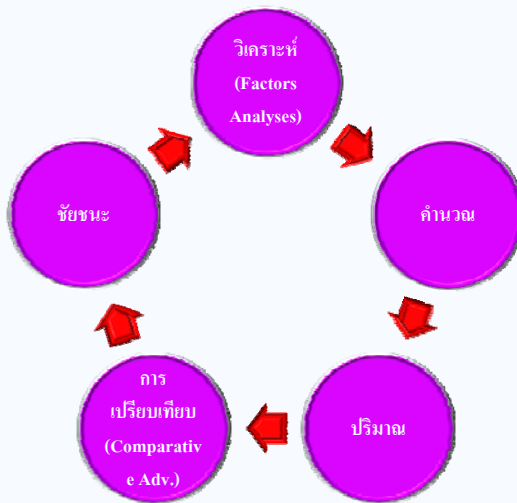
ซุนวู นักสงครามศาสตร์

770 BC



2 - 31

# The Art of Wars



2 - 32

## The Art of War

➤ *If you know your enemies and know yourself, you will fight without danger in battles.*

*If you only know yourself, but not your opponent, you may win or may lose.*

*If you know neither yourself nor your enemy, you will always endanger yourself.*

➤ *If you know both yourself and your enemy, you can come out of hundreds of battles without danger.*

2 - 33

## The Art of War

➤ *Therefore one hundred victories in one hundred battles is not the most skillful. Seizing the enemy without fighting is the most skillful.*

ชัยชนะสามารถล่วงรู้ได้

แต่ไม่อาจกำหนดได้

*All warfare is based on **deception**.*

➤ *Troy: Trojan War/ Hercules/ Helen/ Trojan Horse*

➤ *D-Day WWII, Normandy, France 1944*

2 - 34

## The Art of War

- **Napoleon Bonaparte**  
*15 August 1769 – 5 May 1821*
- **Douglas MacArthur**  
*January 26, 1880 – April 5, 1964*
- **Mao Zedong**  
*26 December 1893 – 9 September 1976*
- **Võ Nguyên Giáp**  
*Vietnam War: 1968 – 1975*
- **Operation Desert Storm**  
*2 August 1990 – 28 February 1991*



2 - 35

## The Art of War

- <http://www.chinapage.com/sunzi-e.html>
- **Suntzu-ISBN 0195015401**
- **Suntzu-ISBN 0195014766**



## **FedEx**

***FedEx is committed to our People-Service-Profit philosophy. We will produce outstanding financial returns by providing total reliable, competitively superior, global air-ground transportation of high priority goods and documents that require rapid, time-certain delivery. Equally important, positive control of each package will be maintained using real time electronic tracking and tracing systems. A complete record of each shipment and delivery will be presented with our request for payment. We will be helpful, courteous, and professional to each other and the public. We will strive to have a completely satisfied customer at the end of each transaction.***

Figure 2.2

2 - 37

## **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

2 - 38

## **Hard Rock Café**

***Our Mission: To spread the spirit of Rock 'n' Roll by delivering an exceptional entertainment and dining experience. We are committed to being an important, contributing member of our community and offering the Hard Rock family a fun, healthy, and nurturing work environment while ensuring our long-term success.***

Figure 2.2

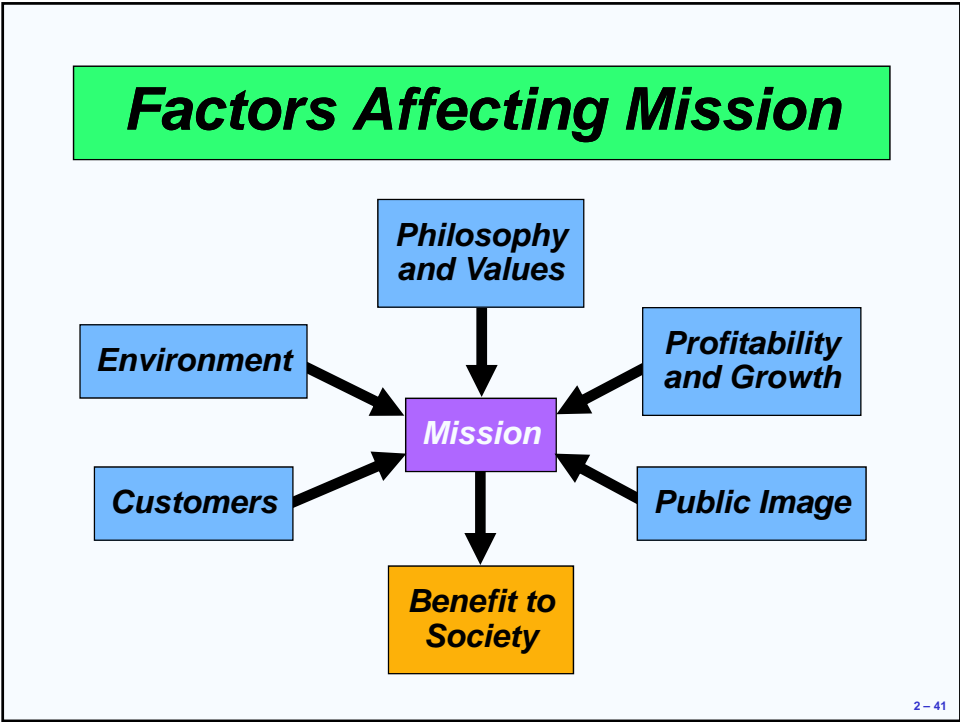
2 - 39

## **Arnold Palmer Hospital**

***Arnold Palmer Hospital is a healing environment providing family-centered care with compassion, comfort and respect... when it matters the most.***

Figure 2.2

2 - 40



## Strategy

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



2 - 43

## Strategies for Competitive Advantage

- ✓ *Niche Market – specific product and market group.*
  - ✓ *Differentiation – better, faster or at least different*
  - ✓ *Cost leadership – cheaper*
  - ✓ *Quality leadership – durable*
  - ✓ *Never existing - must create it.*
- “Core Competency” Intel, MS, IBM, Benz**

2 - 44

## 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 – theme experience***

2 – 45

## 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***
- ☑ ***Wal-Mart – small overheads, shrinkage, distribution costs***
- ☑ ***Franz Colruyt – no bags, low light, no music, doors on freezers***

2 – 46

# Competing on Response

- ☑ **Flexibility is matching market changes in design innovation and volumes**
  - ☑ *Institutionalization at Hewlett-Packard*
- ☑ **Reliability is meeting schedules**
  - ☑ *German machine industry*
- ☑ **Timeliness is quickness in design, production, and delivery**
  - ☑ *Johnson Electric, Bennigan's, Motorola*

2 - 47

# OM's Contribution to Strategy

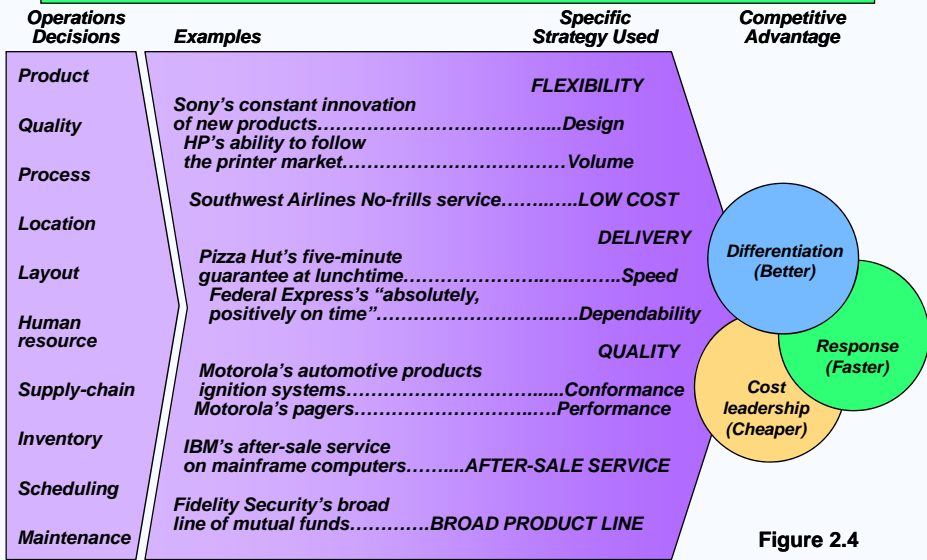


Figure 2.4

2 - 48

## 10 Strategic OM Decisions

- ☑ *Goods and service design*
- ☑ *Quality*
- ☑ *Process and capacity design*
- ☑ *Location selection*
- ☑ *Layout design*
- ☑ *Human resource and job design*
- ☑ *Supply-chain management*
- ☑ *Inventory*
- ☑ *Scheduling*
- ☑ *Maintenance*

2 - 49

## Goods and Services and the 10 OM Decisions

<i>Operations Decisions</i>	<i>Goods</i>	<i>Services</i>
<i>Goods and service design</i>	<i>Product is usually tangible</i>	<i>Product is not tangible</i>
<i>Quality</i>	<i>Many objective standards</i>	<i>Many subjective standards</i>
<i>Process and capacity design</i>	<i>Customers not involved</i>	<i>Customer may be directly involved</i> <i>Capacity must match demand</i>

Table 2.1

2 - 50

## Goods and Services and the 10 OM Decisions

<b>Operations Decisions</b>	<b>Goods</b>	<b>Services</b>
<b>Location selection</b>	<b>Near raw materials and labor</b>	<b>Near customers</b>
<b>Layout design</b>	<b>Production efficiency</b>	<b>Enhances product and production</b>
<b>Human resources and job design</b>	<b>Technical skills, constant labor standards, output based wages</b>	<b>Interact with customers, labor standards vary</b>

Table 2.1

2 - 51

## Goods and Services and the 10 OM Decisions

<b>Operations Decisions</b>	<b>Goods</b>	<b>Services</b>
<b>Supply- chain mgmt</b>	<b>Relationship critical to final product</b>	<b>Important, but may not be critical</b>
<b>Inventory</b>	<b>Raw materials, work-in-process, and finished goods may be held</b>	<b>Cannot be stored</b>
<b>Scheduling</b>	<b>Level schedules possible</b>	<b>Meet immediate customer demand</b>

Table 2.1

2 - 52

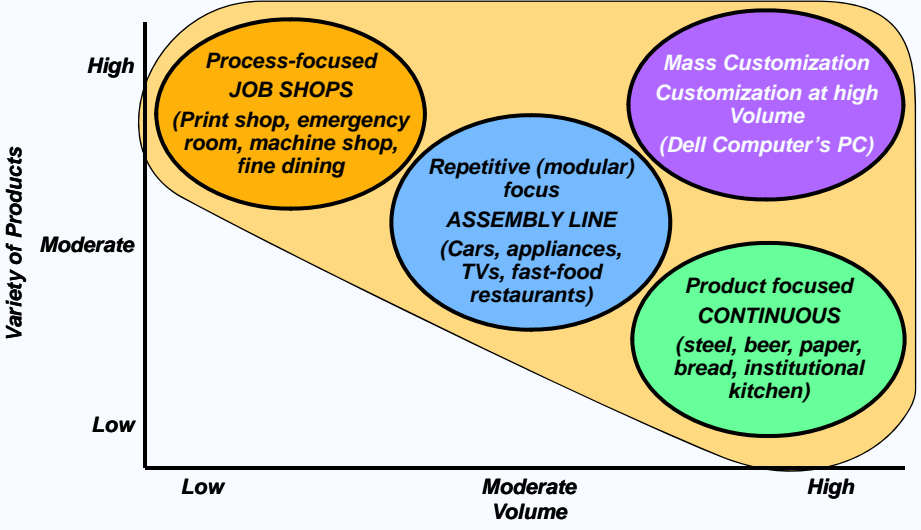
# Goods and Services and the 10 OM Decisions

<b>Operations Decisions</b>	<b>Goods</b>	<b>Services</b>
<b>Maintenance</b>	<b>Often preventive and takes place at production site</b>	<b>Often "repair" and takes place at customer's site</b>

Table 2.1

2 - 53

# Process Design



2 - 54

## Operations Strategies for Two Drug Companies

	<i>Brand Name Drugs, Inc.</i>	<i>Generic Drug Corp.</i>
<b>Competitive Advantage</b>	<b>Product Differentiation</b>	<b>Low Cost</b>
<b>Product Selection and Design</b>	<b>Heavy R&amp;D; labs; focus on development in a broad range of drug categories</b>	<b>Low R&amp;D; focus on development of generic drugs</b>
<b>Quality</b>	<b>Major priority, exceed regulatory requirements</b>	<b>Meets regulatory requirements on a country by country basis</b>

Table 2.2

2 - 55

## Operations Strategies for Two Drug Companies

	<i>Brand Name Drugs, Inc.</i>	<i>Generic Drug Corp.</i>
<b>Competitive Advantage</b>	<b>Product Differentiation</b>	<b>Low Cost</b>
<b>Process</b>	<b>Product and modular process; long production runs in specialized facilities; build capacity ahead of demand</b>	<b>Process focused; general processes; job shop approach, short production runs; focus on high utilization</b>
<b>Location</b>	<b>Still located in the city where it was founded</b>	<b>Recently moved to low-tax, low-labor-cost environment</b>

Table 2.2

2 - 56

## Operations Strategies for Two Drug Companies

	<i>Brand Name Drugs, Inc.</i>	<i>Generic Drug Corp.</i>
<i>Competitive Advantage</i>	<i>Product Differentiation</i>	<i>Low Cost</i>
<b>Scheduling</b>	<b>Centralized production planning</b>	<b>Many short-run products complicate scheduling</b>
<b>Layout</b>	<b>Layout supports automated product-focused production</b>	<b>Layout supports process-focused job shop practices</b>

Table 2.2

2 - 57

## Operations Strategies for Two Drug Companies

	<i>Brand Name Drugs, Inc.</i>	<i>Generic Drug Corp.</i>
<i>Competitive Advantage</i>	<i>Product Differentiation</i>	<i>Low Cost</i>
<b>Human Resources</b>	<b>Hire the best; nationwide searches</b>	<b>Very experienced top executives; other personnel paid below industry average</b>
<b>Supply Chain</b>	<b>Long-term supplier relationships</b>	<b>Tends to purchase competitively to find bargains</b>

Table 2.2

2 - 58

## Operations Strategies for Two Drug Companies

	<i>Brand Name Drugs, Inc.</i>	<i>Generic Drug Corp.</i>
<b>Competitive Advantage</b>	<b>Product Differentiation</b>	<b>Low Cost</b>
<b>Inventory</b>	<i>High finished goods inventory to ensure all demands are met</i>	<i>Process focus drives up work-in-process inventory; finished goods inventory tends to be low</i>
<b>Maintenance</b>	<i>Highly trained staff; extensive parts inventory</i>	<i>Highly trained staff to meet changing demand</i>

Table 2.2

2 - 59

## Managing Global Service Operations

*Probably requires a different perspective on:*

- Capacity planning**
- Location planning**
- Facilities design and layout**
- Scheduling**

2 - 60

## **Characteristics of High ROI Firms**

- High quality product**
- High capacity utilization**
- High operating effectiveness**
- Low investment intensity**
- Low direct cost per unit**

*From the PIMS program of the Strategic Planning Institute*

2 - 61

## **Strategic Options to Gain a Competitive Advantage**

- 28% - Operations Management**
- 18% - Marketing/distribution**
- 17% - Momentum/name recognition**
- 16% - Quality/service**
- 14% - Good management**
- 4% - Financial resources**
- 3% - Other**

2 - 62

## Elements of Operations Management Strategy

- ☑ *Low-cost product*
- ☑ *Product-line breadth*
- ☑ *Technical superiority*
- ☑ *Product characteristics/differentiation*
- ☑ *Continuing product innovation*
- ☑ *Low-price/high-value offerings*
- ☑ *Efficient, flexible operations adaptable to consumers*
- ☑ *Engineering research development*
- ☑ *Location*
- ☑ *Scheduling*

2 - 63

## Preconditions

### *One must understand:*

- ☑ *Strengths and weaknesses of competitors and possible new entrants into the market*
- ☑ *Current and prospective environmental, technological, legal, and economic issues*
- ☑ *The product life cycle*
- ☑ *Resources available within the firm and within the OM function*
- ☑ *Integration of OM strategy with company's strategy and with other functional areas*

2 - 64

# Dynamics of Strategic Change

- ☑ **Changes within the organization**
  - ☑ *Personnel*
  - ☑ *Finance*
  - ☑ *Technology*
  - ☑ *Product life*
- ☑ **Changes in the environment**

2 - 65

# Product Life Cycle

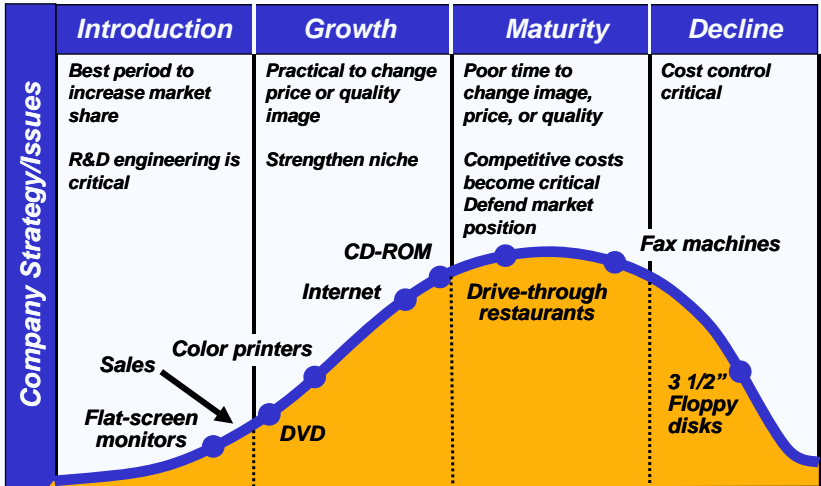


Figure 2.5

2 - 66

## Product Life Cycle

	<b>Introduction</b>	<b>Growth</b>	<b>Maturity</b>	<b>Decline</b>
<b>OM Strategy/Issues</b>	<b>Product design and development critical</b>	<b>Forecasting critical</b>	<b>Standardization</b>	<b>Little product differentiation</b>
	<b>Frequent product and process design changes</b>	<b>Product and process reliability</b>	<b>Less rapid product changes – more minor changes</b>	<b>Cost minimization</b>
	<b>Short production runs</b>	<b>Competitive product improvements and options</b>	<b>Optimum capacity</b>	<b>Overcapacity in the industry</b>
	<b>High production costs</b>	<b>Increase capacity</b>	<b>Increasing stability of process</b>	<b>Prune line to eliminate items not returning good margin</b>
	<b>Limited models</b>	<b>Shift toward product focus</b>	<b>Long production runs</b>	<b>Reduce capacity</b>
	<b>Attention to quality</b>	<b>Enhance distribution</b>	<b>Product improvement and cost cutting</b>	

Figure 2.5

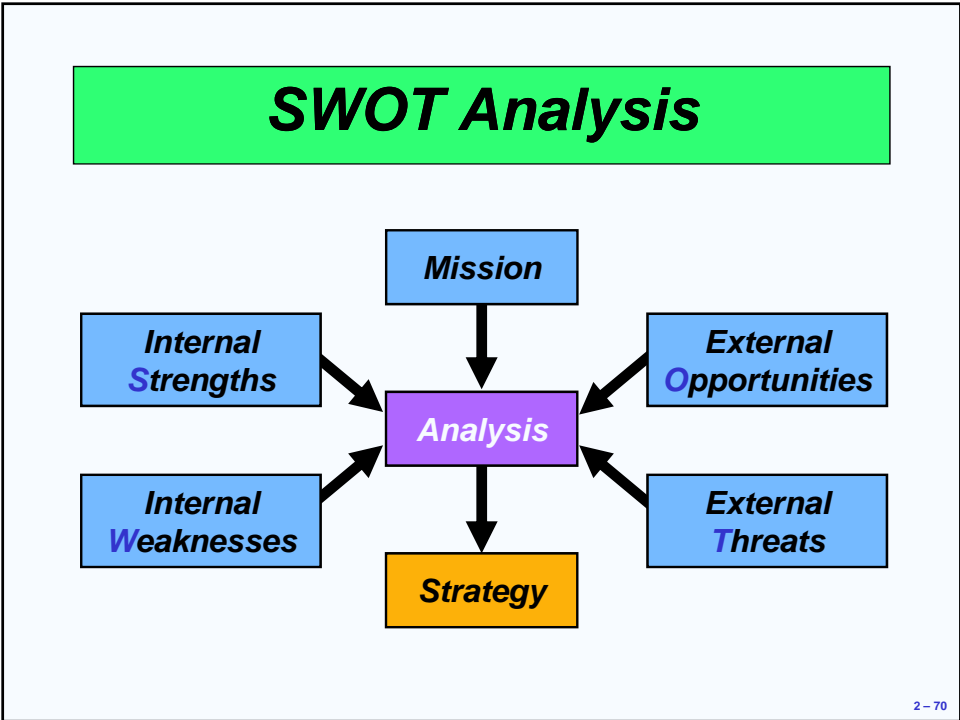
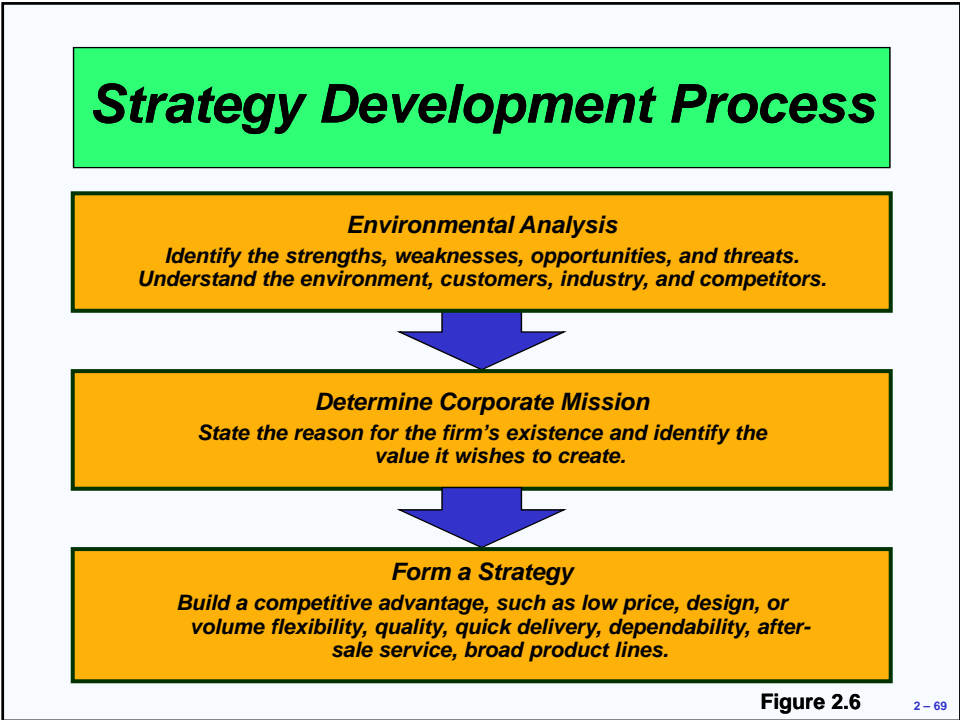
2 – 67

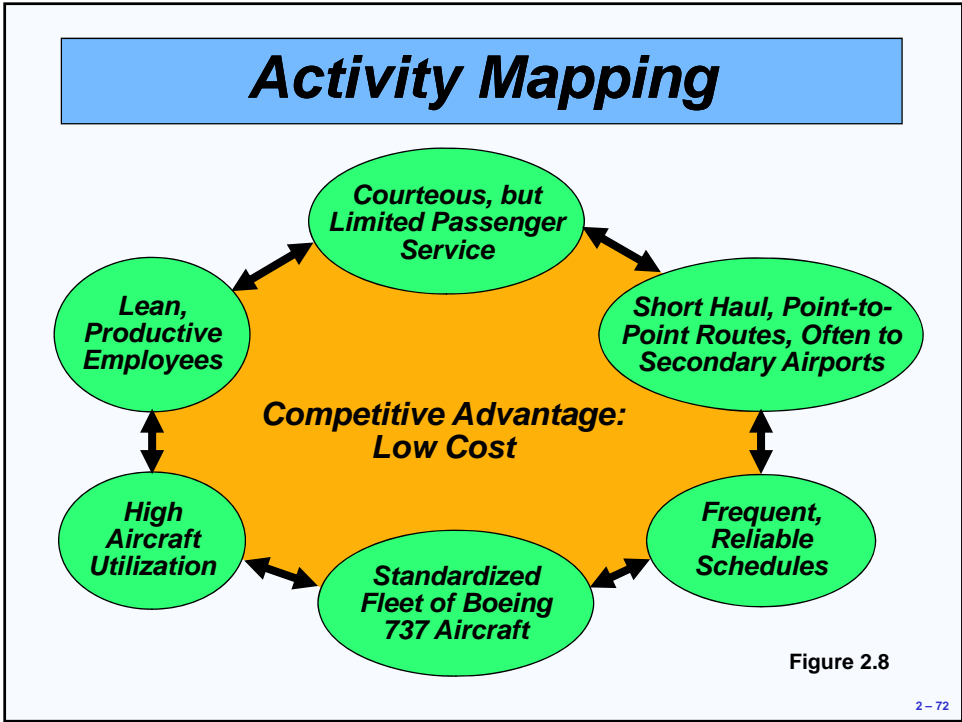
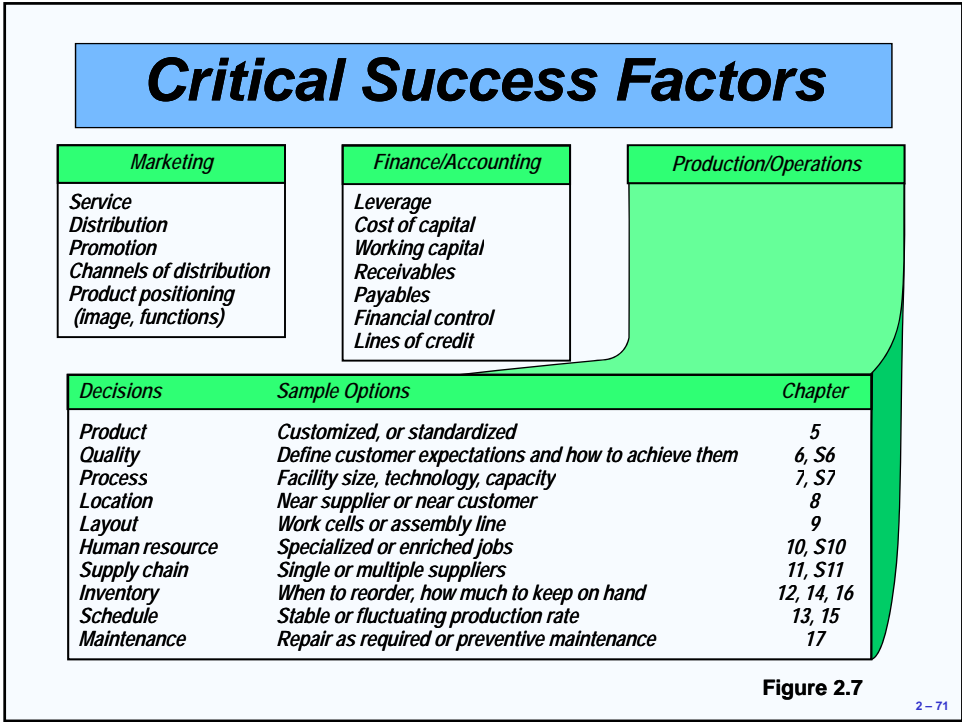
## Strategy Development and Implementation

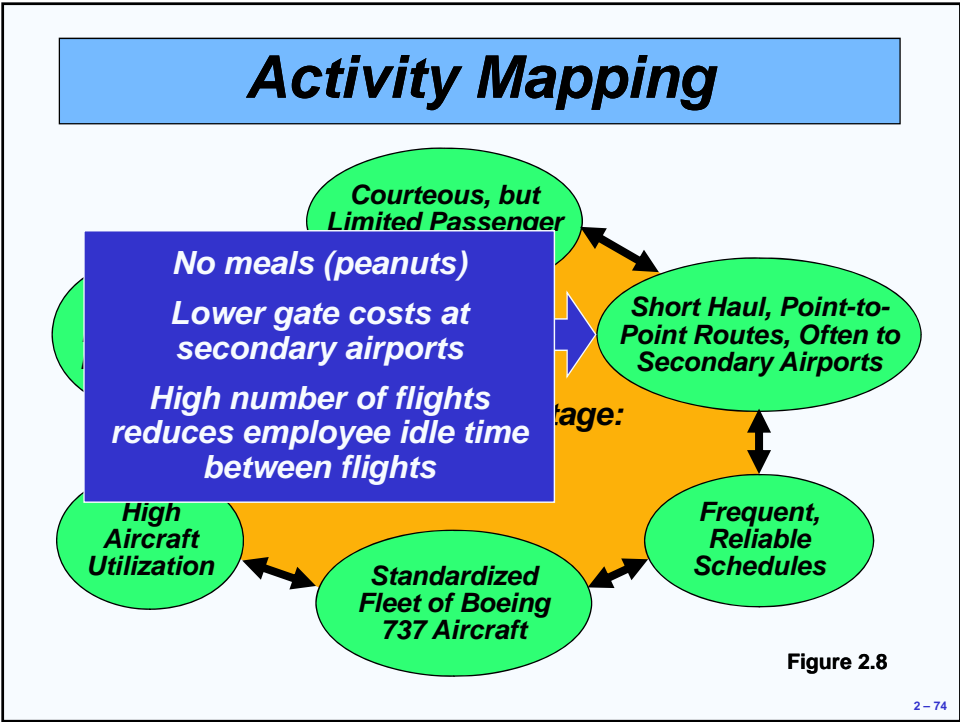
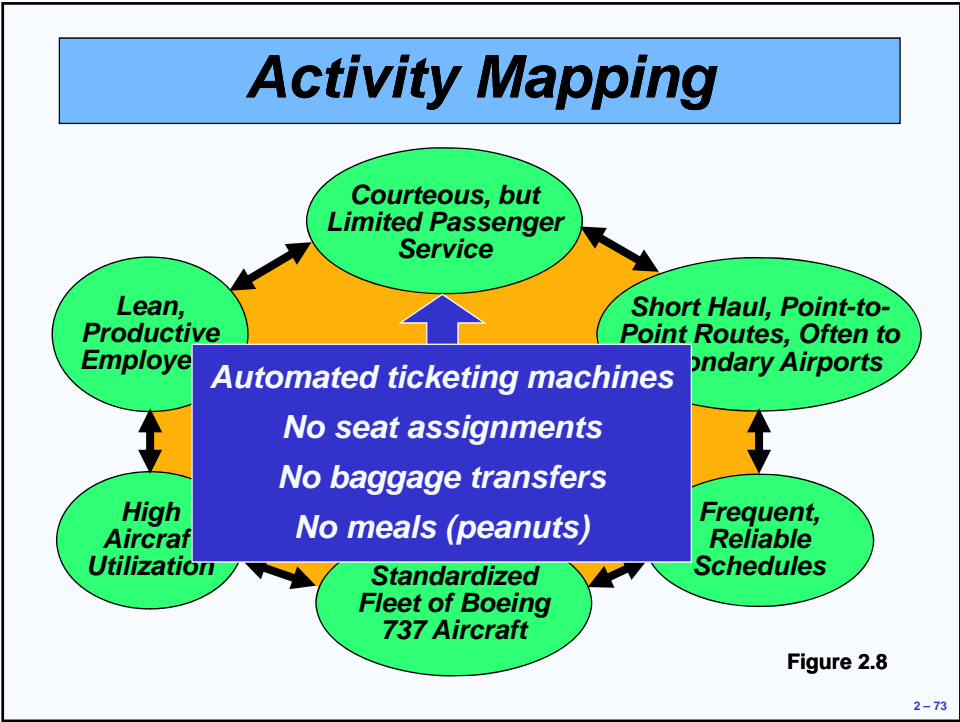
- ☑ **Identify critical success factors**
- ☑ **Build and staff the organization**
- ☑ **Integrate OM with other activities**

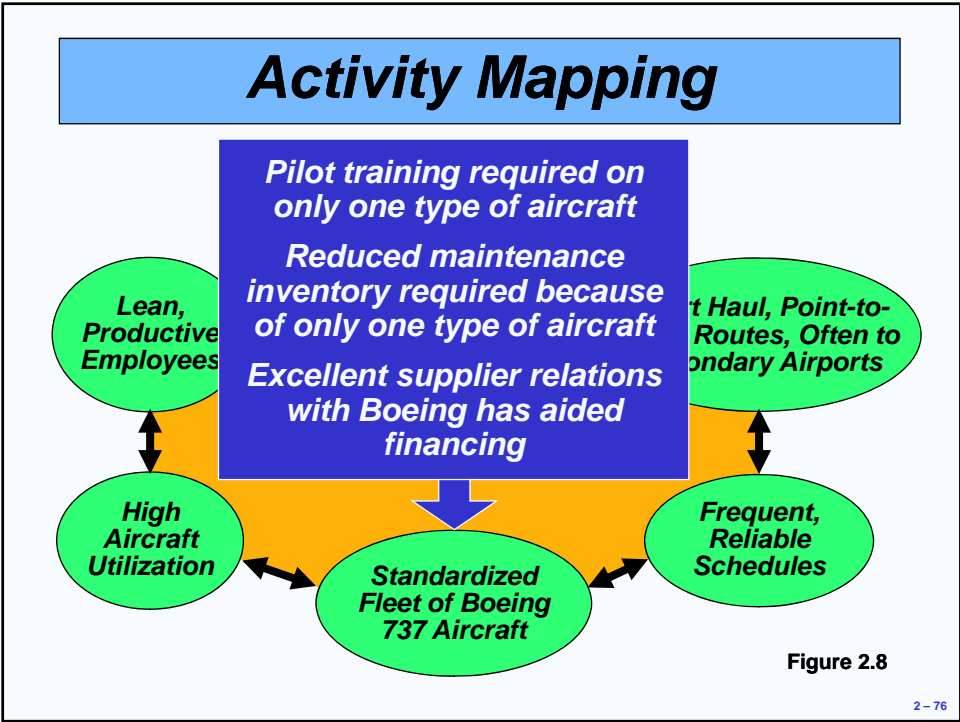
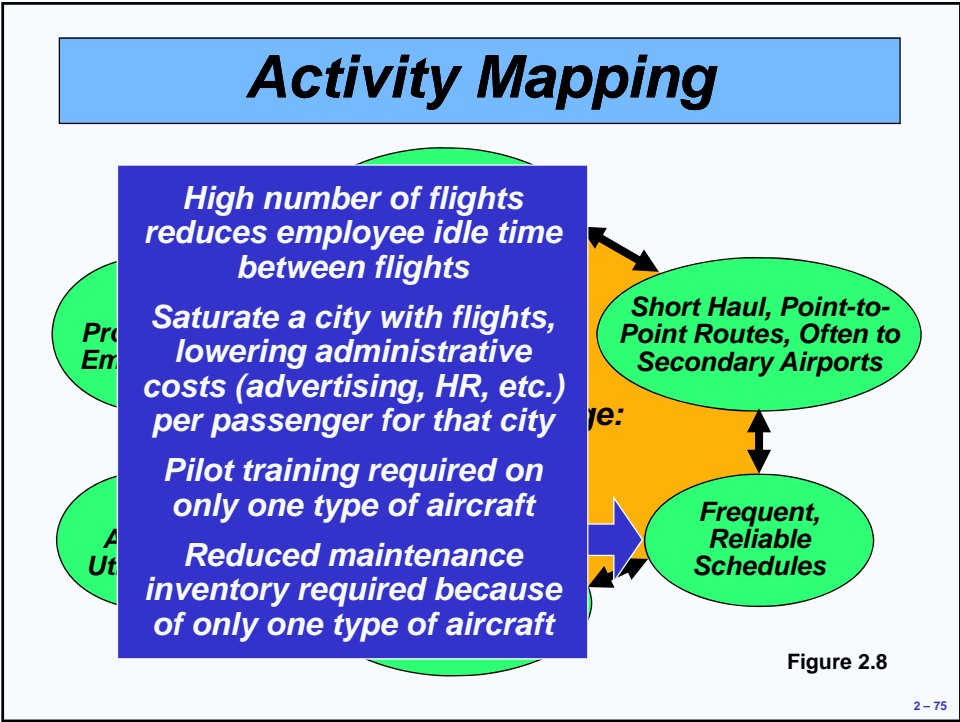
**The operations manager's job is to implement an OM strategy, provide competitive advantage, and increase productivity**

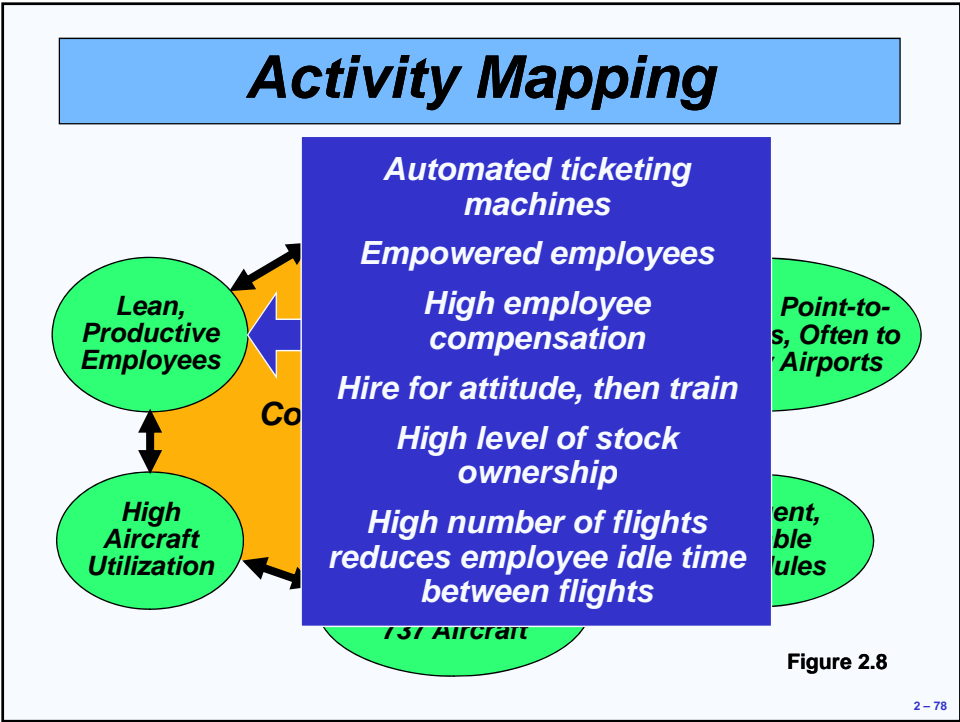
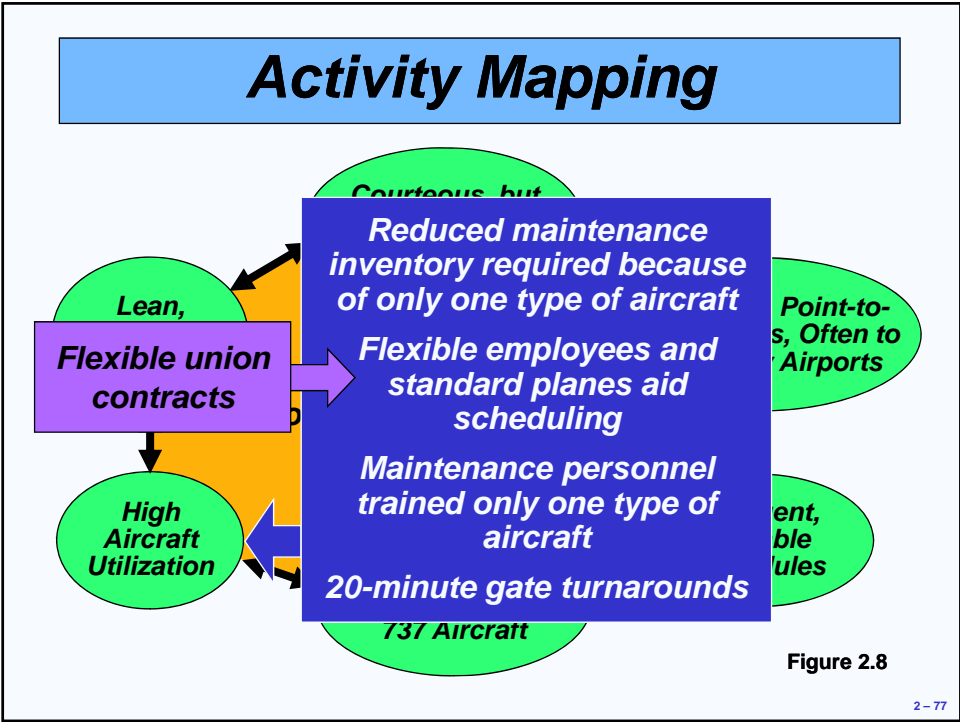
2 – 68

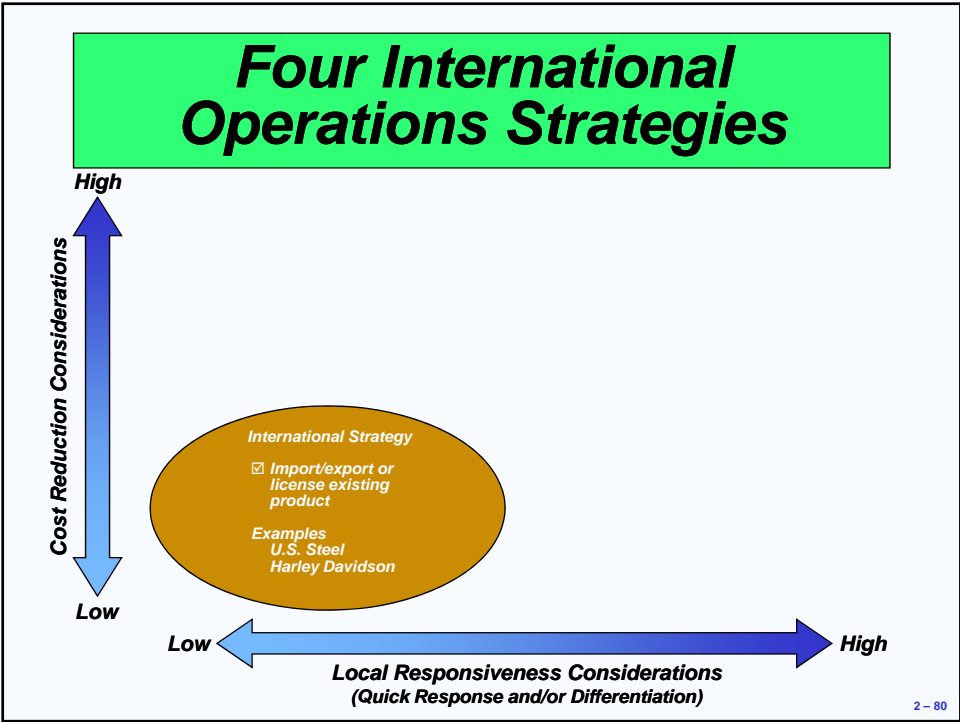
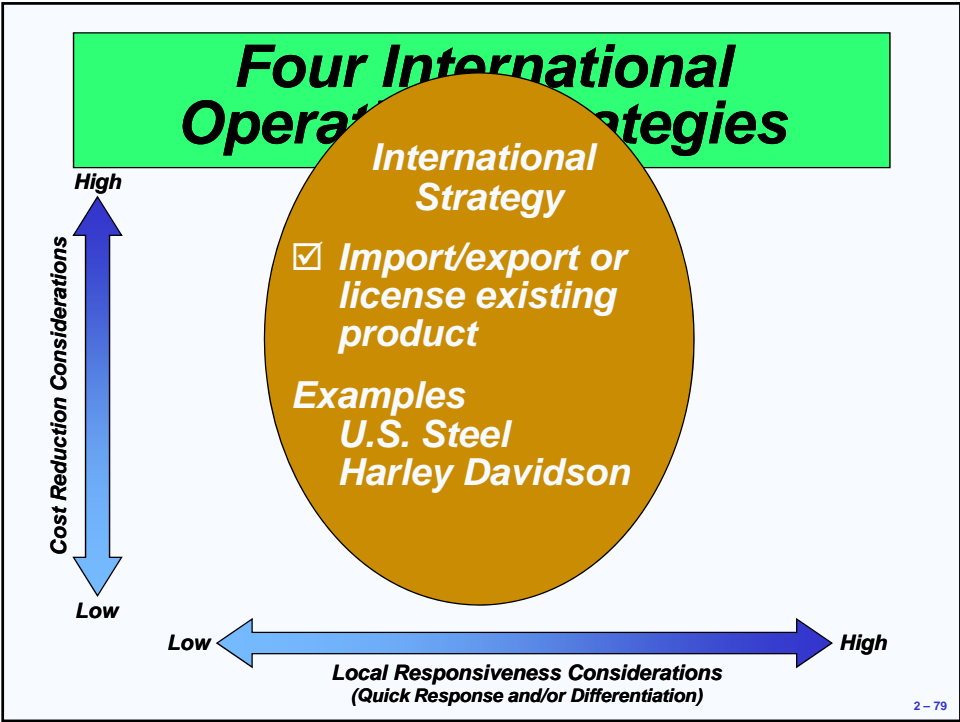


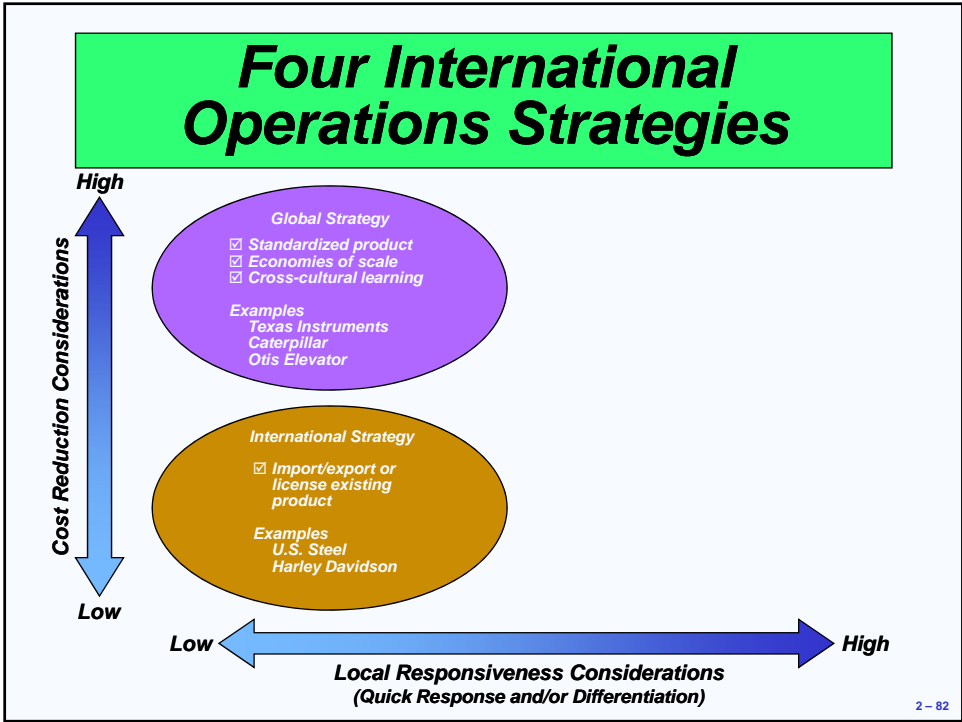
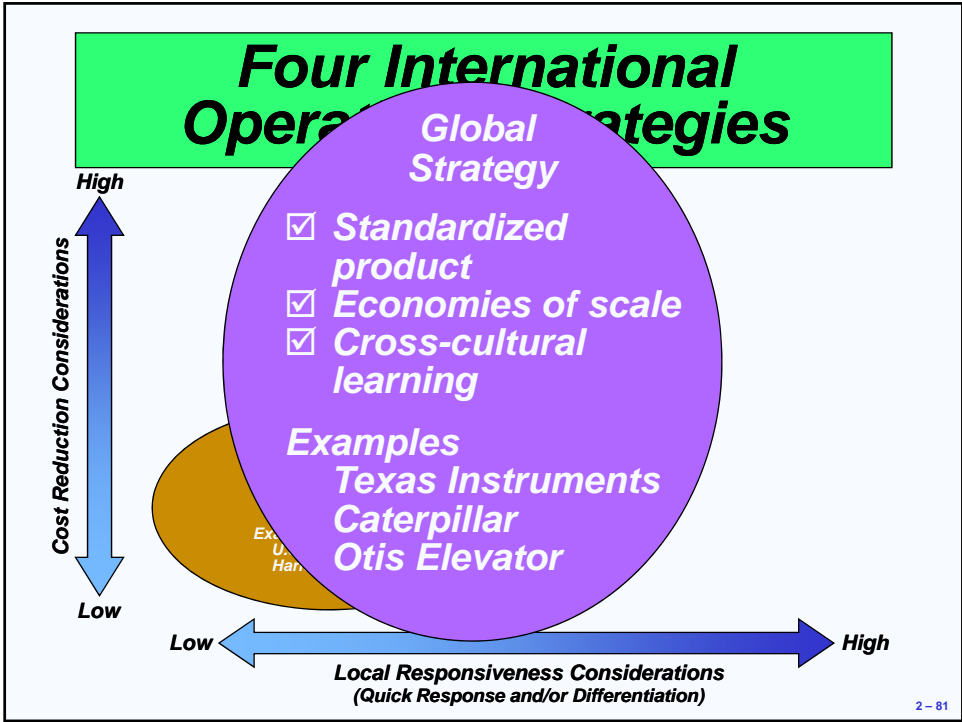


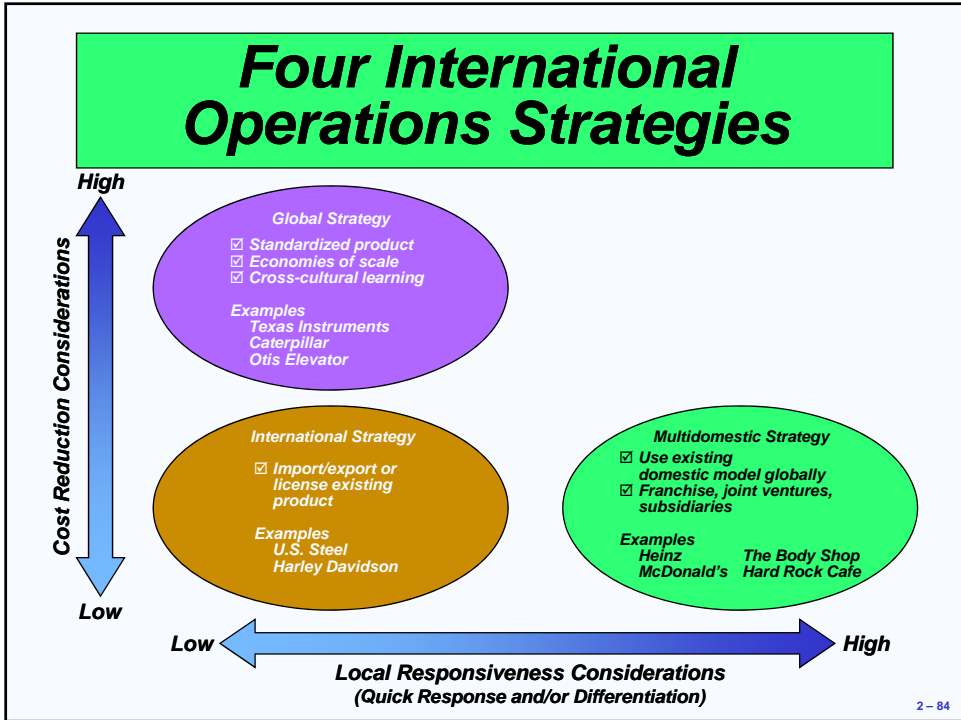
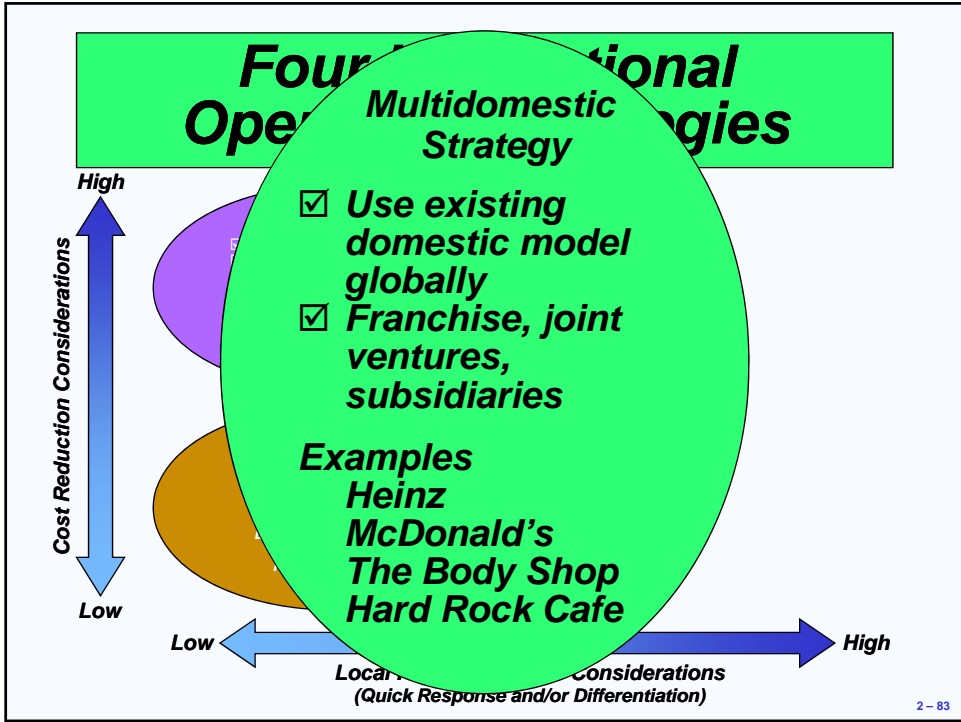


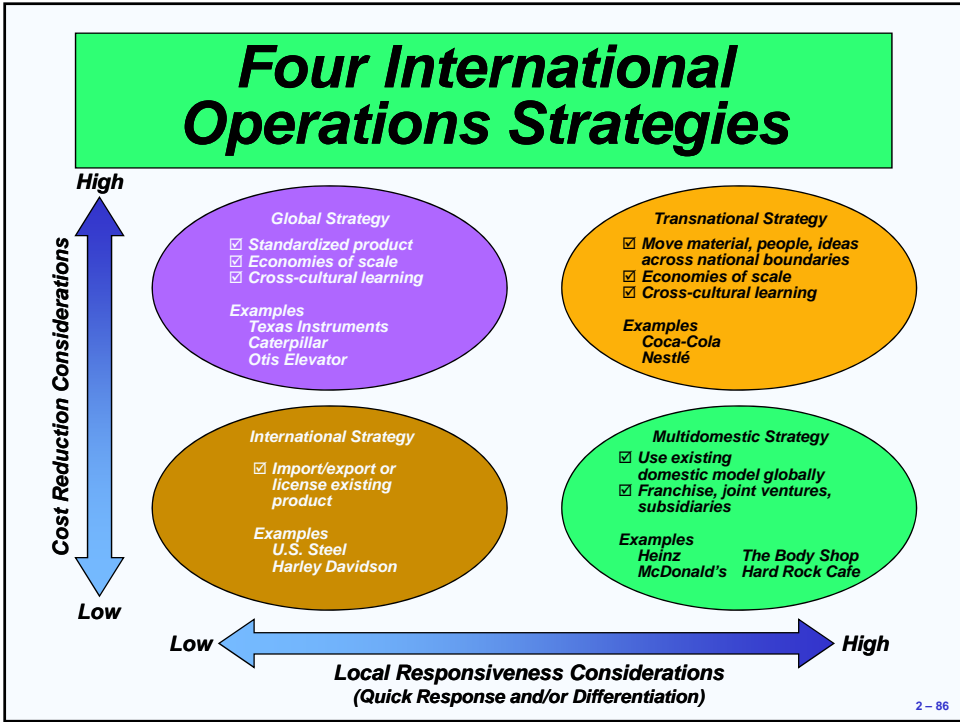
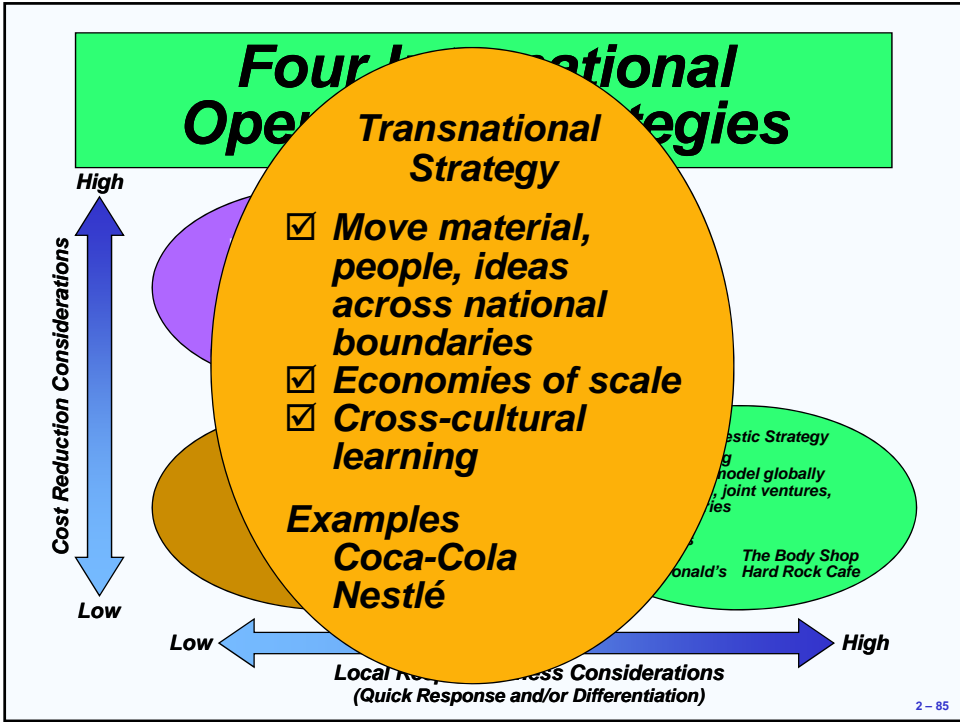












# Ranking Corruption

Rank	Country	2004 CPI Score (out of 10)		
1	Finland	9.7	Good	
2	New Zealand	9.6		
5	Singapore	9.3		
7	Switzerland	9.1		
9	Australia	8.8		
11	United Kingdom	8.6		
12	Canada	8.5		
15	Germany	8.2		
16	Hong Kong	8.0		
17	Ireland	7.5		
17	USA	7.5		
24	Japan	6.9		
35	Taiwan	5.6		
64	Mexico	3.6		Not So
71	China	3.4		Good

2 - 87