



# Chapter 2

## *Operations Strategy*

***Operations Management - 5<sup>th</sup> Edition***

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# Lecture Outline

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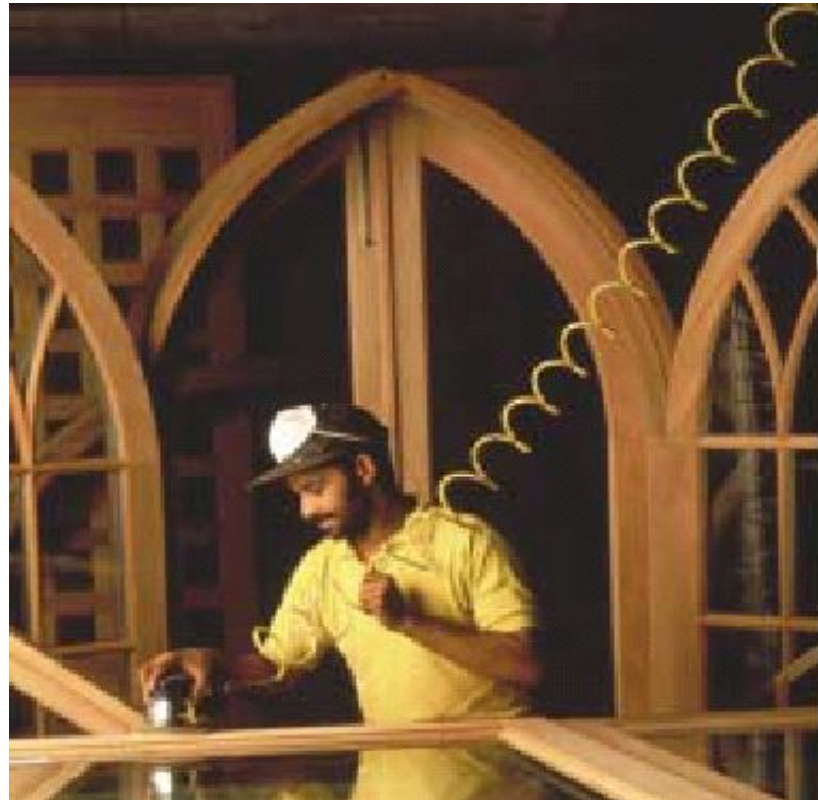
- ◆ Strategy Formulation
- ◆ Competitive Priorities
- ◆ Operations' Role in Corporate Strategy
- ◆ Strategy and the Internet
- ◆ Strategic Decisions in Operations
- ◆ Strategy Deployment
- ◆ Issues and Trends in Operations

# Four Steps for Strategy Formulation

- ◆ Defining a primary task
  - What is the firm in the business of doing?
- ◆ Assessing core competencies
  - What does the firm do better than anyone else?
- ◆ Determining order winners and order qualifiers
  - What wins the order?
  - What qualifies an item to be considered for purchase?
- ◆ Positioning the firm
  - How will the firm compete?

# Competitive Priorities

- ◆ Cost
- ◆ Quality
- ◆ Flexibility
- ◆ Speed



# Competitive Priorities: Cost

- ◆ Lincoln Electric
  - reduced costs by \$10 million a year for 10 years
  - skilled machine operators save the company millions that would have been spent on automated equipment
- ◆ Southwest Airlines
  - one type of airplane facilitates crew changes, record-keeping, maintenance, and inventory costs
  - direct flights mean no baggage transfers
  - \$30 million annual savings in travel agent commissions by requiring customers to contact the airline directly

# Competitive Priorities: Quality

- ◆ Ritz-Carlton - one customer at a time
  - Every employee is empowered to satisfy a guest's wish
  - Teams at all levels set objectives and devise quality action plans
  - Each hotel has a quality leader
  - Quality reports tracks
    - guest room preventive maintenance cycles
    - percentage of check-ins with no waiting
    - time spent to achieve industry-best clean room appearance
  - Guest Preference Reports are recorded in a database

# Competitive Priorities: Flexibility

- ◆ Andersen Windows
  - number of products offered grew from 28,000 to 86,000
  - number of errors are down to 1 per 200 truckloads
- ◆ Custom Foot Shoe Store:
  - customer's feet are scanned electronically to capture measurements
  - custom shoes are mailed to the customer's home in weeks
  - prices are comparable to off-the-shelf shoes
- ◆ National Bicycle Industrial Company
  - offers 11,231,862 variations
  - delivers within two weeks at costs only 10% above standard models

# Competitive Priorities: Speed

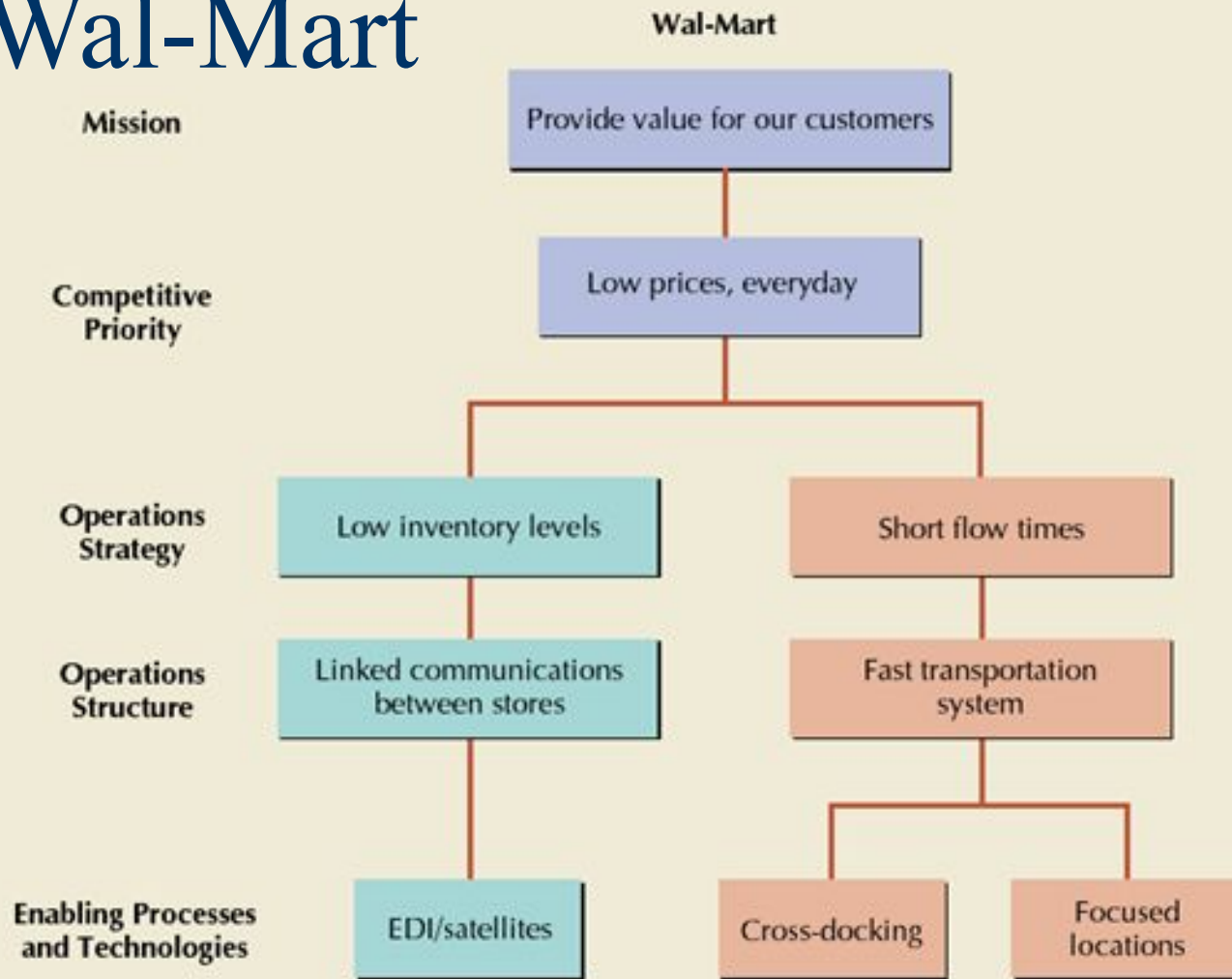
- ◆ Citicorp
  - advertises a 15-minute mortgage approval
- ◆ L.L. Bean
  - ships orders the day they are received
- ◆ Wal-Mart
  - replenishes its stock twice a week
- ◆ Hewlett-Packard
  - produces electronic testing equipment in five days
- ◆ General Electric
  - reduces time to manufacture circuit-breaker boxes into three days and dishwashers into 18 hours
- ◆ Dell
  - ships custom-built computers in two days
- ◆ Motorola
  - needs less than 30 minutes to build to order pagers



# Operations' Role in Corporate Strategy

- ◆ Operations provides support for a differentiated strategy
- ◆ Operations serves as a firm's *distinctive competence* in executing similar strategies better than competitors

# Operations Strategy at Wal-Mart



# Strategy and the Internet

- ◆ Internet can be used to create a distinctive business strategy
  - eBay
    - ◆ unlimited capacity and a huge market
    - ◆ all work is done by buyers and sellers and there is no marginal cost
  - Cisco
    - ◆ integrated value chain is its competitive advantage

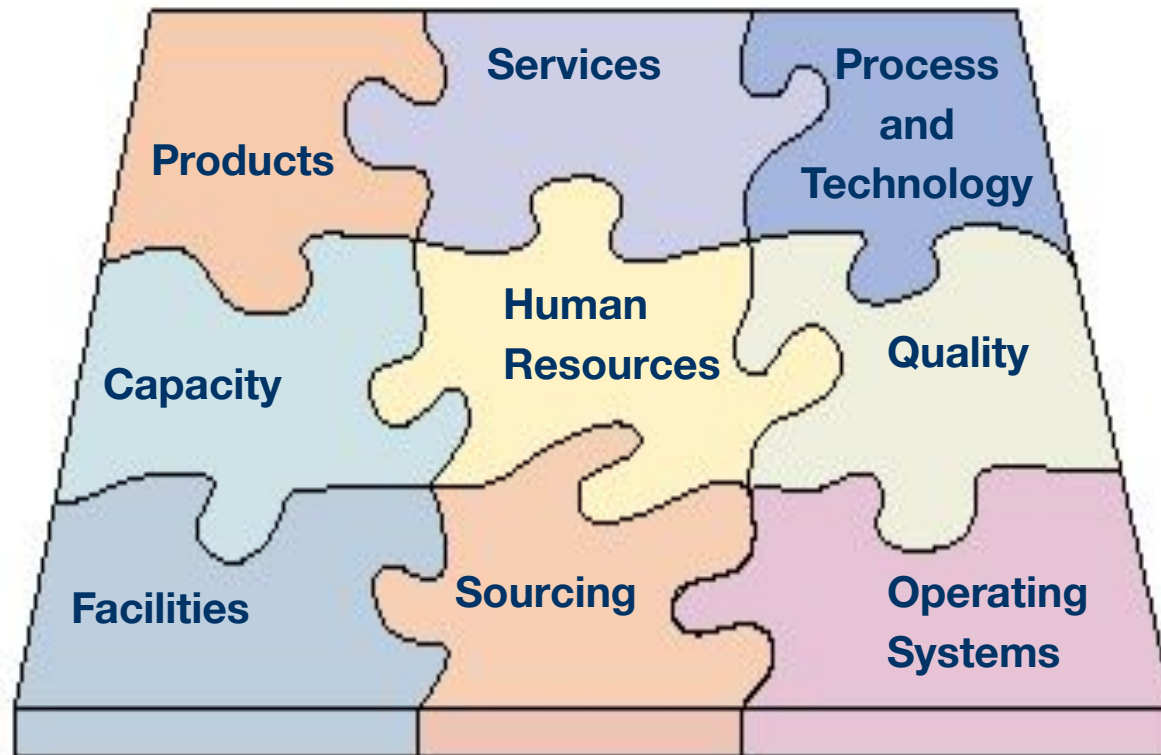
# Strategy and the Internet (cont.)

- ◆ Internet can be used to strengthen existing competitive advantages by integrating new and traditional activities
  - GE's Trading Process Network: an automated Web-based purchasing system
    - cut average purchasing cost in half
    - enabled a much larger group of suppliers to bid on jobs
    - customers were able to track their orders through shop in real time
  - Intel
    - sells \$2 billion a month over the Internet
    - purchases 80% of its direct materials online
    - replaced 19,000 sales-order faxes received daily

# Strategy and the Internet (cont.)

- ◆ Lessons from the dot com shakedown
  - Internet is the great equalizer
    - allows innovations to be copied with little investment
    - companies may reach larger market
    - customers have more information and can compare prices and features of their products.
    - These benefits are temporary unless...
  - Companies provide unique value to customer

# Strategic Decisions in Operations



# Operations Strategy: Products and Services

## ◆ **Make-to-order**

- products and services are made to customer specifications after an order has been received

## ◆ **Make-to-stock**

- products and services are made in anticipation of demand

## ◆ **Assemble-to-order**

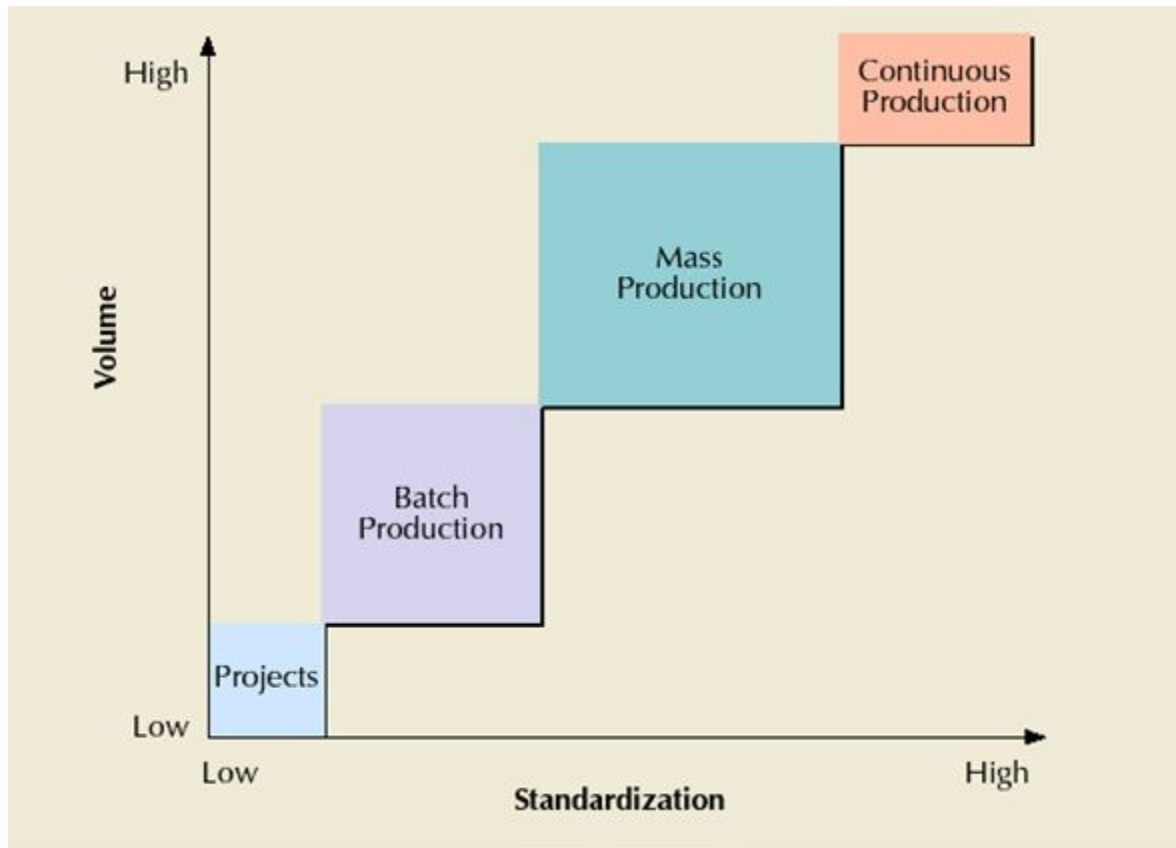
- products and services add options according to customer specifications

# Production Strategy: Processes and technology

- ◆ **Project**
  - one-at-a-time production of a product to customer order
- ◆ **Batch production**
  - systems process many different jobs at the same time in groups (or batches)
- ◆ **Mass production**
  - large volumes of a standard product for a mass market
- ◆ **Continuous production**
  - used for very high volume commodity products



# Product-Process Matrix



Source: Adapted from Robert Hayes and Steven Wheelwright, *Restoring the Competitive Edge: Competing Through Manufacturing* (New York: John Wiley & Sons, 1984), p. 209

More Standardized – Higher Volume



### **Continuous Production**

A paper manufacturer produces a continuous sheet paper from wood pulp slurry, which is mixed, pressed, dried, and wound onto reels.



### **Mass Production**

Here in a clean room a worker performs quality checks on a computer assembly line.



### **Batch Production**

At Martin Guitars bindings on the guitar frame are installed by hand and are wrapped with a cloth webbing until glue is dried.



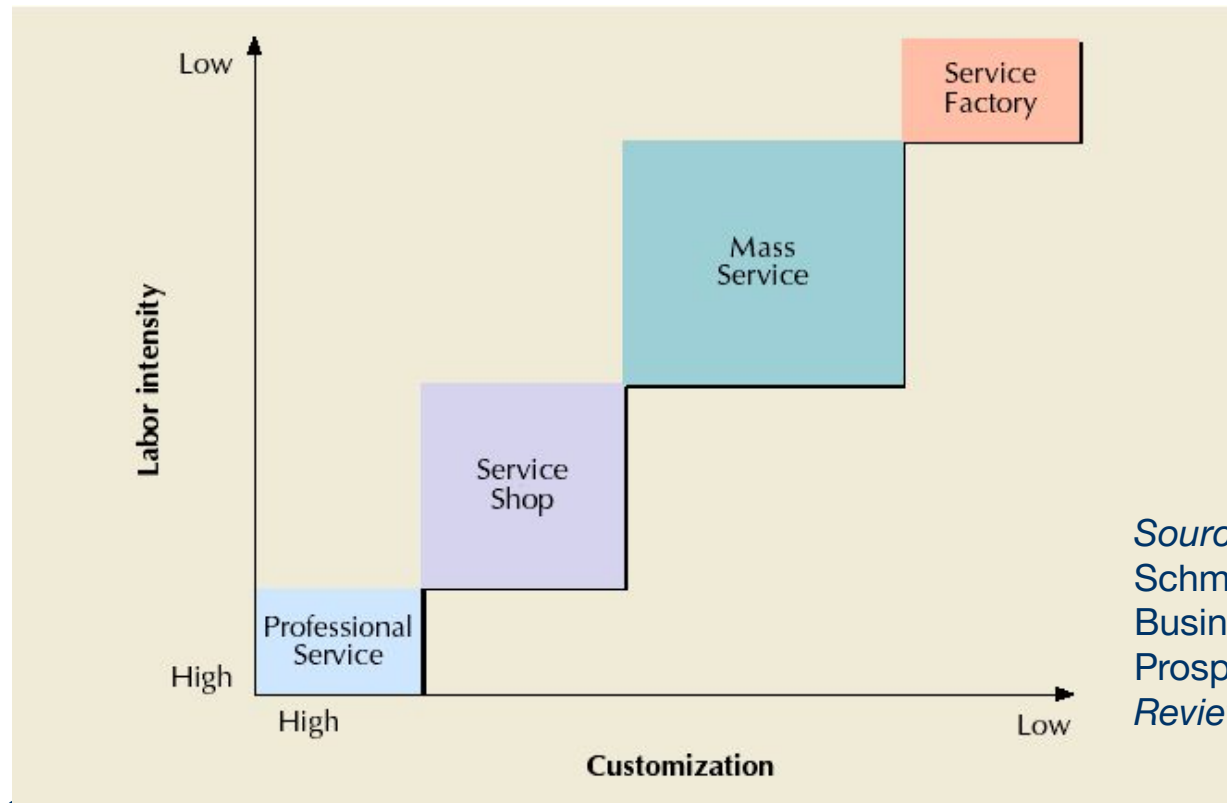
### **Project**

Construction of the aircraft carrier USS Nimitz was a huge project that took almost 10 years to complete.

# Service Strategy: Processes and Technology

- ◆ Professional service
  - highly customized and very labor intensive
- ◆ Service shop
  - customized and labor intensive
- ◆ Mass service
  - less customized and less labor intensive
- ◆ Service Factory
  - least customized and least labor intensive

# Service-Process Matrix



Source: Adapted from Roger Schmenner, "How Can Service Businesses Survive and Prosper?" *Sloan Management Review* 27(3):29

Less Customized-Less Labor Intensive



### **Service Factory**

Electricity is a commodity available continuously to customers.



### **Mass Service**

A retail store provides a standard array of products from which customers may choose.



### **Service Shop**

Although a lecture may be prepared in advance, its delivery is affected by students in each class.



### **Professional Service**

A doctor provides personal service to each patient based on extensive training in medicine.

# Operations Strategy: Capacity and Facility

- ◆ Capacity strategic decisions include:
  - *When, how much, and in what form to alter capacity*
- ◆ Facility strategic decisions include:
  - whether demand should be met with a few large facilities or with several smaller ones
  - whether facilities should focus on serving certain geographic regions, product lines, or customers
  - facility location can also be a strategic decision

# Operations Strategy: Human Resources

- ◆ What is skill levels and degree of autonomy required to operate production system?
- ◆ What are training requirements and selection criteria?
- ◆ What are policies on performance evaluations, compensation, and incentives?
- ◆ Will workers be salaried, paid an hourly rate, or paid a piece rate?
- ◆ Will profit sharing be allowed, and if so, on what criteria?

# Operations Strategy: Human Resources (cont.)

- ◆ Will workers perform individual tasks or work in teams?
- ◆ Will they have supervisors or work in self-managed work groups?
- ◆ How many levels of management will be required?
- ◆ Will extensive worker training be necessary?
- ◆ Should workforce be cross-trained?
- ◆ What efforts will be made in terms of retention?



# Operations Strategy: Quality

- ◆ What is target level of quality for our products and services?
- ◆ How will it be measured?
- ◆ How will employees be involved with quality?
- ◆ What will be the responsibilities of the quality department?

# Operations Strategy: Quality (cont.)

- ◆ What types of systems will be set up to ensure quality?
- ◆ How will quality awareness be maintained?
- ◆ How will quality efforts be evaluated?
- ◆ How will customer perceptions of quality be determined?
- ◆ How will decisions in other functional areas affect quality?

# Operations Strategy: Sourcing

- ◆ Vertical integration
  - degree to which a firm produces parts that go into its products
- ◆ Strategic Decisions
  - How much of work should be done outside the firm?
  - On what basis should particular items be made in-house?
  - When should items be outsourced?
  - How should suppliers be selected?

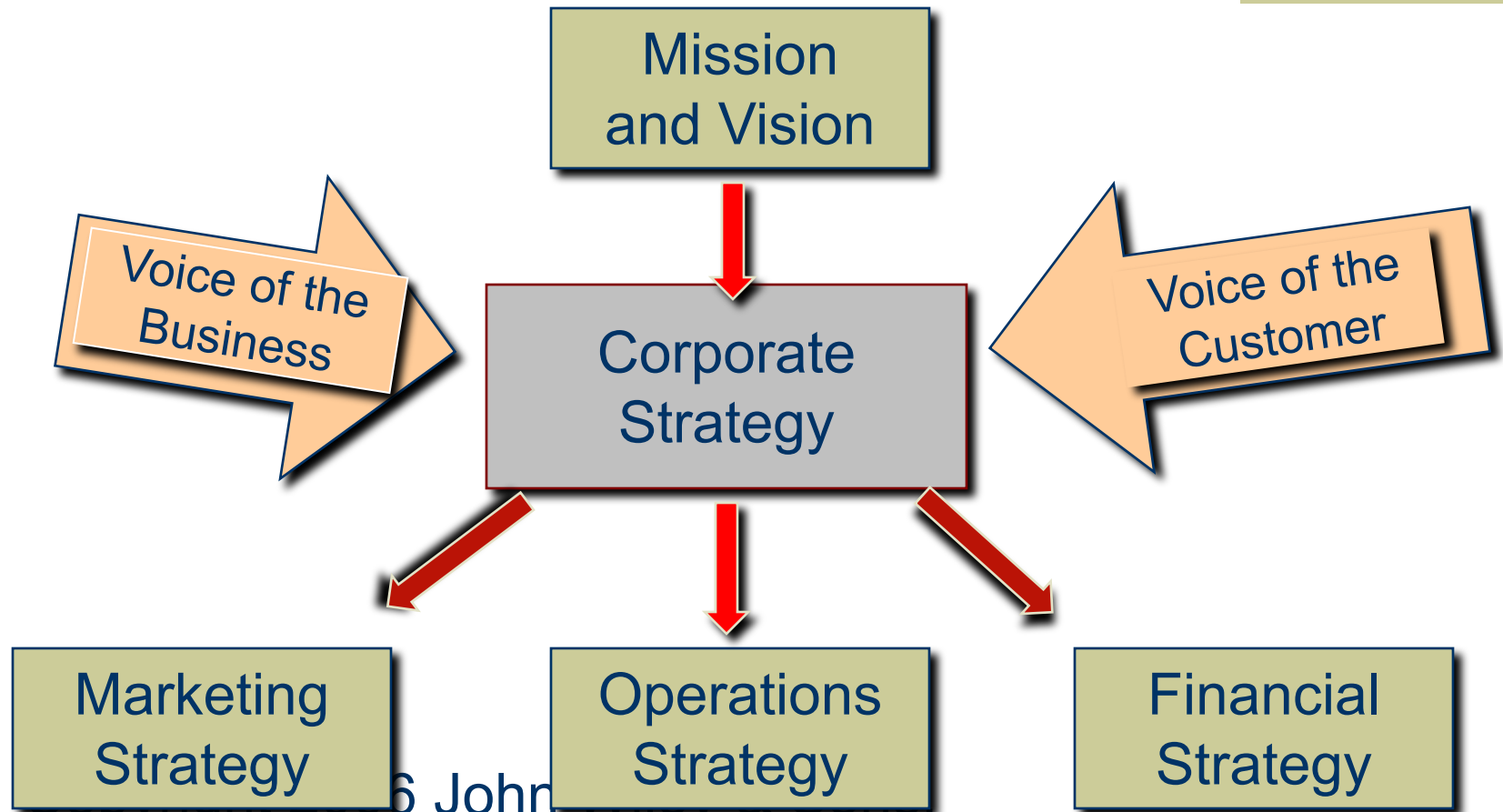
# Operations Strategy: Sourcing (cont.)

- What type of relationship should be maintained with suppliers?
- What is expected from suppliers?
- How many suppliers should be used?
- How can quality and dependability of suppliers be ensured?
- How can suppliers be encouraged to collaborate?

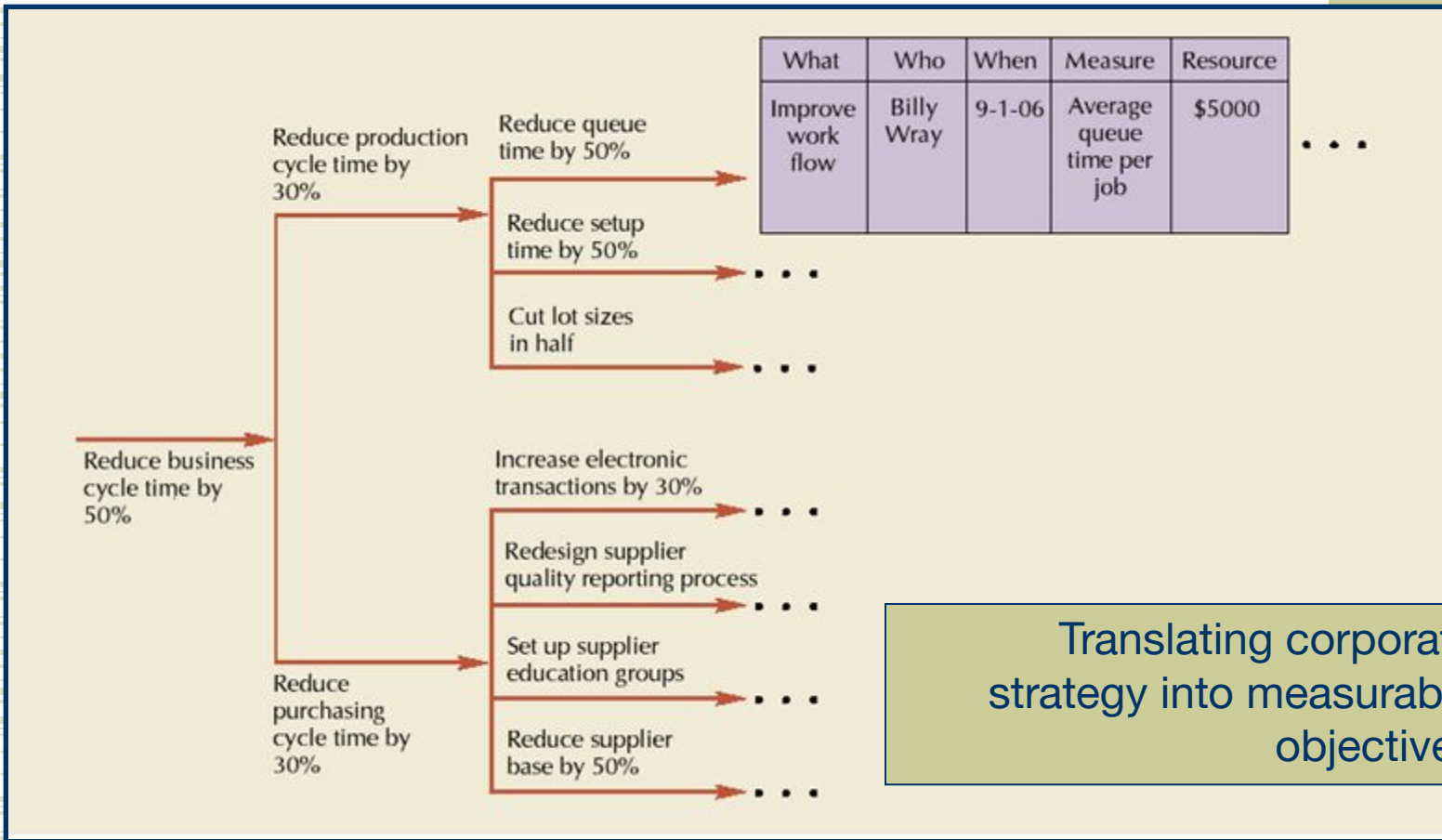
# Operations Strategy: Operating Systems

- ◆ How will operating systems execute strategic decisions?
- ◆ How to align information technology and operations strategic goals?
- ◆ How information technology supports both customer and worker demands for rapid access, storage, and retrieval of information?
- ◆ How information technology support decisions making process related to inventory levels, scheduling priorities, and reward systems?

# Strategic Planning



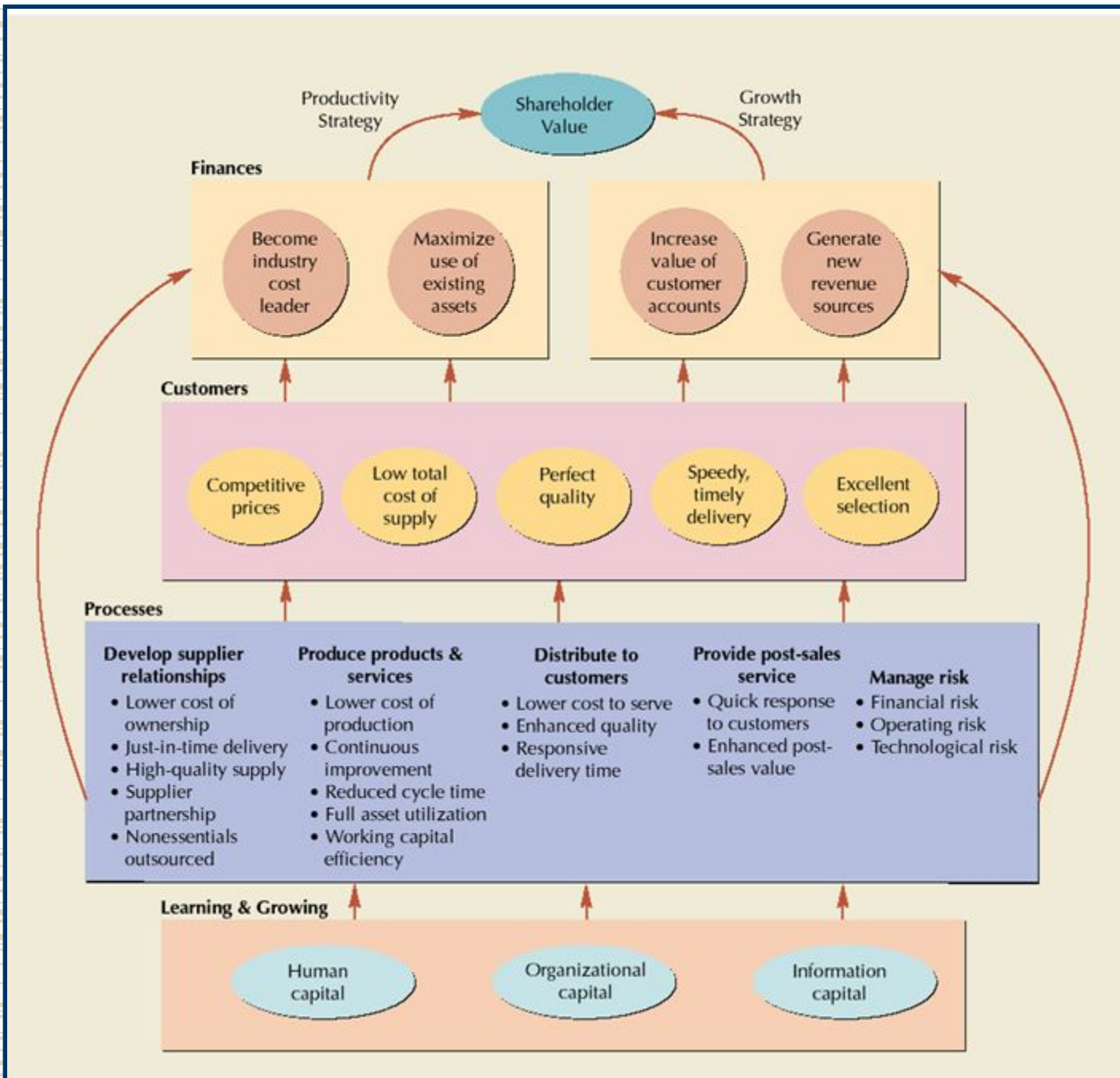
# Policy Deployment



Translating corporate strategy into measurable objectives

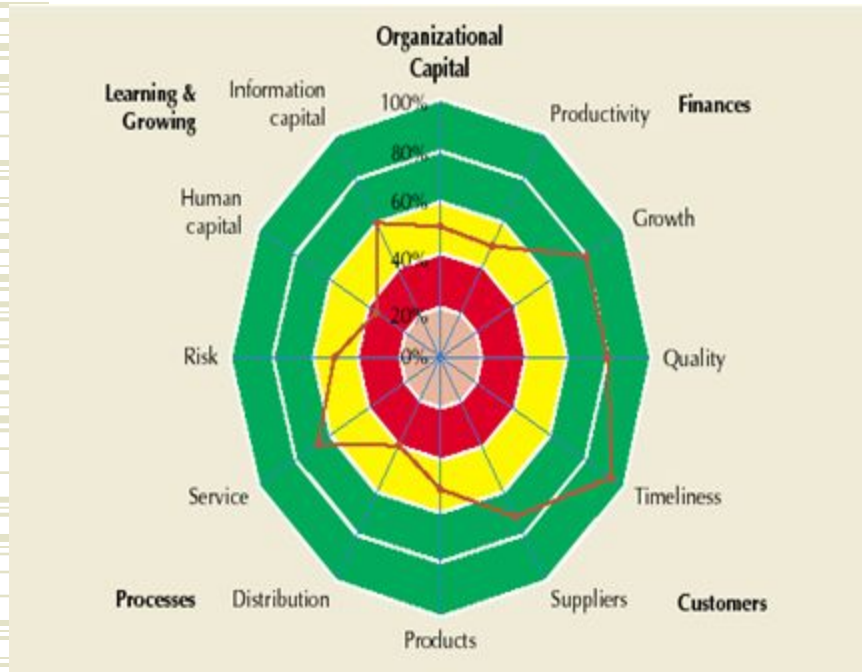
# Key Performance Indicators

Source:  
Robert Kaplan and David Norton, *Strategy Maps: Converting Intangible Assets into Tangible Outcomes* (Boston: Harvard Business School Press, 2004), Figure 3-2, p. 67

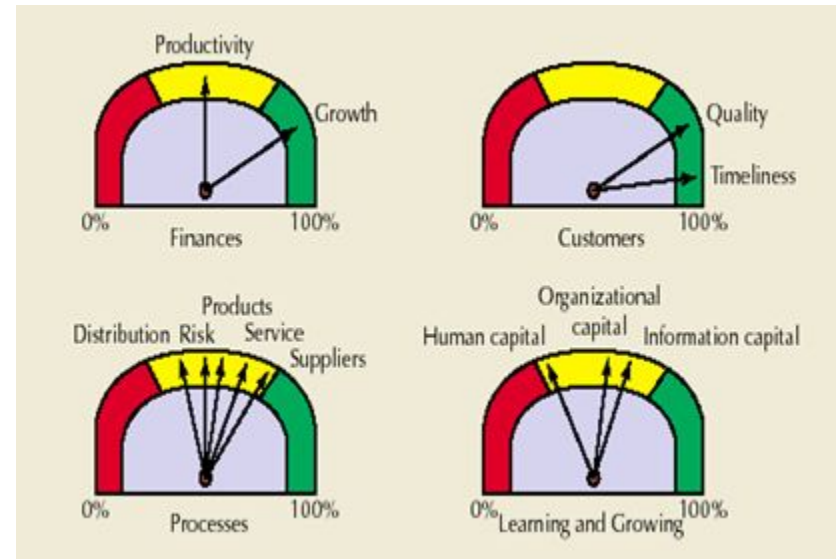




# Balanced Scorecard



Radar Chart



Dashboard

# Issues and Trends in Operations

- ◆ Global markets, global sourcing, and global operations
- ◆ Virtual companies
- ◆ Greater choice, more individualism
- ◆ Emphasis on service
- ◆ Speed and flexibility

# Issues and Trends in Operations (cont.)

- ◆ Supply chains
- ◆ Collaborative commerce
- ◆ Technological advances
- ◆ Knowledge and ability to learn
- ◆ Environmental and social responsibilities

# Changing Corporation

Characteristic	20th-Century Corporation	21st-Century Corporation
Organization	◆ Pyramid	◆ Web
Focus	◆ Internal	◆ External
Style	◆ Structures	◆ Flexible
Source of strength	◆ Stability	◆ Change
Structure	◆ Self-sufficiency	◆ Interdependencies
Resources	◆ Physical assets	◆ Information

Source: Reprinted from John Byrne, "Management by Web," *Business Week* (August 28, 2000), p. 87  
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# Changing Corporation (cont.)


Characteristic	20th-Century Corporation	21st-Century Corporation
Operations	◆ Vertical integration	◆ Virtual integration
Products	◆ Mass production	◆ Mass customization
Reach	◆ Domestic	◆ Global
Financials	◆ Quarterly	◆ Real-time
Inventories	◆ Months	◆ Hours
Strategy	◆ Top-down	◆ Bottom-up

Source: Reprinted from John Byrne, "Management by Web," *Business Week* (August 28, 2000), p. 87  
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# Changing Corporation (cont.)

Characteristic	20th-Century Corporation	21st-Century Corporation
Leadership Workers Job expectations Motivation Improvements Quality	<ul style="list-style-type: none"> <li>◆ Dogmatic</li> <li>◆ Employees</li> <li>◆ Security</li> <li>◆ To compete</li> <li>◆ Incremental</li> <li>◆ Affordable best</li> </ul>	<ul style="list-style-type: none"> <li>◆ Inspirational</li> <li>◆ Employees, free agents</li> <li>◆ Personal growth</li> <li>◆ To build</li> <li>◆ Revolutionary</li> <li>◆ No compromise</li> </ul>

Source: Reprinted from John Byrne, "Management by Web," *Business Week* (August 28, 2000), p. 87  
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