



Chapter 2

Operations Strategy

Operations Management - 5th Edition

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Lecture Outline

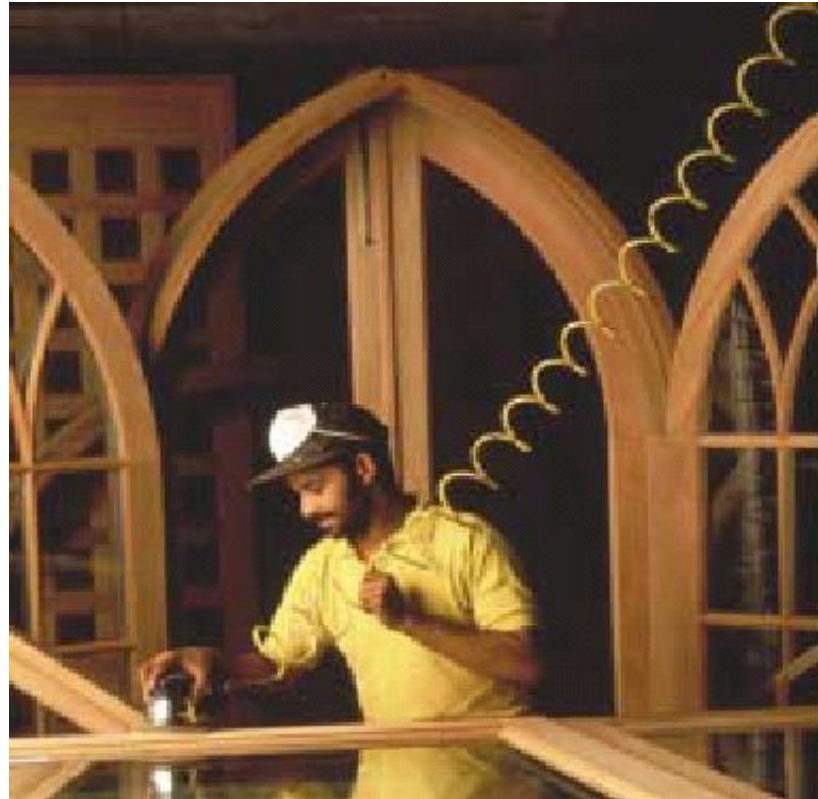
- ◆ Strategy Formulation
- ◆ Competitive Priorities
- ◆ Operations' Role in Corporate Strategy
- ◆ Strategy and the Internet
- ◆ Strategic Decisions in Operations
- ◆ Strategy Deployment
- ◆ Issues and Trends in Operations

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

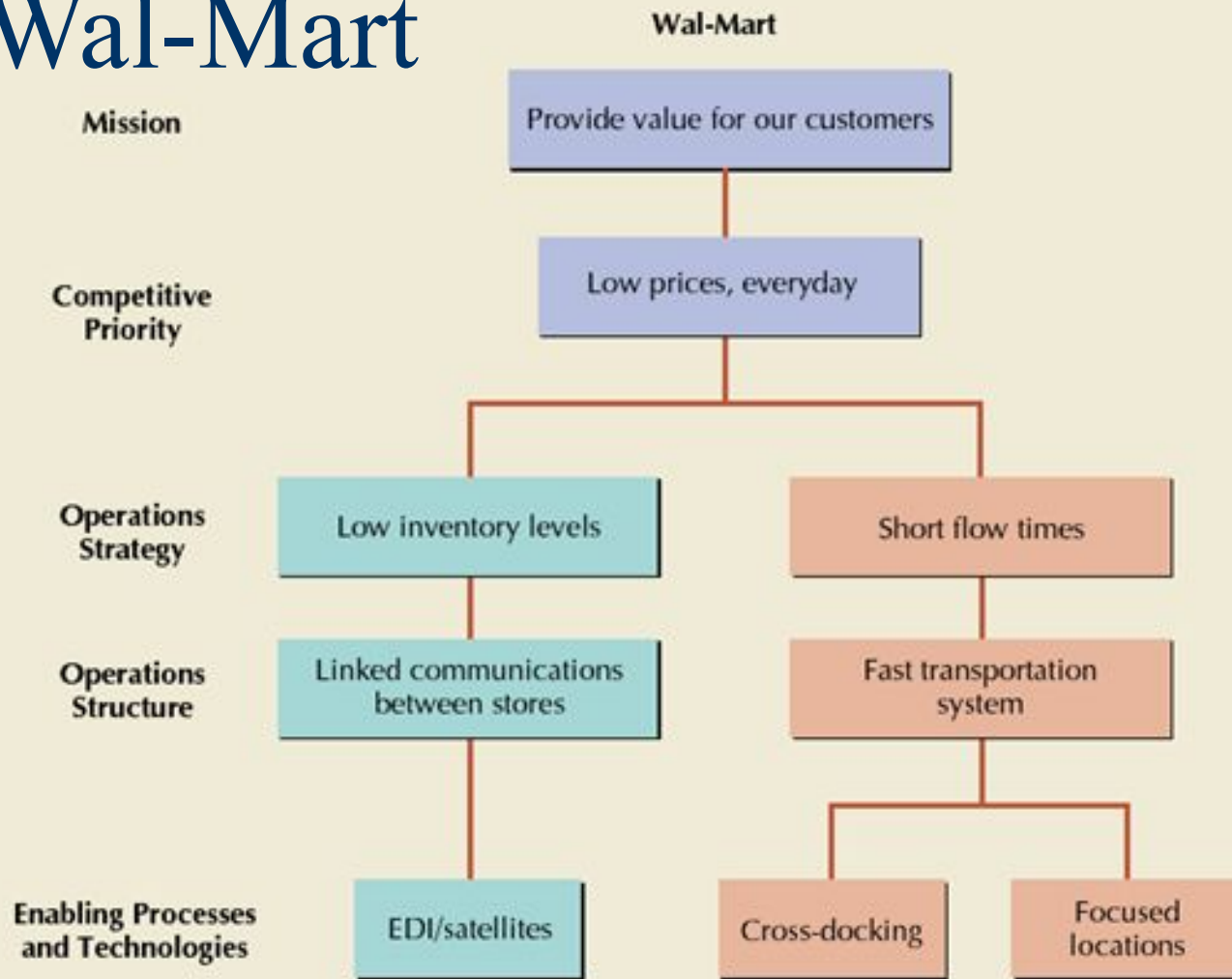
Competitive Priorities: Speed

- ◆ 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

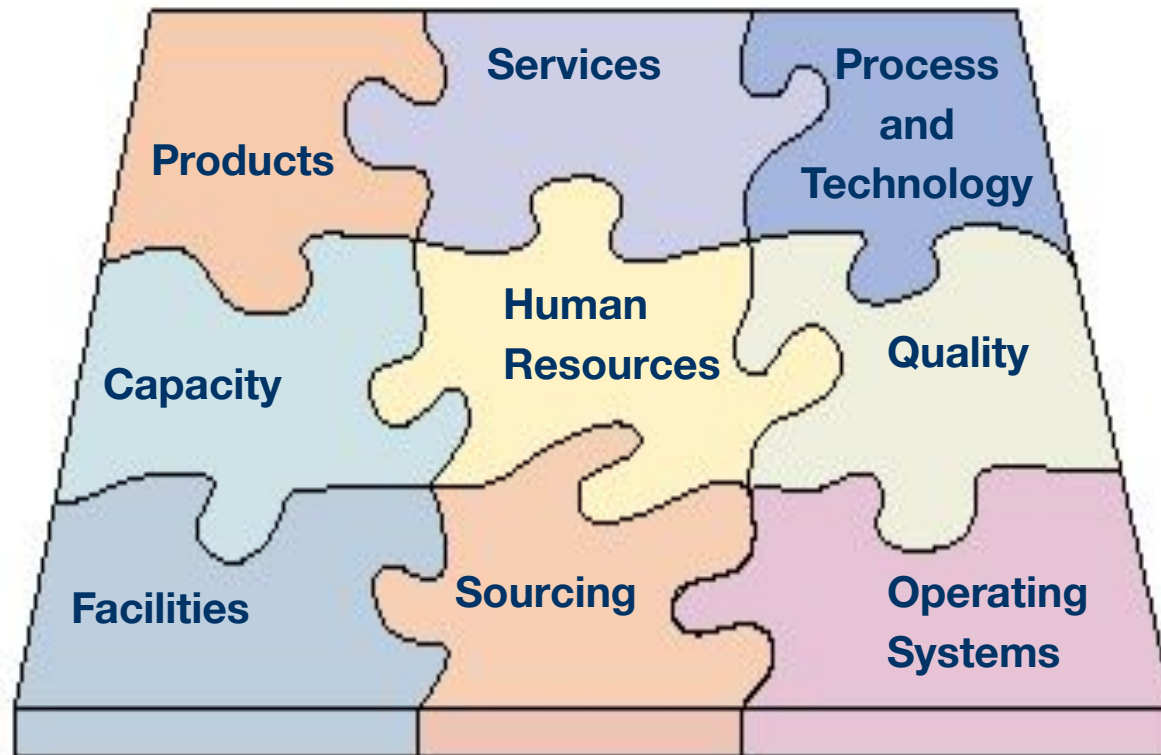
Strategy and the Internet (cont.)

- ◆ 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

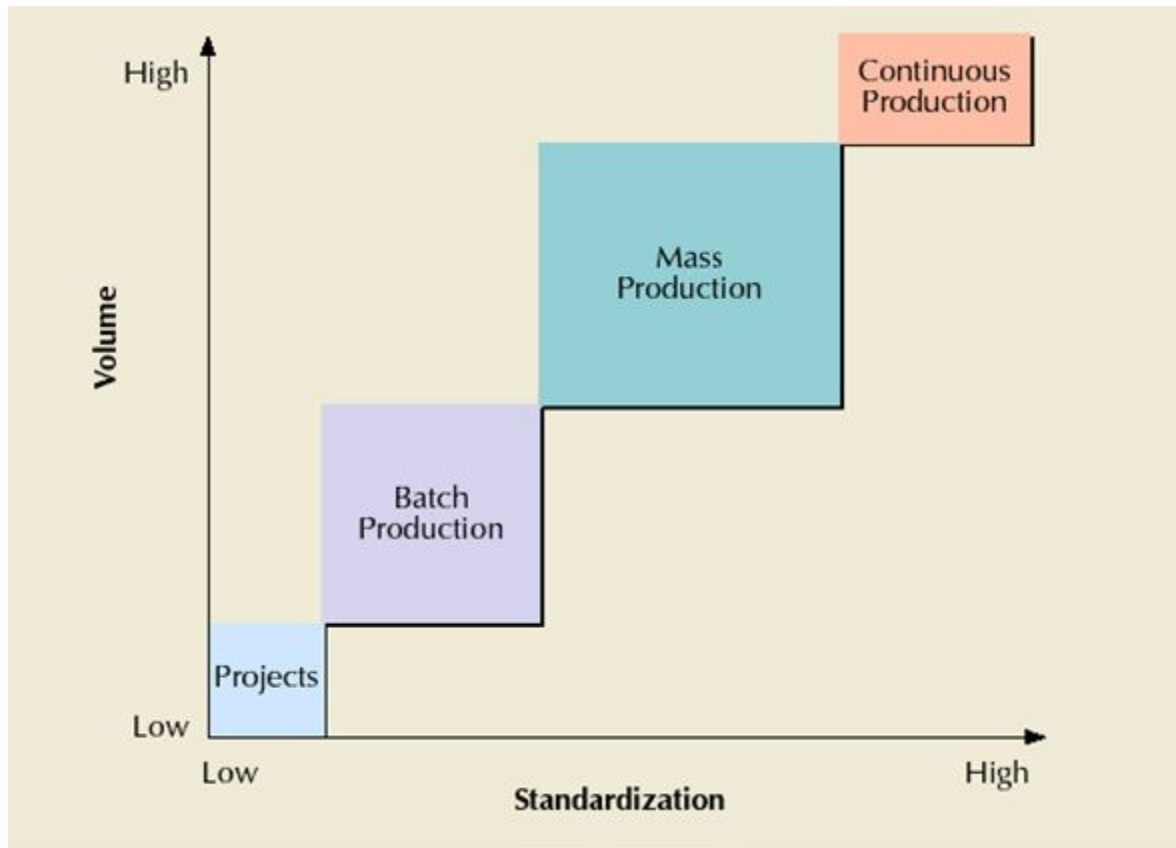
◆ **Assemble-to-order**

- 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.



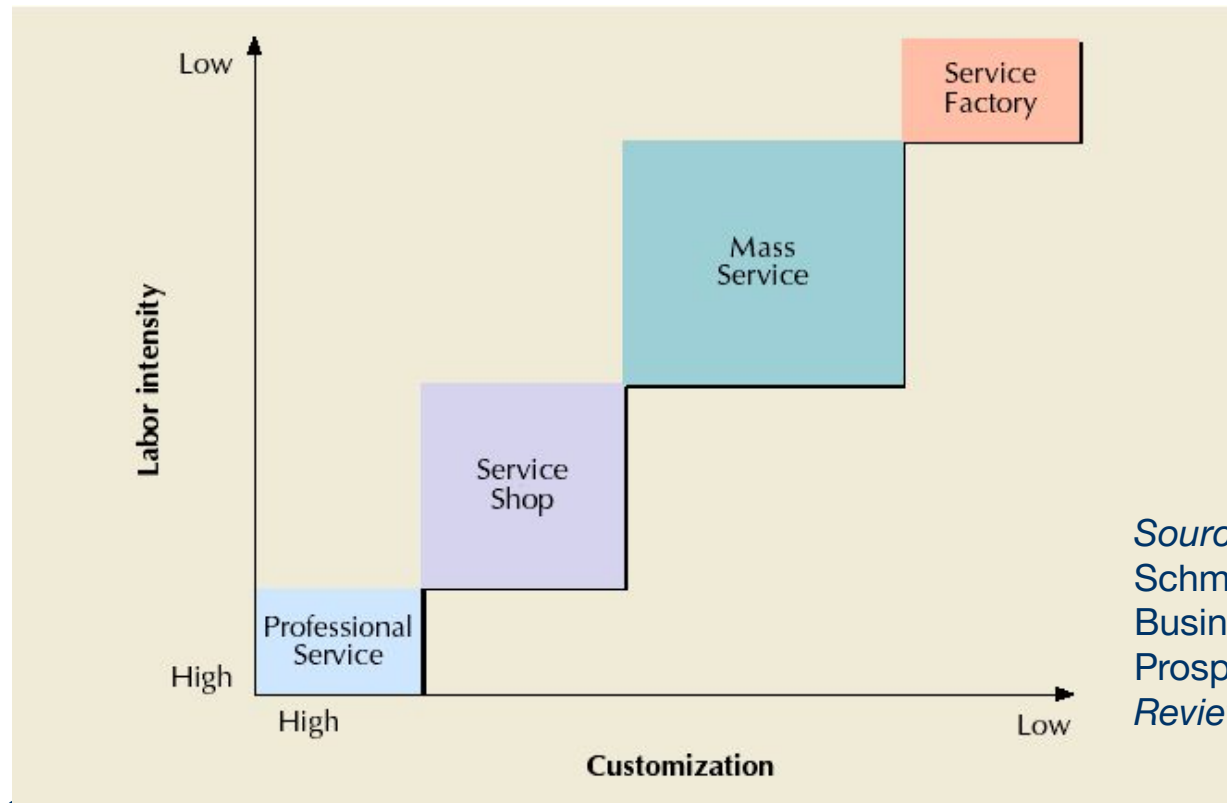
Project

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?

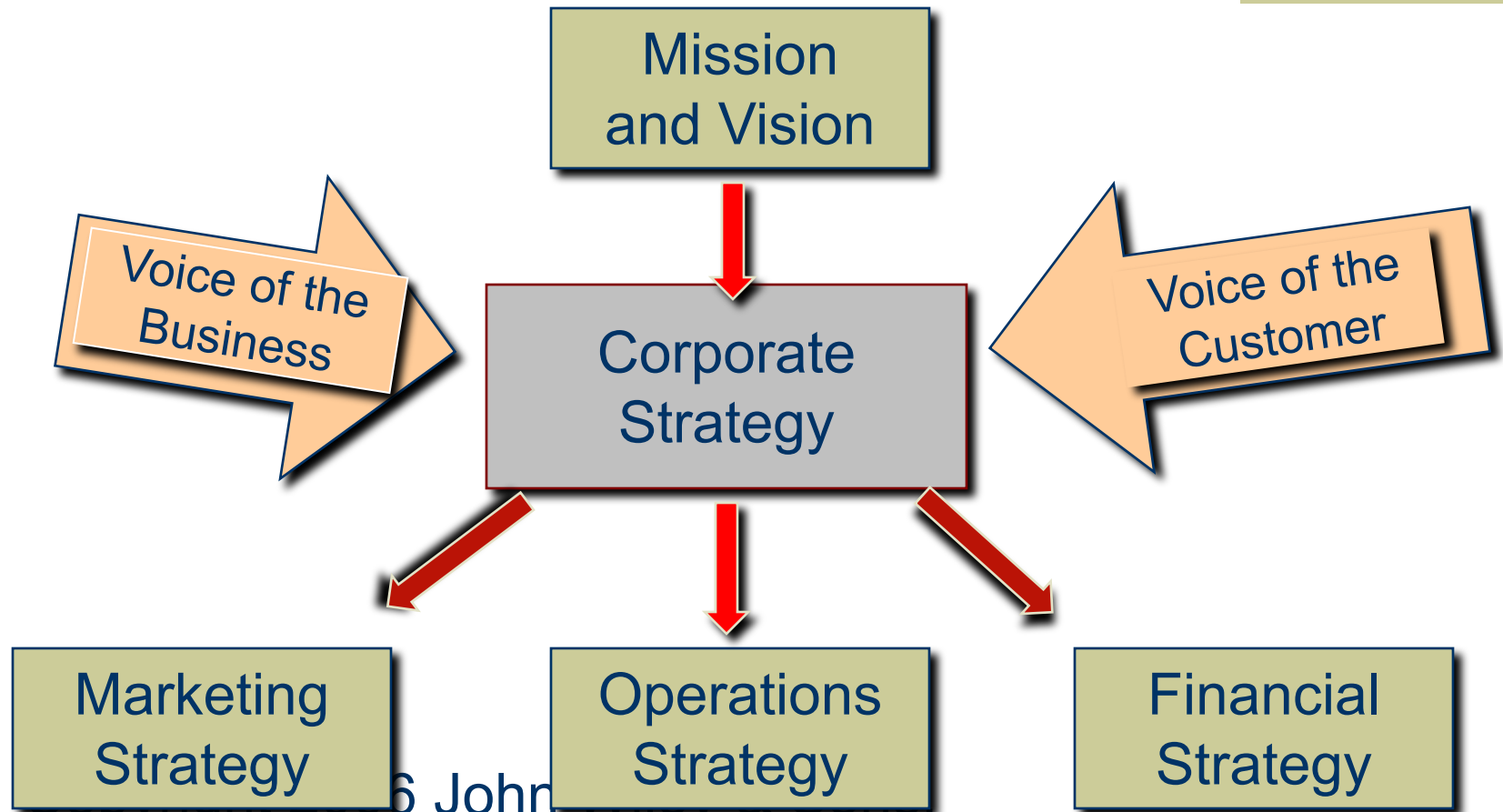
Operations Strategy: Sourcing (cont.)

- 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?

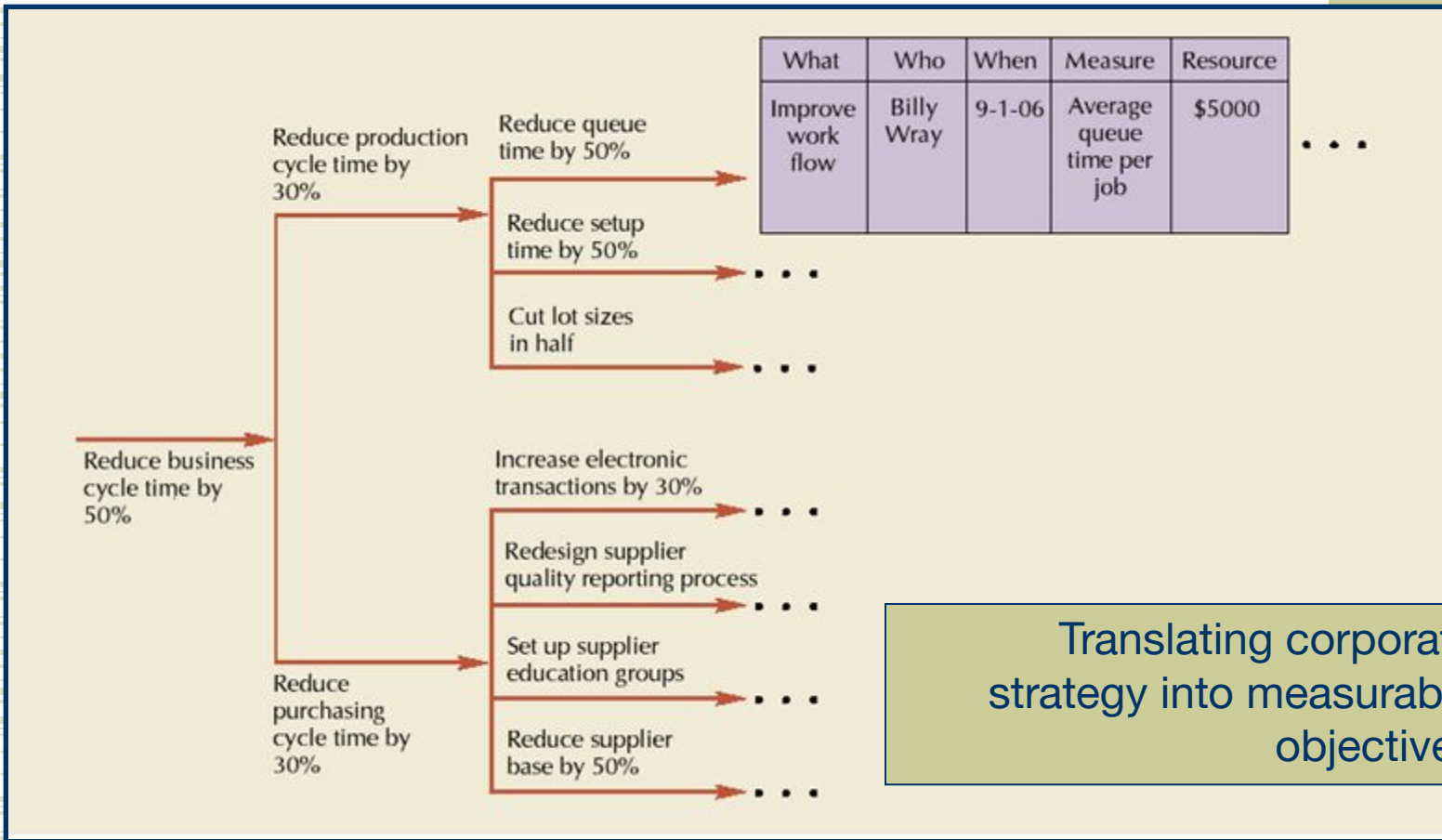
Operations Strategy: Operating Systems

- ◆ 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



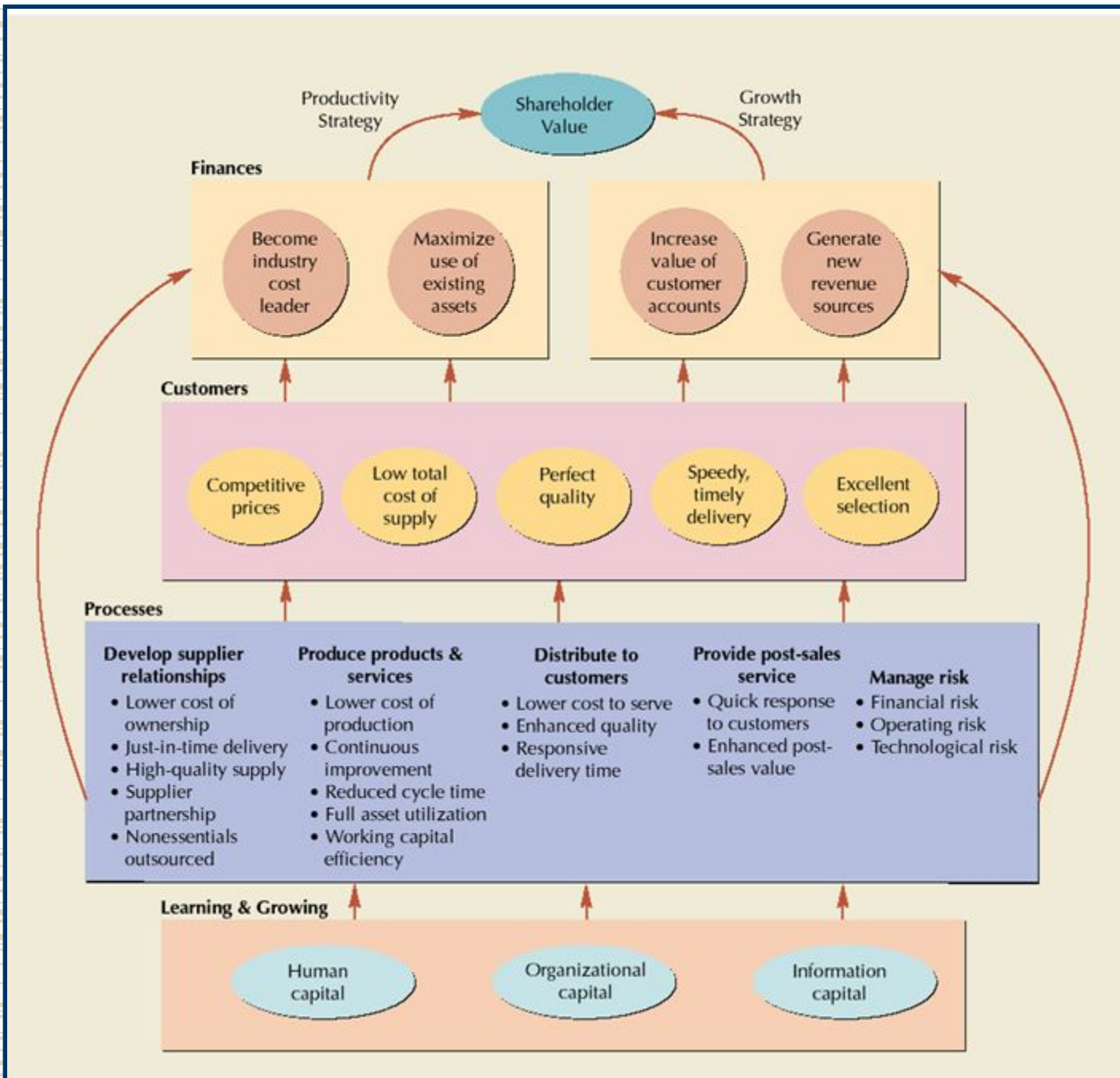
Policy Deployment



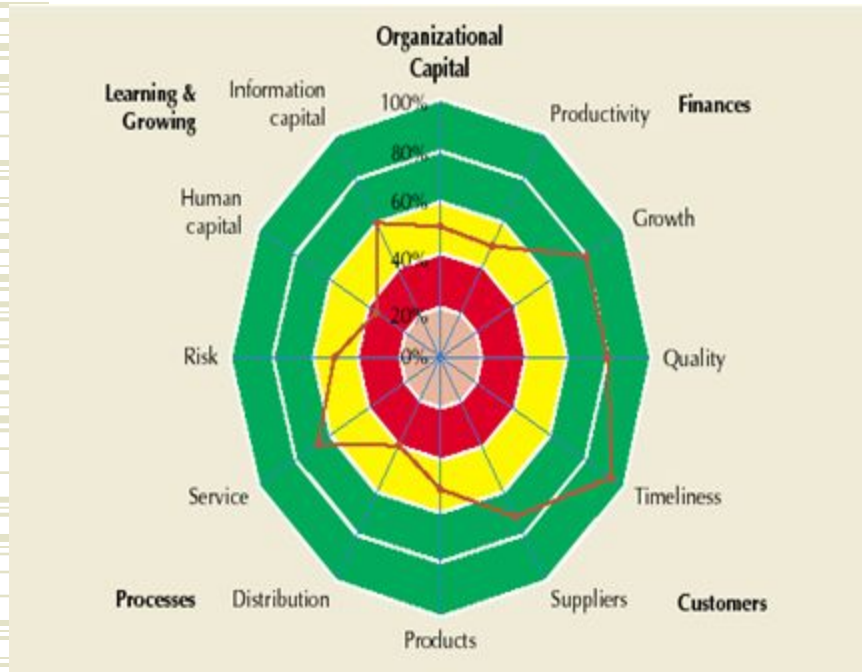
Translating corporate strategy into measurable objectives

Key Performance Indicators

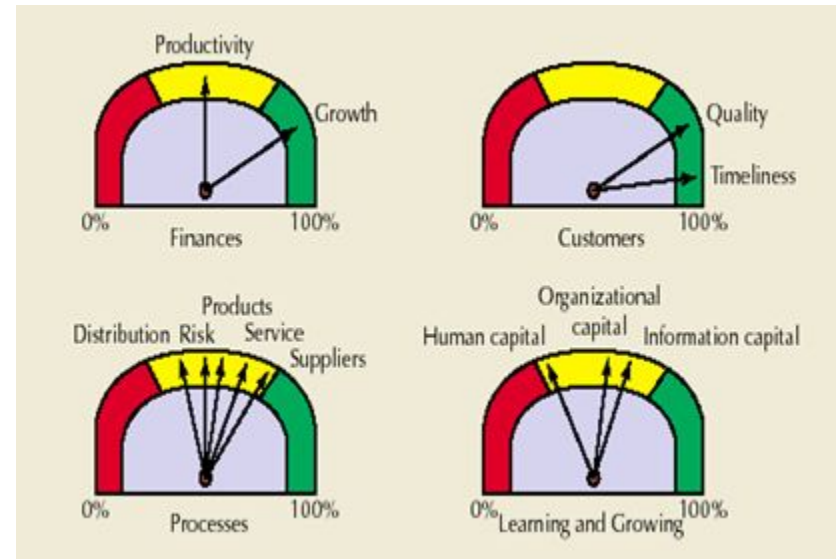
Source:
Robert Kaplan and David Norton, *Strategy Maps: Converting Intangible Assets into Tangible Outcomes* (Boston: Harvard Business School Press, 2004), Figure 3-2, p. 67



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"> ◆ Dogmatic ◆ Employees ◆ Security ◆ To compete ◆ Incremental ◆ Affordable best | <ul style="list-style-type: none"> ◆ Inspirational ◆ Employees, free agents ◆ Personal growth ◆ To build ◆ Revolutionary ◆ No compromise |

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