Part I: Informational Needs of Organizations in a Postindustrial World

Postindustrial World

• Information rich jobs
  - US labor statistics
• Knowledge work
• Developed infrastructure
  - transportation
  - telecommunications
  - global financial markets

Postindustrial World (cont.)

• Available Information
  - exponential increases
• Growth of Complexity
  - numbers of organizations
  - diversity
  - interdependence
• Increased Turbulence
  - pace of events

Postindustrial Responses

• Organizational Redesign
• Continuous Product/Process Improvement
• Acquisition
• Strategic Planning
### Post-Industrial Responses (cont.)

- Better Information Management using IT
- Information Filtering
- New roles for the MIS function

### Changing Role of MIS

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<tr>
<th>Era</th>
<th>Period</th>
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<td>I</td>
<td>1950-1970</td>
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<td>II</td>
<td>1970-1984</td>
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<td>III</td>
<td>1984-present</td>
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### MIS Era I (1950-1970)

- **Primary Objective**
  - operations support
- **Primary Clients**
  - large company units
- **Justification**
  - efficiency
- **Source**
  - DP/MID dept.

### MIS Era II (1970-1984)

- **Primary Objective**
  - management support
- **Primary Clients**
  - individual managers
- **Justification**
  - efficiency
  - effectiveness
- **Source**
  - MIS units and end-users
### Competitition, Strategy and IT in a Postindustrial World

#### MIS Era III (1984-present)

- **Primary Objective**
  - enhance competitive position
- **Primary Clients**
  - business units
- **Justification**
  - market share and profits
- **Source**
  - MIS units and end-users

#### Advantages of Modern IT

- **Data processing**
  - Fast
  - Large scale storage
  - Rapid communication between sites
- **Instant access to information**
- **Coordinating Influence**

#### Advantages (cont.)

- Boundary Spanning
- Decision Making Support
- Formalization of Organizational Practice
- Product/Service Differentiation
- Modeling Capability
- Production Control

#### PostIndustrial Summary

- Information processing is the driving force in PostIndustrial Society
- Organizations must remain flexible
- MIS is more than just data processing
  - support for decision making
  - support for groups
  - coordination and connection
- IT is a new source of competitive advantage!
Part II: Strategic Information Systems

Strategic Information System Defined

• "A strategic information system significantly alters the way an organization does business." (Zwass 1992)
• Information may be obtained from transaction processing systems
• Provides competitive advantage
  - e.g., higher profits; increased market share

Examples of Strategic Info Systems

• Reuters
  - Financial information provider
  - Established an infrastructure of 160,000 customer terminals
  - Allows a new means for traders execute sales
• Merrill Lynch
  - From brokerage house to financial services institution
  - Cash Management Accounts helped steal business from retail banks
  - Utilized electronic fund transfer system (EFTS)

Examples (cont.)

• Dun and Bradstreet
  - merged marketing services with financial info services
• Citicorp Information resources
  - A subsidiary of Citicorp that sells financial software
• Federal Express
  - Cosmos delivery tracking system adds value to overall service
American Airlines (Sabre)

- Sabre airline reservation system
- Over $250 MM to develop
- System became one of the major channels for ticket distribution
  - Links 60,000 terminals to mainframes
  - Over 35% of travel agencies (1988)
  - High switching costs
- Database of millions of prices

Sabre Impacts

- Significant source of revenue for airlines
- High profit margins
- Has a major impact at point of sale
  - "carrier identity bias"
- Allows instant access to competitor prices
- Enabled the development of frequent flyer programs

Baxter Healthcare

- Largest US distributor of hospital supplies
- Developed a "forward integrating" order system for hospital customers
  - Allowed hospitals to order supplies via telephone or bar code reader
  - Later allowed hospital personnel to order supplies via computer terminal using a modem
- Changed the basis for competition

Part III: Competitive Strategy
# Basis for Competition

- **Cost**
  - low cost producer of product or service across all markets
  - low cost producer for select markets
- **Differentiation**
  - Broadly distinguish product/service for all markets
  - Distinguish product/service for a market niche (e.g., geographic, customer)

# Competitive Forces

- Threat of new entrants
- Intensity of rivalry
- Substitution effects
- Bargaining power of customers
- Bargaining power of suppliers

# Securing Competitive Advantage

- Competitive advantage is realized when a company can:
  - differentiate its products or services
  - lower the cost of its products or services
  - mobilize the competitive forces
- There are several tactics available to realize competitive advantage...

# Competitive Advantage

- Internal Innovation
- Organizational growth
- Mergers and acquisitions
- Alliances
Competitive Framework

Modify Competitive Forces:
- New entrants
- Intensity rivalry
- Encourage substitutions
- Bargaining power of suppliers and customers

Choose Tactics:
- Innovation
- Growth
- M&A
- Alliances

Pursue Competitive: Strategies
- Cost
- Differentiation

Competitive Advantage and IT

- Each organization must ask itself: To what extent can IT be used to
  - Pursue competitive strategies?
  - Modify competitive forces?
  - Implement competitive tactics?
- Can you think of examples?

Competitive strategy based on Intensity

- Organizations that have a high information intensity in both product and process are best candidates for IT
  - Add to the information content of the product
  - Use IT to improve the production process

Product/Process Info Intensity Matrix

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<tr>
<th>HI</th>
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<td>Textbook manufacturing</td>
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<tr>
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Pursue competitive strategy based on Value Chain

- Value chain is a form of economic analysis
- Assumes that value is added to the product or service throughout the production process

Value Chain

- Includes:
  - Inbound logistics
  - Operations
  - Outbound logistics
  - Marketing
  - Services

Value Chain Illustration

Examples

- Systems for Inbound Logistics
- Systems for Operations
- Systems for Outbound Logistics
- Systems for Marketing
- Systems for Services
Summary

- The postindustrial era requires the use of information systems
- IT is another means of securing competitive advantage
- Opportunities exist where product/process is information rich

Summary (cont.)

- Look for ways to use IT to influence or implement:
  - Competitive strategy
  - Competitive forces
  - Tactical responses to turbulence and complexity
  - Opportunities in the value chain

Questions

- What are some of the characteristics of the Postindustrial world?
- What was the function of MIS departments during Era I?
  Who was the primary client?
- What is a strategic information system?
- Name two main competitive strategies
- Identify the five competitive forces
Questions (cont.)

- Identify at least two tactics organizations can use to attain competitive advantage
- Explain the value chain
- What is the Sabre system? Why is it important?
- What is the information intensity of a credit report? A computer? Gasoline?