INFORMATION SYSTEMS IN BUSINESS TODAY

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INFORMATION SYSTEMS IN BUSINESS TODAY

- Continual change in technology, management use of technology and the impact on business success.
- New businesses…Mantra of success – adopting of new technologies
- Technology:
  - Emergence of mobile digital platform
  - Software-as-Service (SAS)
  - Cloud computing
- Business computing is fast moving from desktops & laptops to mobile devices to:
  - Coordinate work
  - Communicate with employees
  - Provide information for decision making
- Emergence of Mobile Digital Platform and Web 2.0 technologies

The Role of Information Systems in Business Today

- **How information systems are transforming business**
  - Increase in wireless technology use, Web sites
  - Increased business use of Web 2.0 technologies
  - Cloud computing, mobile digital platform allow more distributed work, decision-making, and collaboration
- **Globalization opportunities**
  - Internet has drastically reduced costs of operating on global scale
  - Presents both challenges and opportunities

The Role of Information Systems in Business Today

- **The emergence of fully digital firm**
  - Significant business relationships are digitally enabled and mediated
  - Core business processes are accomplished through digital networks
  - Key corporate assets are managed digitally
- **Digital firms offer greater flexibility in organization and management**
  - Time shifting, space shifting

The Role of Information Systems in Business Today

- Growing interdependence between ability to use information technology and ability to implement corporate strategies and achieve corporate goals
- **Business firms invest heavily in information systems to achieve six strategic business objectives:**
  1. Operational excellence
  2. New products, services, and business models
  3. Customer and supplier intimacy
  4. Improved decision making
  5. Competitive advantage
  6. Survival

The Role of Information Systems in Business Today

- **Operational excellence:**
  - Improvement of efficiency to attain higher profitability
  - Information systems, technology an important tool in achieving greater efficiency and productivity
  - Walmart's RetailLink system links suppliers to stores for superior replenishment system

The Role of Information Systems in Business Today

- **New products, services, and business models:**
  - **Business model:** describes how company produces, delivers, and sells product or service to create wealth
  - Information systems and technology a major enabling tool for new products, services, business models

The Role of Information Systems in Business Today

- **Customer and supplier intimacy:**
  - **Serving customers well leads to customers returning, which raises revenues and profits**
    - Example: High-end hotels that use computers to track customer preferences and use to monitor and customize environment
  - **Intimacy with suppliers allows them to provide vital inputs, which lowers costs**

The Role of Information Systems in Business Today

- **Improved decision making**
  - **Without accurate information:**
    - Managers must use forecasts. Best guesses, luck
    - Leads to:
      - Overproduction, underproduction of goods and services
      - Misallocation of resources
      - Poor response times
    - Poor outcomes raise costs, lose customers

The Role of Information Systems in Business Today

- **Operational excellence:**
  - Improvement of efficiency to attain higher profitability
- **New products, services, and business models:**
  - Enabled by technology
- **Customer and supplier intimacy:**
  - Serving customers raises revenues and profits
  - Better communication with suppliers lowers costs
- **Improved decision making**
  - More accurate data leads to better decisions

The Role of Information Systems in Business Today

- **Competitive advantage**
  - Delivering better performance
  - Charging less for superior products
  - Responding to customers and suppliers in real time

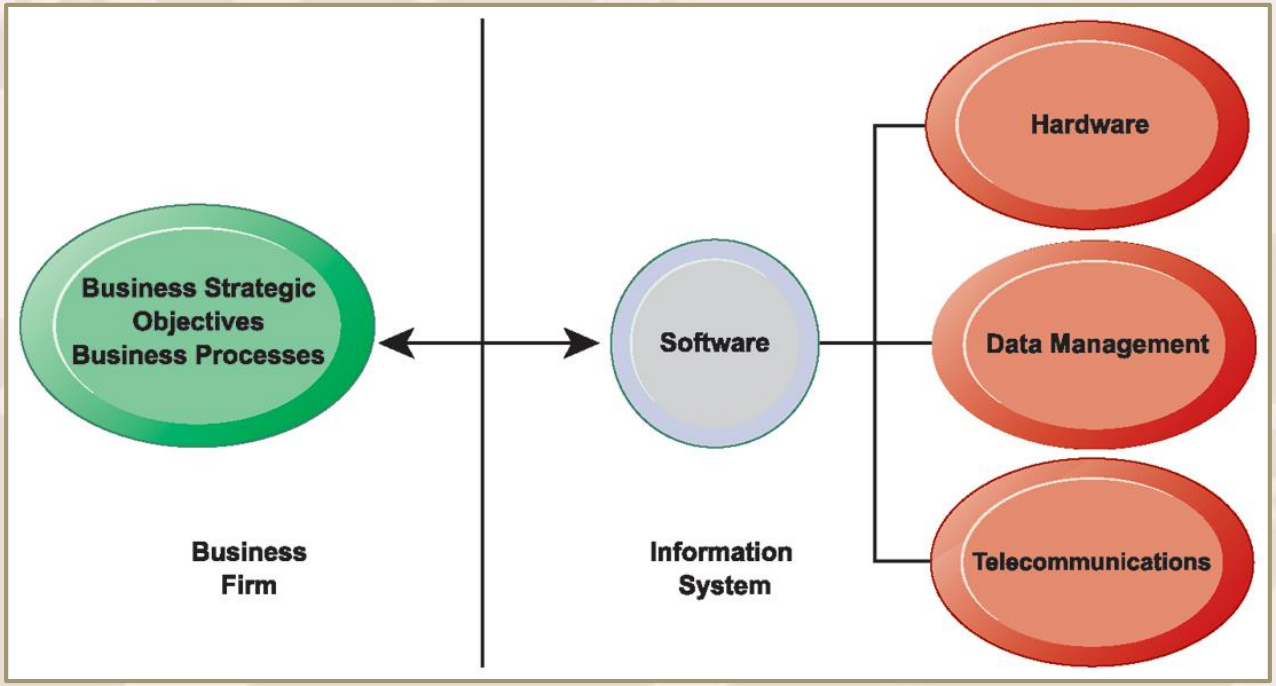
The Role of Information Systems in Business Today

- **Survival**
  - **Information technologies as necessity of business**
  - **May be:**
    - Industry-level changes, e.g. Citibank's introduction of ATMs
    - Governmental regulations requiring record-keeping
      - Examples: Toxic Substances Control Act, Sarbanes-Oxley Act

Management Information Systems

The Role of Information Systems in Business Today

The Interdependence Between Organizations and Information Technology



In contemporary systems there is a growing interdependence between a firm's information systems and its business capabilities. Changes in strategy, rules, and business processes increasingly require changes in hardware, software, databases, and telecommunications. Often, what the organization would like to do depends on what its systems will permit it to do.

Perspectives on Information Systems

- **Three activities of information systems produce information organizations need**

1. **Input:** Captures raw data from organization or external environment
2. **Processing:** Converts raw data into meaningful form
3. **Output:** Transfers processed information to people or activities that use it

Perspectives on Information Systems

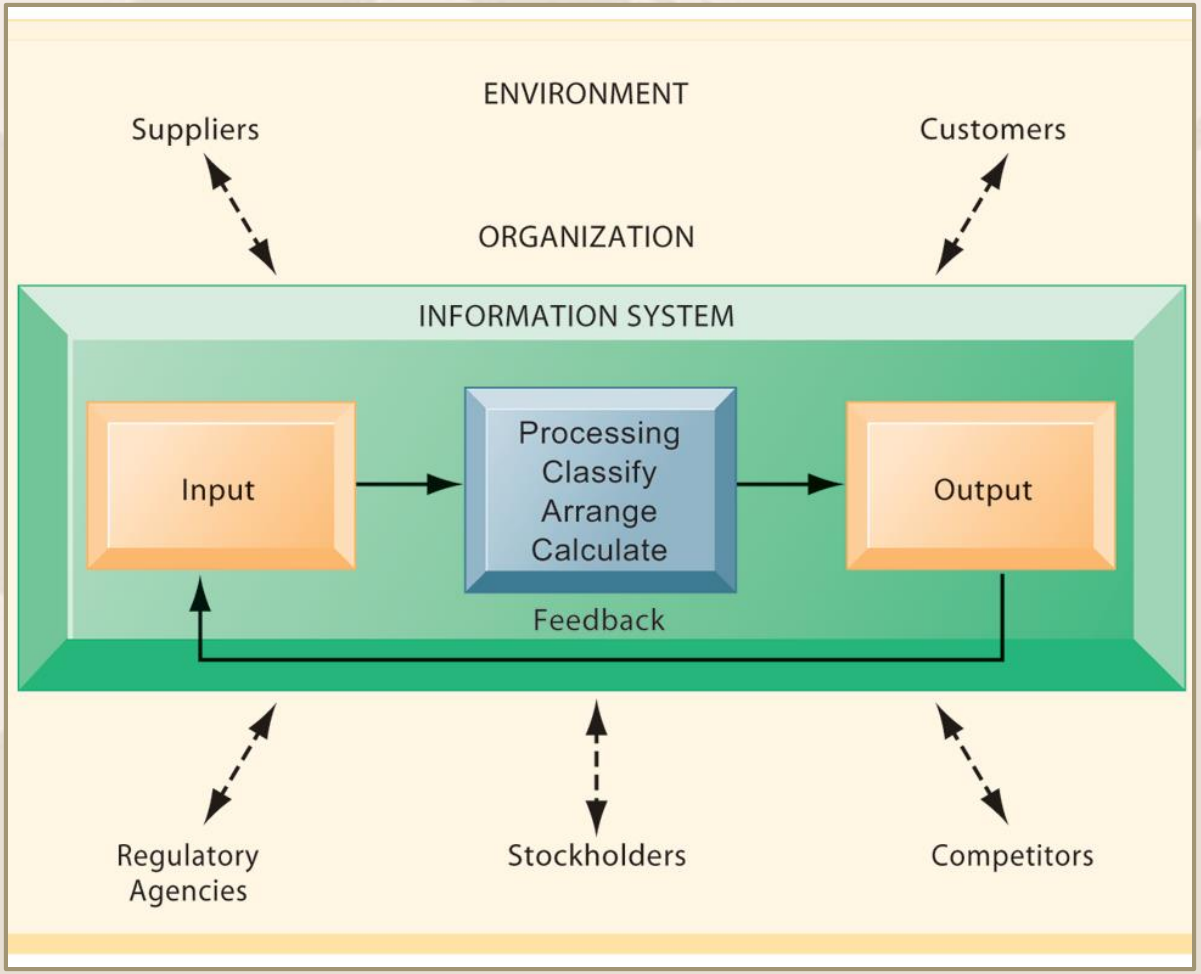
- **Feedback:**
  - Output returned to appropriate members of organization to help evaluate or correct input stage
- **Computer/Computer program vs. information system**
  - Computers and software are technical foundation and tools, similar to the material and tools used to build a house

Management Information Systems

Perspectives on Information Systems

Functions of an Information System

An information system contains information about an organization and its surrounding environment. Three basic activities—input, processing, and output—produce the information organizations need. **Feedback is output returned to appropriate people or activities in the organization to evaluate and refine the input.** Environmental actors, such as customers, suppliers, competitors, stockholders, and regulatory agencies, interact with the organization and its information systems.

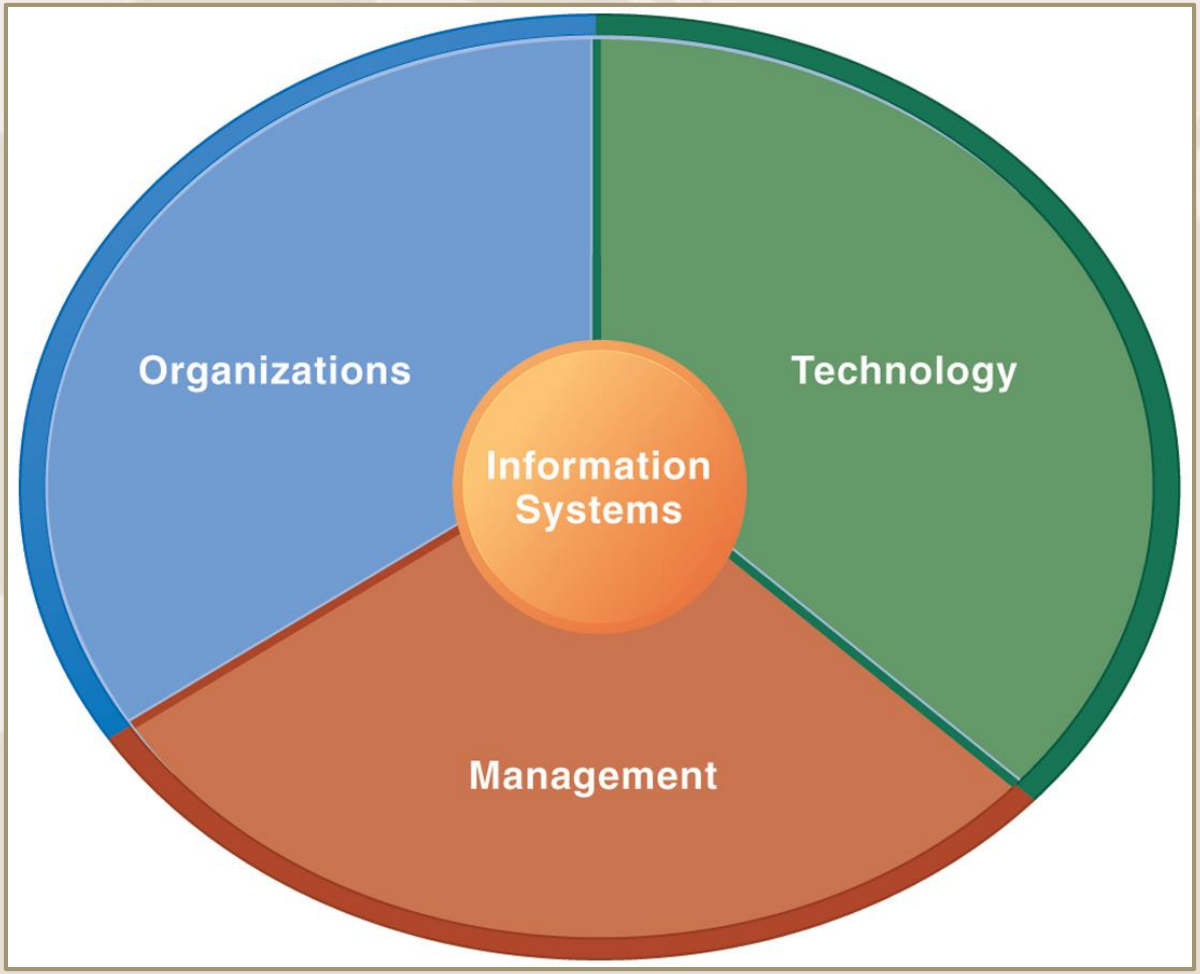


Management Information Systems

Perspectives on Information Systems

Information Systems Are More Than Computers

Using information systems effectively requires an understanding of the organization, management, and information technology shaping the systems. An information system creates value for the firm as an organizational and management solution to challenges posed by the environment.



Perspectives on Information Systems

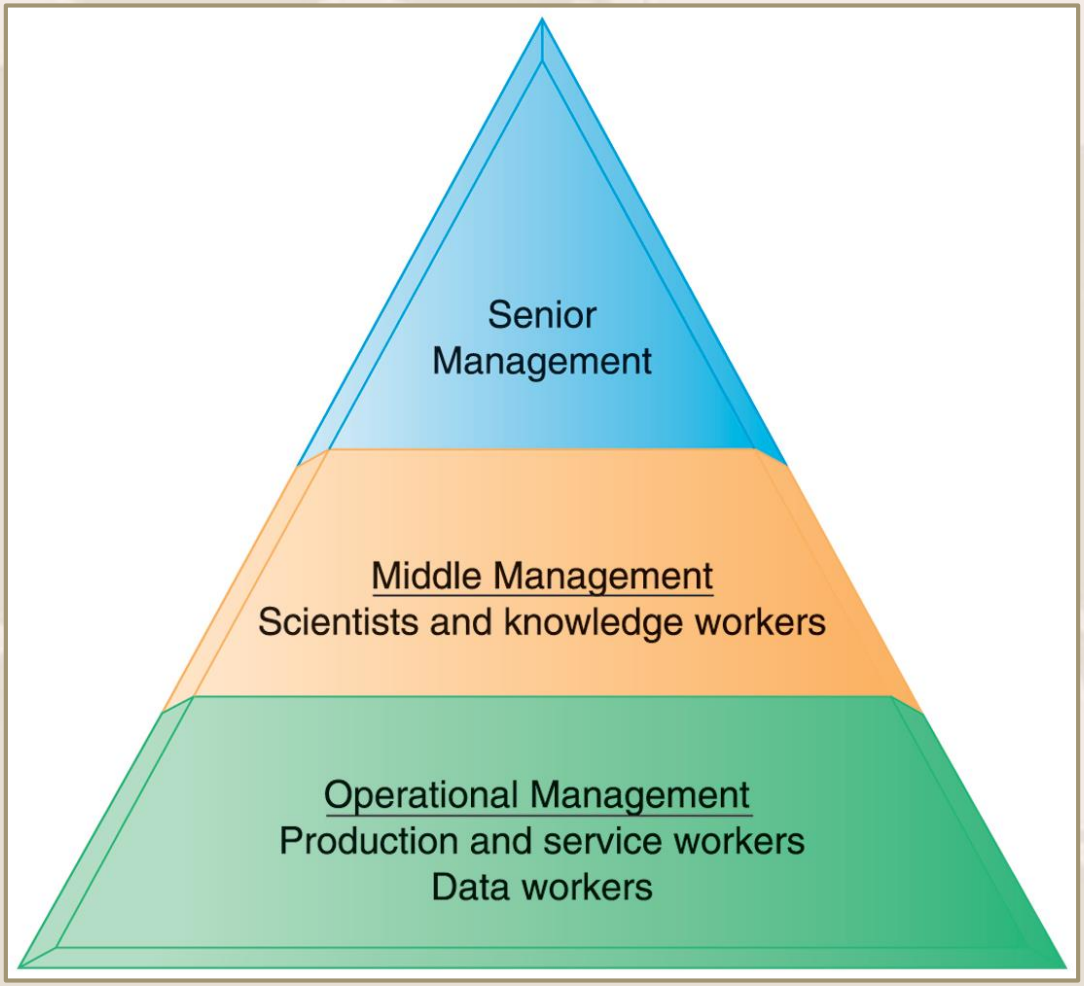
- **Organizational dimension of information systems**
  - **Hierarchy of authority, responsibility**
    - Senior management
    - Middle management
    - Operational management
    - Knowledge workers
    - Data workers
    - Production or service workers

Management Information Systems

Perspectives on Information Systems

Levels in a Firm

Business organizations are hierarchies consisting of three principal levels: senior management, middle management, and operational management. Information systems serve each of these levels. Scientists and knowledge workers often work with middle management.



Perspectives on Information Systems

- **Organizational dimension of information systems (cont.)**
  - **Separation of business functions**
    - Sales and marketing
    - Human resources
    - Finance and accounting
    - Manufacturing and production
  - **Unique business processes**
  - **Unique business culture**
  - **Organizational politics**

Perspectives on Information Systems

- **Management dimension of information systems**
  - **Managers set organizational strategy for responding to business challenges**
  - **In addition, managers must act creatively:**
    - Creation of new products and services
    - Occasionally re-creating the organization

Perspectives on Information Systems

- **Technology dimension of information systems**
  - **Computer hardware and software**
  - **Data management technology**
  - **Networking and telecommunications technology**
    - Networks, the Internet, intranets and extranets, World Wide Web
  - **IT infrastructure: provides platform that system is built on**

Perspectives on Information Systems

- **Business perspective on information systems:**
  - **Information system is instrument for creating value**
  - **Investments in information technology will result in superior returns:**
    - Productivity increases
    - Revenue increases
    - Superior long-term strategic positioning

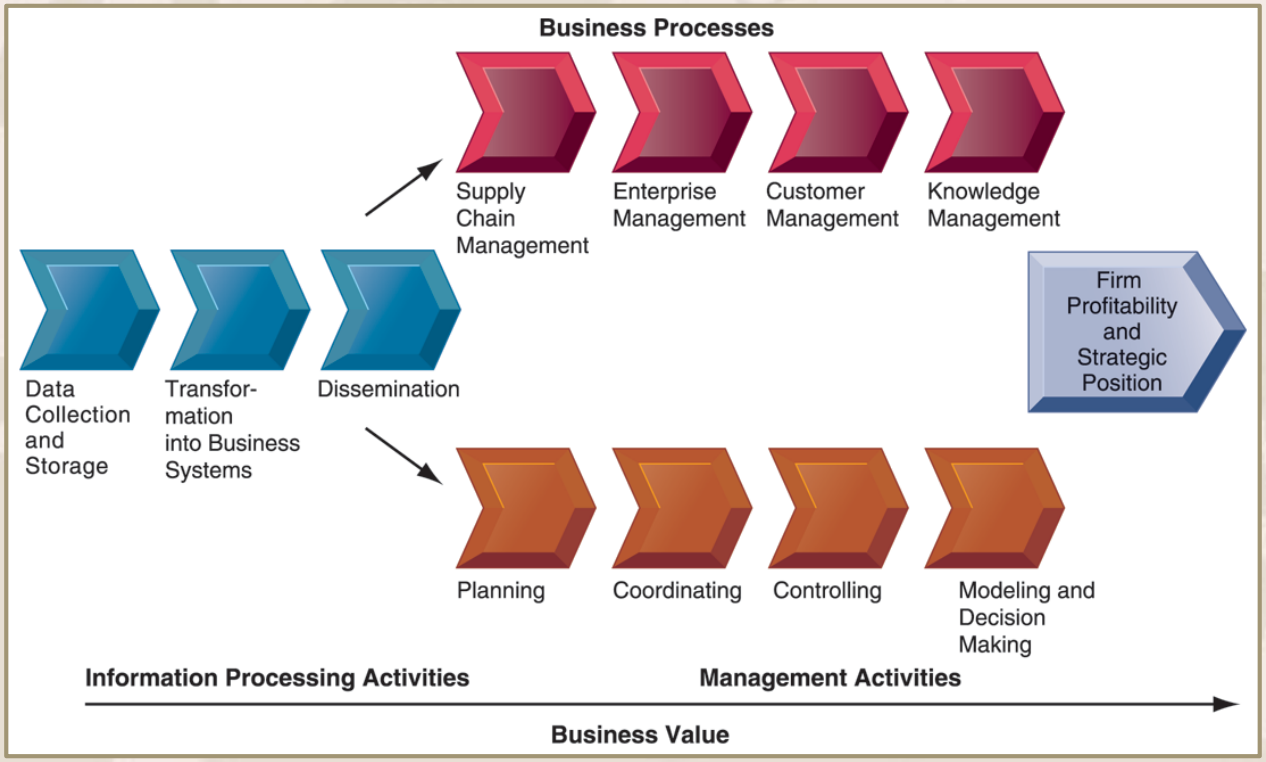
Perspectives on Information Systems

- **Business information value chain**
  - Raw data acquired and transformed through stages that add value to that information
  - Value of information system determined in part by extent to which it leads to **better decisions, greater efficiency, and higher profits**
- **Business perspective:**
  - Calls attention to organizational and managerial nature of information systems

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Perspectives on Information Systems

The Business Information Value Chain



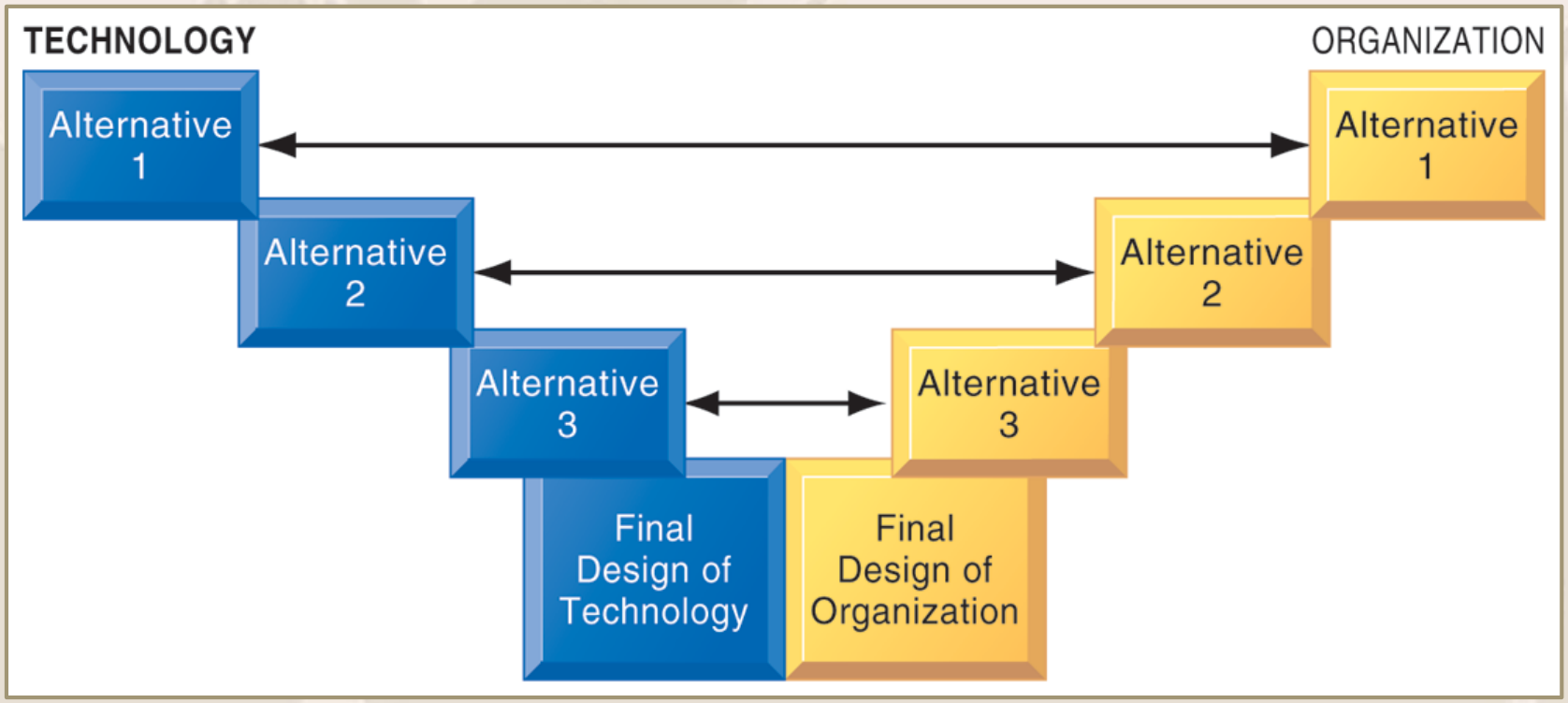
From a business perspective, information systems are part of a series of value-adding activities for acquiring, transforming, and distributing information that managers can use to improve decision making, enhance organizational performance, and, ultimately, increase firm profitability.

Contemporary Approaches to Information Systems

- **Sociotechnical view**
  - Optimal organizational performance achieved by jointly optimizing both social and technical systems used in production
  - Helps avoid purely technological approach

Contemporary Approaches to Information Systems

A Sociotechnical Perspective on Information Systems



In a sociotechnical perspective, the performance of a system is optimized when both the technology and the organization mutually adjust to one another until a satisfactory fit is obtained.



Thank You