Information Systems
ISM 3011

Fall 2003

Unit 2A

Important: Assignment 1 pending

1. The description of Assignment 1 has been available on the Internet since September 4, 2003.
2. The final paper is due on September 12, 2003, 12:00 noon.
3. Please see the course web page for more details.

Assignment for Next Class

- Read chapter 3 (p. 84 - 123)
- Self-Assessment test (p. 123 - 124)
- Check that you know the key terms listed on p. 124
- Prepare review questions

Information Systems in Organizations

Principles of Information Systems
Sixth Edition - Chapter 2

Principles and Learning Objectives

- The use of information systems to add value to the organization is strongly influenced by organizational structure, culture, and change.
  - Identify the value-added processes in the supply chain and describe the role of information systems within them.
  - Provide a clear definition of the terms organizational structure, culture, and change and discuss how they affect the implementation of information systems.

Principles and Learning Objectives

- Because information systems are so important, businesses need to be sure that improvements or completely new systems help lower costs, increase profits, improve service, or achieve a competitive advantage.
  - Identify some of the strategies employed to lower costs or improve service.
  - Define the term competitive advantage and discuss how organizations are using information systems to gain such an advantage.
  - Discuss how organizations justify the need for information systems.

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Principles and Learning Objectives

- Information systems personnel are the key to unlocking the potential of any new or modified system.
  - Define the types of roles, functions, and careers available in information systems.

Organizations & Information Systems

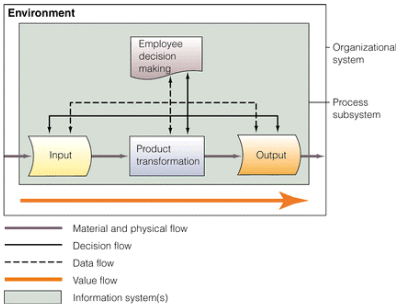

FIGURE 2-1
A General Model of an Organization
Information systems support and work within all parts of an organizational process. Although not shown in this simple model, input to the process subsystem can come from internal and external sources. Just prior to entering the subsystem, data is external. Once it enters the subsystem, it becomes internal. Likewise, goods and services can be output to either internal or external systems.

Value Chain

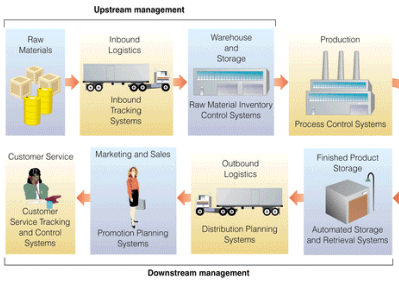

FIGURE 2-2
The Value Chain of a Manufacturing Company
The management of raw materials, inbound logistics, and warehouse and storage facilities is called upstream management, and the management of finished product storage, outbound logistics, marketing and sales, and customer service is called downstream management.

Organizational Structure

- Organizational subunits and their relationship with the overall organization
- Categories of organizational structure:
  - Team
  - Traditional
  - Multidimensional
  - Project
  - Virtual

Traditional Organizational Structure

FIGURE 2-3
A simplified model of the organization, showing the managerial pyramid from top-level managers to nonmanagement employees.

Example of a Traditional Structure

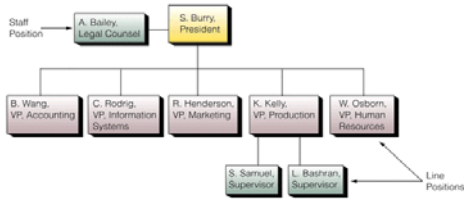

FIGURE 2-4
A Traditional Organizational Structure

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Project Organizational Structure

- Centered on major products and services
- Temporary project teams

Team Organizational Structure

- Temporary or permanent teams
- Work groups
- Various sizes

Multidimensional Organizational Structure

- May incorporate several structures at the same time
- Advantage:
  - ability to simultaneously stress both traditional corporate areas and important product lines
- Disadvantage:
  - multiple lines of authority

Multidimensional Organizational Structure

FIGURE 2-6

A Multidimensional Organizational Structure

Employees in each group may have two bosses—a project boss and a functional boss.

	Vice President, Marketing	Vice President, Production	Vice President, Finance
Publisher, College Division	Marketing Group	Production Group	Finance Group
Publisher, Trade Division	Marketing Group	Production Group	Finance Group
Publisher, High School Division	Marketing Group	Production Group	Finance Group

Virtual Organizational Structure

- Employs business units in geographically dispersed areas
- People may never meet face to face
- Can be permanent or temporary

Organizational Culture

- Shared understandings, values, and assumptions in an organization
- Influences information systems

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Organizational Change

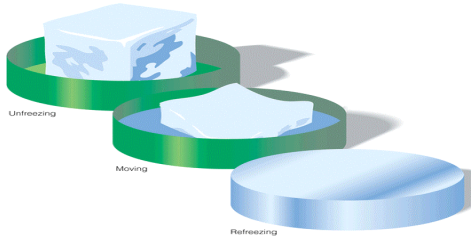
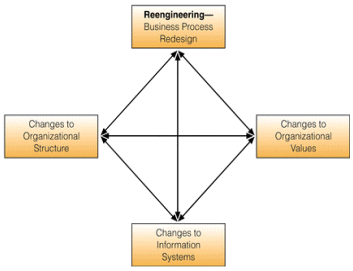


FIGURE 2-7
A Change Model

Reengineering

FIGURE 2-8
Reengineering
Reengineering involves the radical redesign of business processes, organizational structure, information systems, and values of the organization to achieve a breakthrough in business results.



Reengineering

Rule	Original Rationale	Potential Problem
Small orders must be held until full-truckload shipments can be assembled.	Reduce delivery costs.	Customer delivery is slowed—lost sales.
No order can be accepted until customer credit is approved.	Reduce potential for bad debt.	Customer service is poor—lost sales.
All merchandising decisions are made at headquarters.	Reduce number of items carried in inventory.	Customers perceive organization has limited product selection—lost sales.

TABLE 2-1
Selected Business Rules That Affect Business Processes

Continuous Improvement

- Constantly seeking ways to improve business processes
- Benefits:
  - Increased customer loyalty
  - Reduction in customer dissatisfaction
  - Reduced opportunity for competitive inroads

Continuous Improvement vs. Reengineering

Business Process Reengineering	Continuous Improvement
Strong action taken to solve serious problem	Routine action taken to make minor improvements
Top-down driven by senior executives	Worker driven
Broad in scope; cuts across departments	Narrow in scope; focus is on tasks in a given area
Goal is to achieve a major breakthrough	Goal is continuous, gradual improvements
Often led by outsiders	Usually led by workers close to the business
Information system integral to the solution	Information systems provide data to guide improvement team

TABLE 2-2
Comparing Business Process Reengineering and Continuous Improvement

"…changing the way organizations conduct business."

What do you think is the better approach:

a) Write an individual program that exactly represents a company's current processes?
b) Change the company's processes to those already available in standard software?
c) First reengineer all processes and then write respective software.

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Technology Diffusion, Infusion, and Acceptance

- Technology diffusion - measure of widespread use of technology
- Technology infusion - extent to which technology permeates a department

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Total Quality Management (TQM)

- Quality: ability of a product or service to meet or exceed customer expectations
- TQM: approaches and techniques used to achieve quality throughout the organization

→ Feedback ←

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Justifying Information Systems

- Ensure that the system supports business needs
- Assess risks
- Identify benefits

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Justifying Information Systems

- Most IS projects fall into one of the following categories:
  - Tangible Savings
  - Intangible Savings
  - Legal Requirement
  - Modernization
  - Pilot Project

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Roles, Functions, and Careers in Information Systems Department

- Operations - focuses on the efficiency of information
- Systems development - focuses on specific development projects and ongoing maintenance and review
- Support - provides user assistance

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Typical IS Titles and Functions

- Chief Information Officer (CIO) - employs the IS department's equipment and personnel to help the organization attain its goals
- LAN administrators - set up and manage the network hardware, software, and security processes

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Typical IS Titles and Functions

- Internet careers
  - Strategists
  - Programmers
  - Website operators
  - Chief Internet Officer
- Consulting firms

Thank you!

Any questions? Please send an e-mail to mhepp@computer.org!

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