

MANAGEMENT INFORMATION SYSTEMS 8/E
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Chapter 2

Using Information Technology
for Competitive Advantage

What is a Firm?

- Physical System
 - Closed-loop
 - Controlled by management
 - Uses feedback to ensure objectives met
 - Open because of environmental interaction
- Managed through use of a conceptual system

Importance of Environment

- Very reason for a firm's existence
- Firm takes resources from environment, transforms them, and returns goods and services to environment

The Firm's Environment

Society

**Financial
Community**

Government

**Global
Community**

Suppliers

**The
Firm**

Customers

**Labor
unions**

Competitors

**Stockholders
or owners**

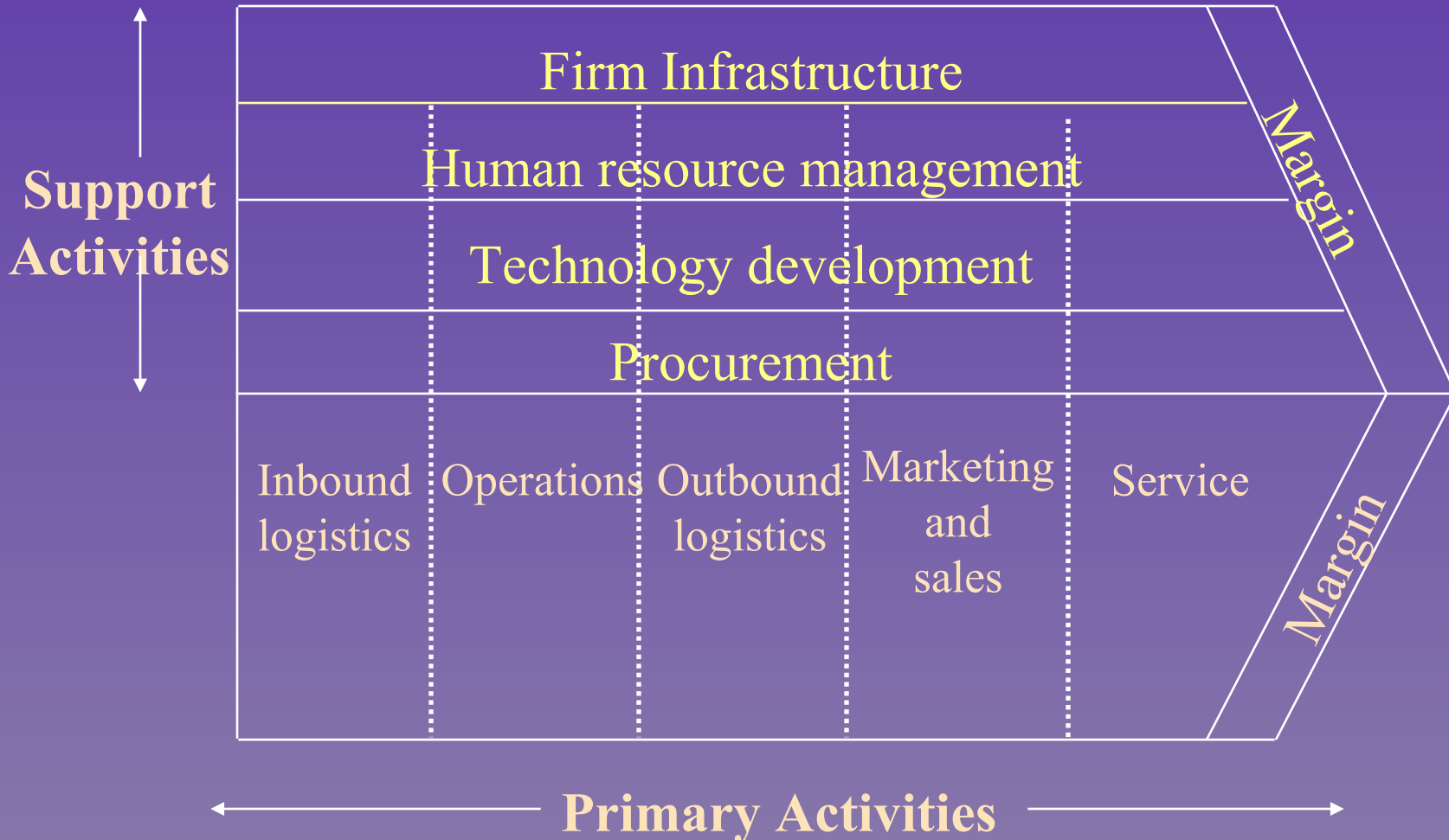
The Firm Is Connected to Its Environment by Resource Flows

- Physical and conceptual
- Some flows are major
- Some should not occur at all
- All resources that enter the firm from the environment eventually return to the environment

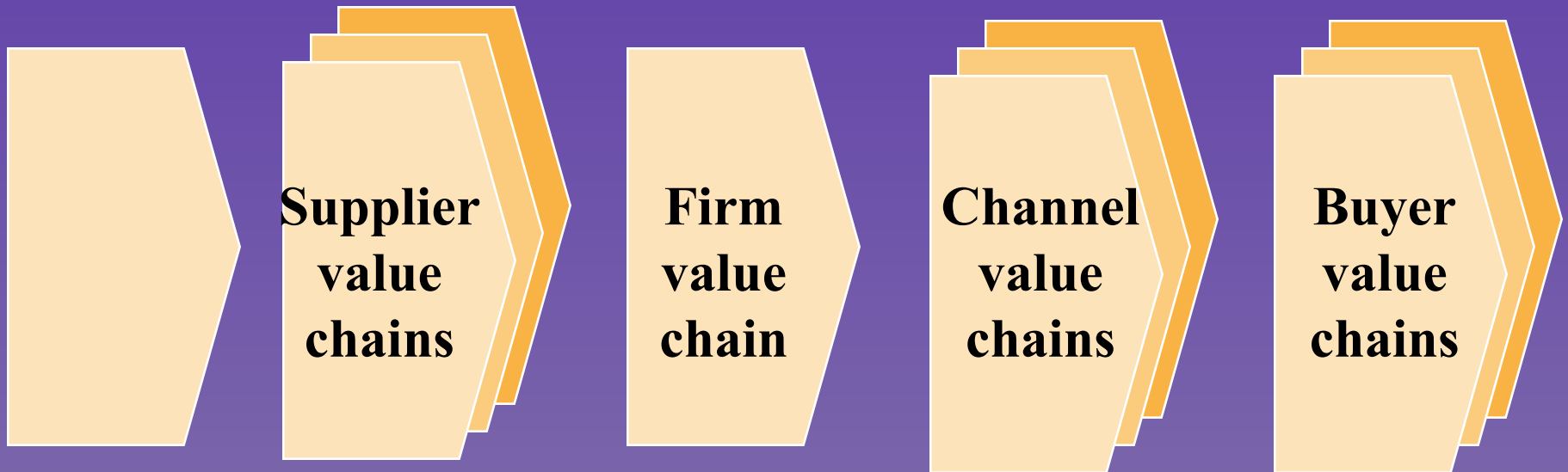
Competitive Advantage

- Computer field perspective
 - Use of information to gain leverage in marketplace
 - Relies on more than physical resources
- Addressed with strategic objectives

A Value Chain



A Value System

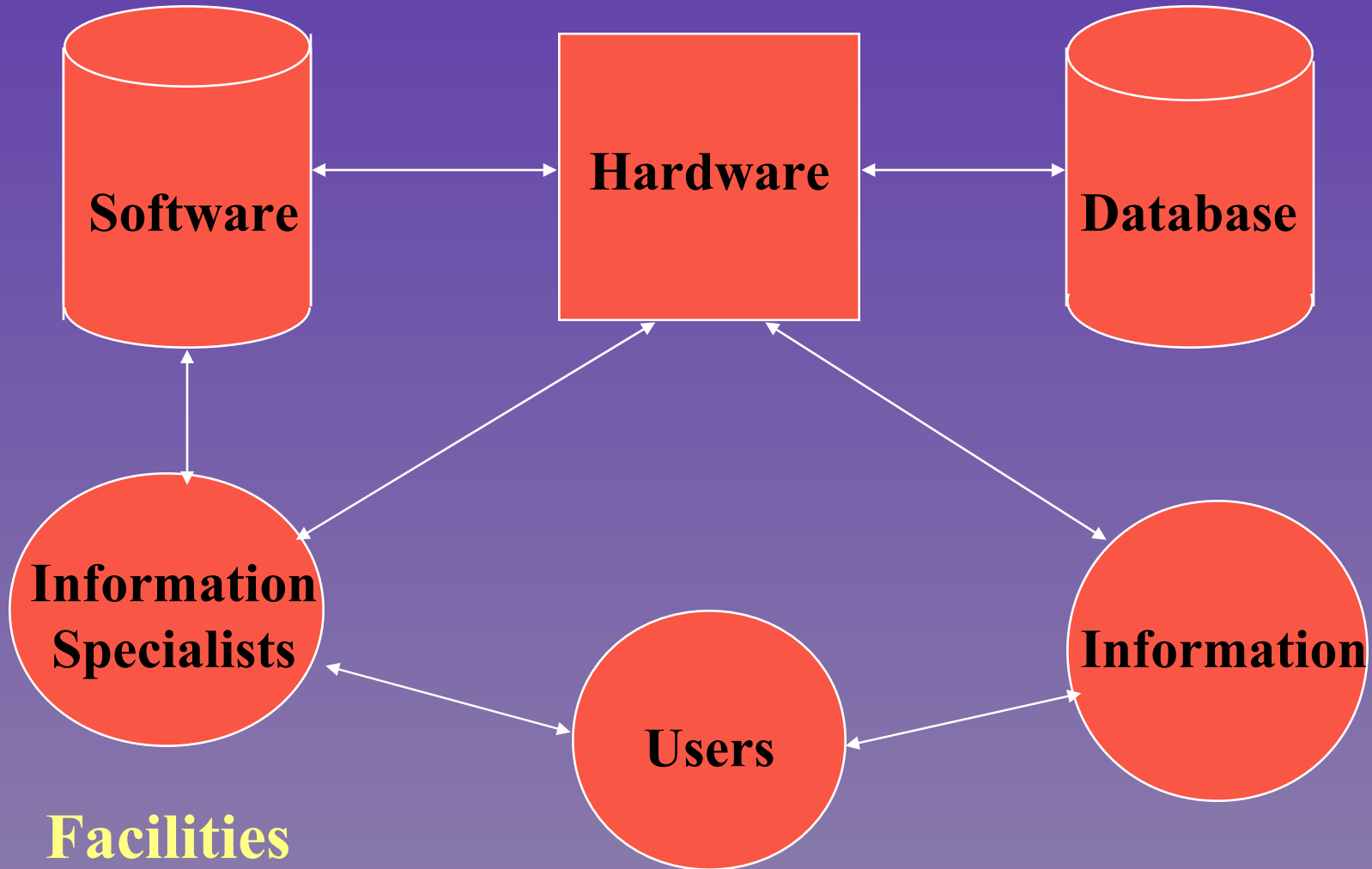


The Information Resources

Two views of information management

1. Manage data by implementing computer-based database management systems
(DBMS)
2. Manage resources that produce the information

The Information Resources



The Information Resource Manager -- the CIO

- Chief Information Officer (CIO) is not simply a title, but role
- Manager of information services
- Contributes managerial skills
 - Solves information resources problems
 - Solves problems in other areas of firm's operations

The CIO Attitude

- The business is what counts
- Build partnerships/ties with the rest of the firm
- Improve basic business processes
- Communicate in business terms, not IS jargon
- Provide reliable IS services
- Be positive, not defensive

Strategic Planning

- Long-range planning
 - Intends to give firm most favorable position in its environment
 - Specifies strategies for achieving objectives
- Need for each business area to create its own strategic plan

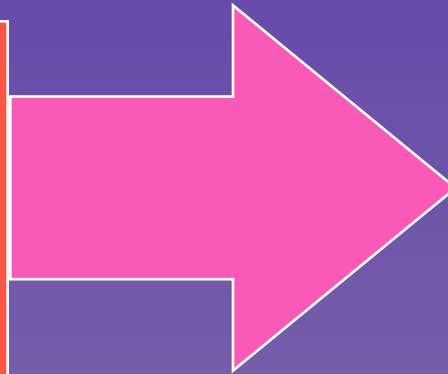
The Functional Areas Should Cooperate in Developing Their Strategic Plans



Strategy Set Transformation

*Organizational
strategy set*

Mission
Objectives
Strategy
**Other
strategic
organizational
attributes**



*MIS
strategic
planning
process*

*MIS
strategy set*

**System
objectives**
**System
constraints**
**System
design
strategies**

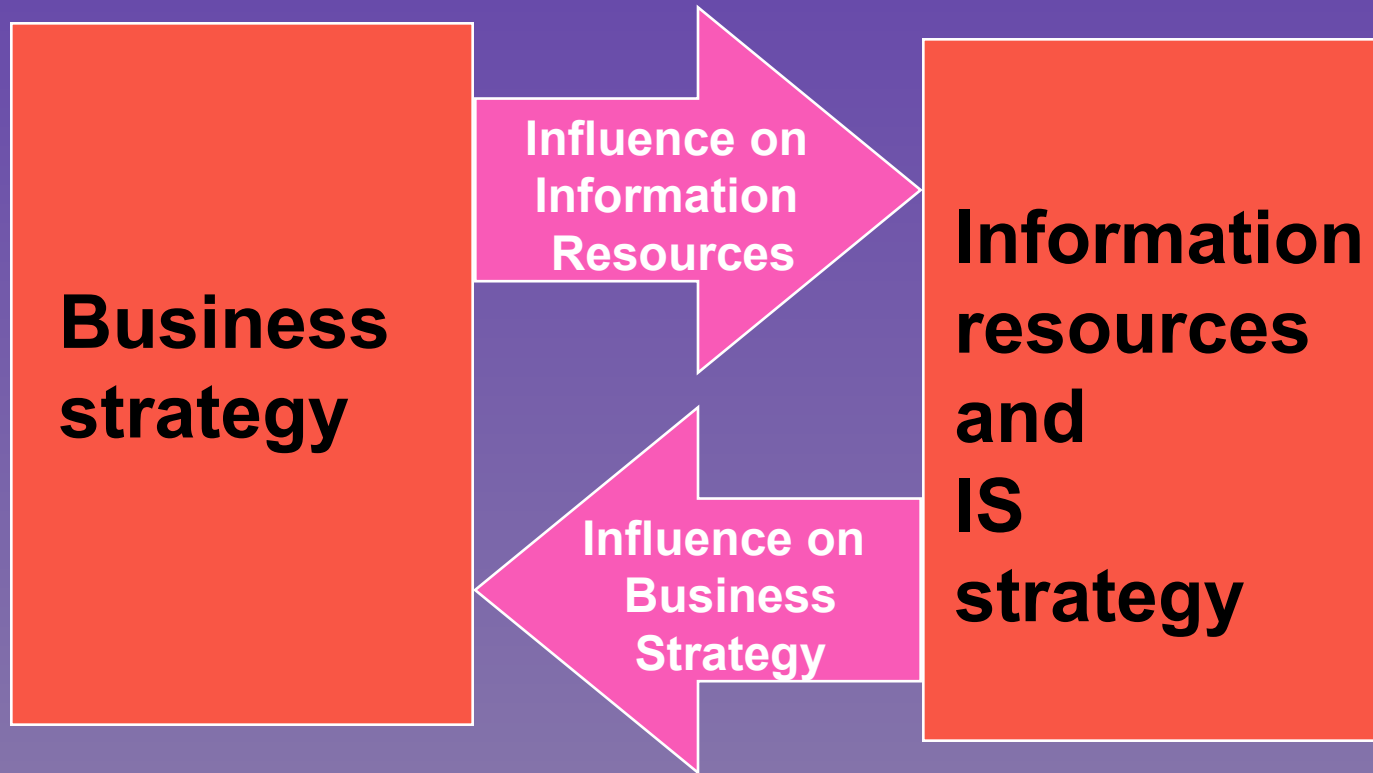
Strategy Set Transformation: Basic Flaw

- Business areas do not always have the resources to ensure accomplishment of strategic objectives

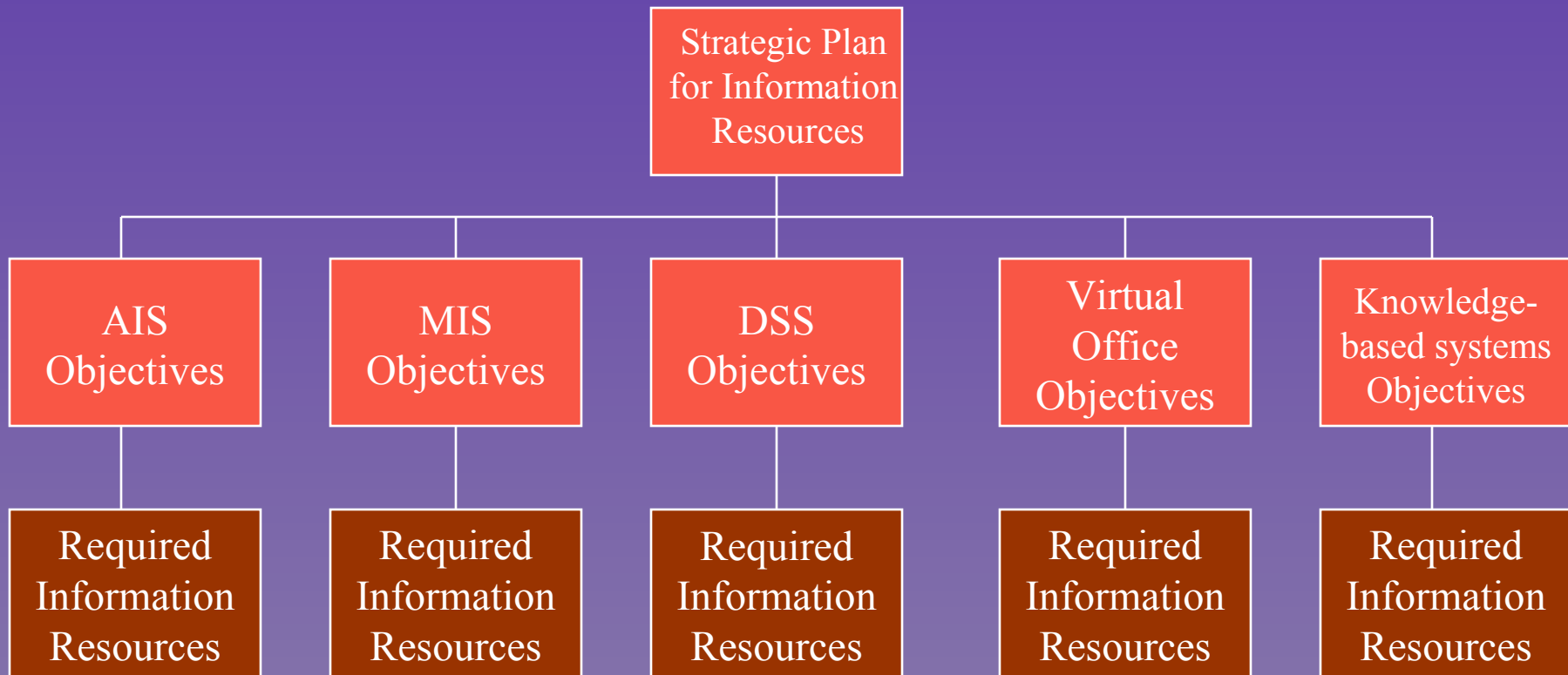
SPIR

- Strategy set transformation; support the firm's objectives
- Strategic planning for information resources (SPIR) develops firm and IS strategic plans *concurrently*
 - SPIR content
 - » 1. What is to be achieved
 - » 2. What will be required

Strategic Planning for Information Resources



Strategic Plan Framework for Information Resources



The Strategic Implications of End-User Computing (EUC)

■ Levels of end users in terms of capabilities

- menu-level end users
- command-level end users
- end-user programmers
- functional support personnel

■ EUC application considerations

- shifts workload so that end-users and information specialists' talents are better used
- reduces communications gap

EUC Risks

- Poorly aimed systems
- Poorly designed/ documented systems
- Inefficient use of information resources
- Loss of data integrity
- Loss of security
- Loss of control

Information Resources Management (IRM) Concept

- Realization that firm's information resources go far beyond the information itself
- Activity pursued by managers at all levels
- Identifying, acquiring, and managing information resources needed to satisfy information needs

IRM - Required Elements

- A recognition that competitive advantage can be achieved by means of superior information resources
- A recognition that information services is a major functional area
- A recognition that the CIO is a top-level executive

IRM-Required Ingredients (cont.)

- A consideration of the firm's information resources when engaging in strategic planning
- A formal strategic plan for information resources
- A strategy for stimulating and managing end-user computing

The IRM

The environment of the firm

Model

ENVIRONMENTAL INFLUENCES

The firm's executives

CIO

Other executives

Internal influences

Firm's strategic plan

FUNCTIONAL AREAS

Information services

Finance

Human resources

Manufacturing

Marketing

INFORMATION RESOURCES

Central computing resources

Disbursed computing resources

DATA AND INFORMATION

Users engaged in end-user computing

Other users

IRM Model: Firm Environment

- Provides setting for achieving competitive advantage
- Executives are aware of need to manage resource flows to meet needs of environmental elements

IRM Model: Firm's Executives

- Includes CIO
- Guides firm toward objectives
- Key activity is strategic planning

IRM Model: Business Areas

- Information services is a major business area
- Each area develops own strategic plans
- One business area strategic plan is for information resources

IRM Model: Information Resources

- Strategic plan for information resources details acquisition and management
- Information resources
 - Centralized
 - Dispersed throughout firm

IRM Model: Users

- Details data and information flows between resources and users
- Some users engage in end-user computing

Summary

- Environment of a firm consists of eight elements
- Firms attempt to achieve competitive advantage
 - Margin - value of products and services over cost
 - Value chain
- Information resources
 - Hardware, software, facilities, database, information specialists, information, and users

Summary (cont.)

- Executives perform strategic planning
 - SPIR
- All firm's managers need to engage in IRM
 - Recent revelation
 - Integrating concept