

MANAGEMENT INFORMATION SYSTEM

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COURSE OUTLINES

- **Course Title**
 - Management Information Systems
- **Grading Policy**
 - Exam → 80%
 - Tutorial / Assignment → 20%
- **Textbook and Reference Materials**
 - Course Manual for Management Information Systems CIS302, University of Ibadan Distance Learning Centre
 - Management Information Systems (Managing The Digital Firm) by Kenneth C. Laudon(New York University), Jane P. Laudon(Azimuth Information Systems), Twelfth Edition
 - Management Information Systems, Sixth Edition, by Effy Oz
- **Course Duration**
 - 12 Weeks

Information Systems, Organizations, and Strategy

LEARNING OUTCOMES

When you have studied this session, you should be able to:

- Understand the impact of information systems on organizations
- Develop competitive strategies using information systems
- Identify opportunities for strategic information system applications
- Understand the challenges posed by strategic information systems

CONTENTS

- Organizations and Information Systems
- How Information Systems Impact Organizations and Business Firms
- Using Information Systems to achieve Competitive Advantage

ORGANIZATIONS AND INFORMATION SYSTEMS

- Information systems: built by managers to serve the interests of the business firm.
- The organization: be aware of and open to the influences of information systems to benefit from new technologies.
- The interaction between information technology and organizations is complex and is influenced by:
 - the organization's structure,
 - business processes, politics,
 - culture,
 - surrounding environment, and
 - management decisions

ORGANIZATIONS AND INFORMATION SYSTEMS (CONT.)

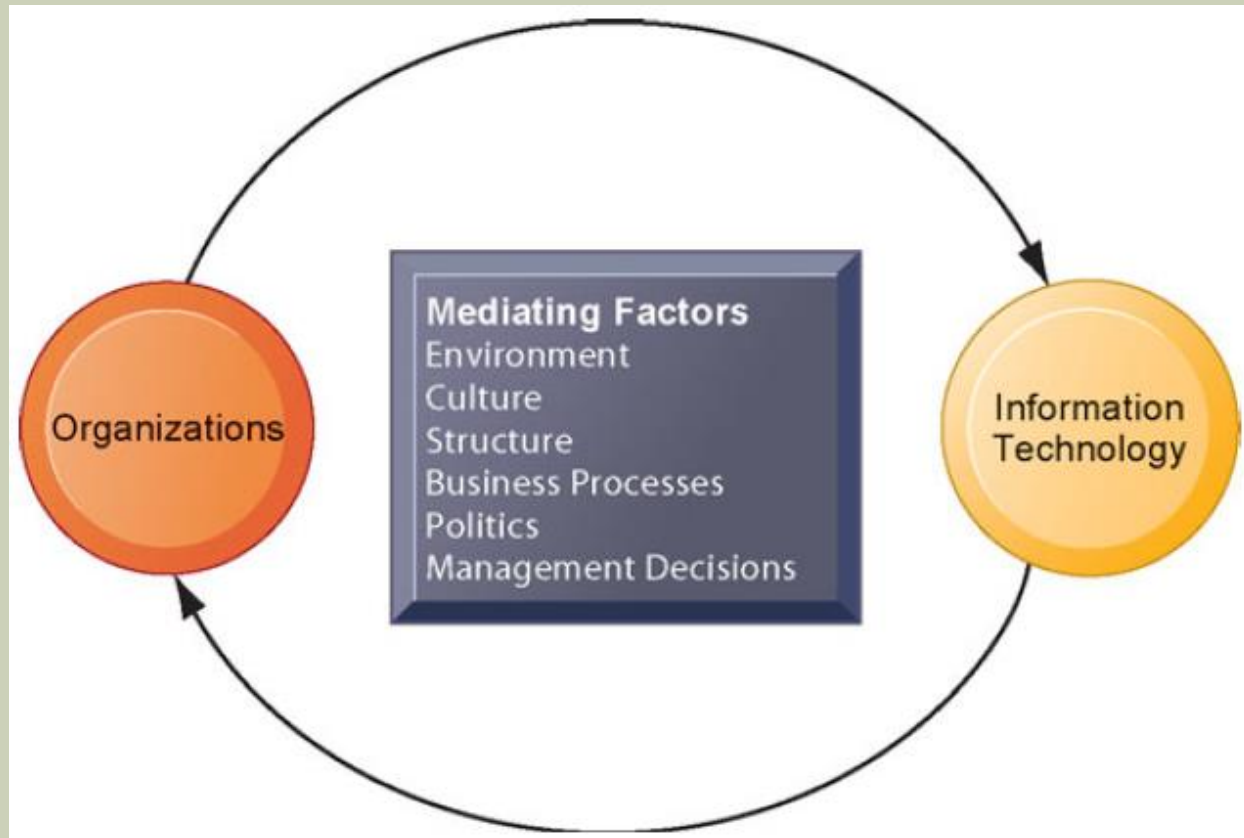


Figure: The two-way relationship between organizations and information technology

WHAT IS AN ORGANIZATION?

- A stable, formal social structure
- Takes resources from the environment and processes them to produce outputs.
- Capital and labor are primary production factors provided by the environment.
- The organization (the firm) transforms these inputs into products and services in a production function.
- The products and services are consumed by environments in return for supply inputs.

WHAT IS AN ORGANIZATION? (CONT.)

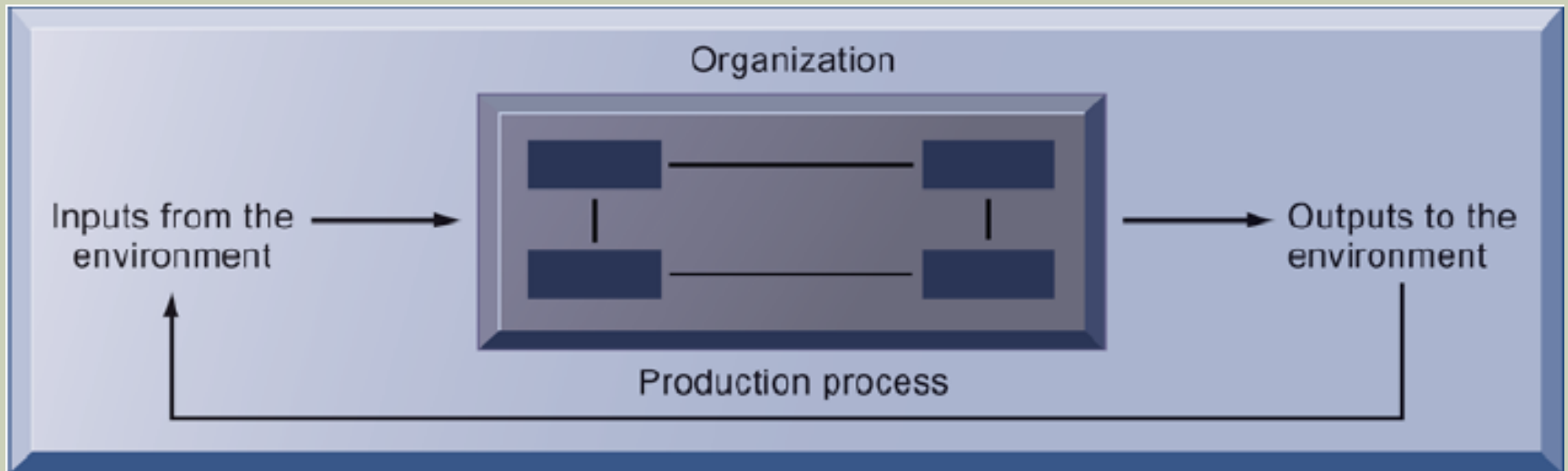


Figure: The technical microeconomic definition of the organization

WHAT IS AN ORGANIZATION? (CONT.)

- Organizations are formal legal entities with internal rules and procedures.
- Organizations are also social structures because they are a collection of social elements
- It is a collection of rights, privileges, obligations, and responsibilities

In this behavioral view of the firm

- people who work in organizations:
 - develop customary ways of working;
 - gain attachments to existing relationships; and
 - make arrangements with subordinates and superiors

WHAT IS AN ORGANIZATION? (CONT.)

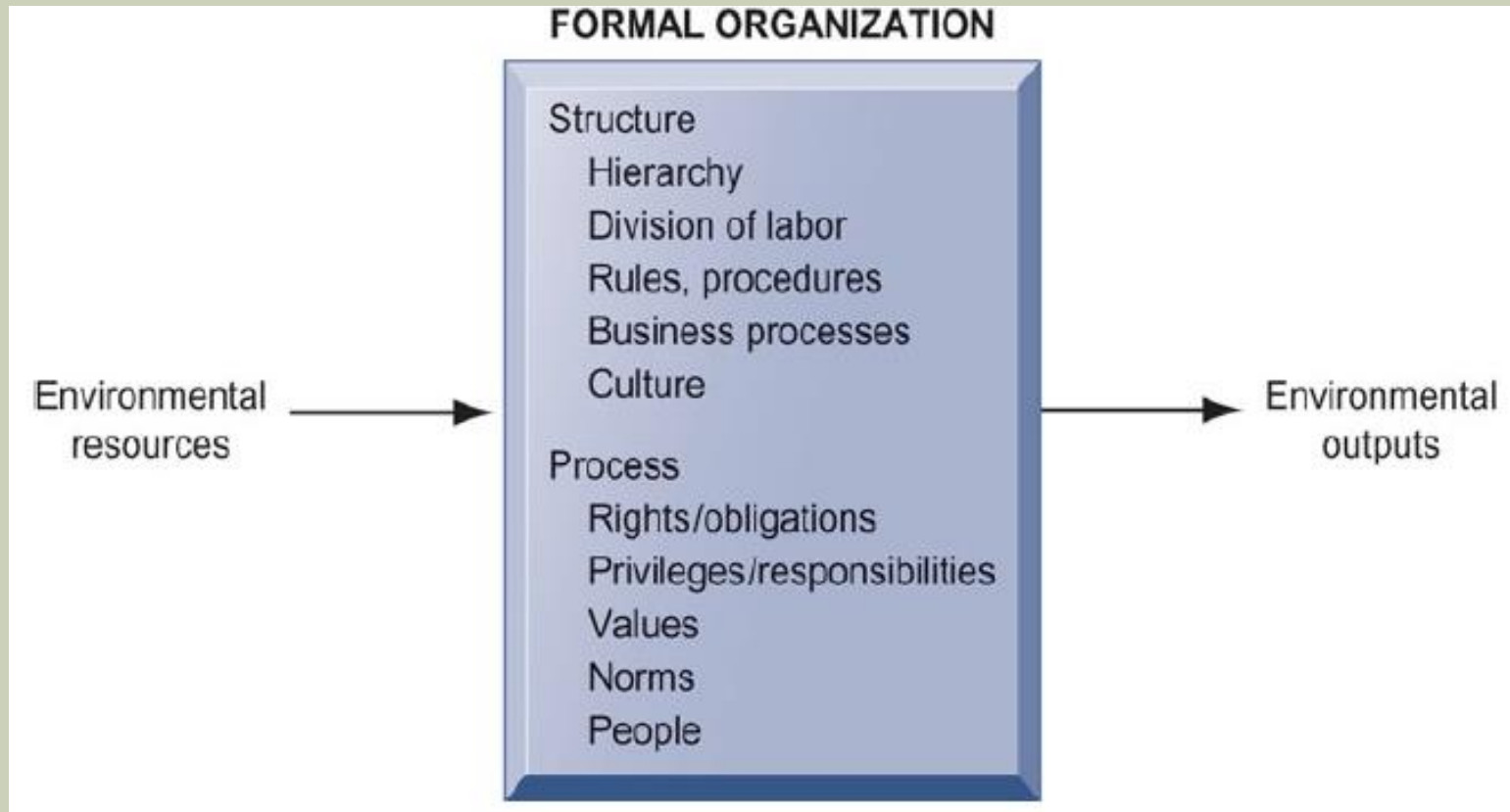


Figure: The behavioral view of the organization

WHAT IS AN ORGANIZATION? (CONT.)

The technical definition

- how thousands of firms in competitive markets combine capital, labor, and information technology

The behavioral model

- inside the individual firm to see how that technology affects the organization's inner workings.

FEATURES OF ORGANIZATIONS

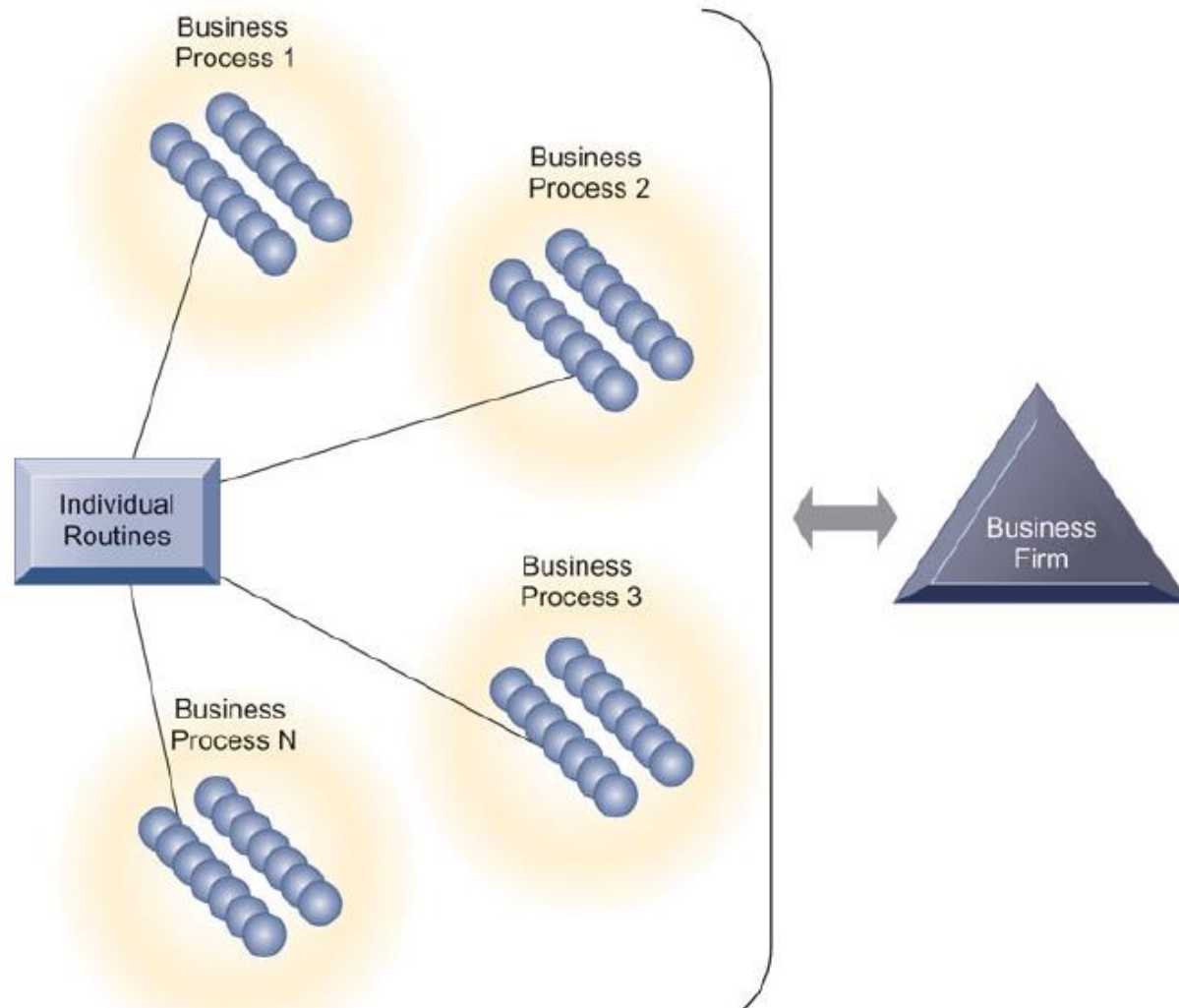
- Labor and specialization (arrange specialists in a hierarchy of authority)
- Rules or procedures (create a system of impartial and universal decision making)
- The principle of efficiency: maximizing output using limited inputs
- Other features of organizations:
 - business processes,
 - organizational culture,
 - organizational politics,
 - surrounding environments,
 - structure,
 - goals,
 - constituencies, and
 - leadership styles.

ROUTINES AND BUSINESS PROCESSES

- Individuals in the firm develop routines for producing goods and services.
- Routines—*standard operating procedures*—are precise rules, procedures, and practices
- Highly productive and efficient
- Able to reduce its costs over time as efficiency increases.
- Business processes are collections of routines
- A business firm is a collection of business processes

ROUTINES, BUSINESS PROCESSES, AND FIRMS

Routines, Business Processes, and Firms



ORGANIZATIONAL POLITICS

- Divergent viewpoints about how resources, rewards, and punishments
- Struggle for resources, competition, and conflict
- Political resistance is one of the great difficulties of bringing about organizational change
- Significant changes in strategy, business objectives, business processes, and procedures

Managers that know how to work with the politics of an organization will be more successful than less-skilled managers in implementing new information systems.

ORGANIZATIONAL CULTURE

- Define goals and products
- Organizational culture encompasses the set of assumptions about:
 - what products the organization should produce,
 - how it should produce them,
 - where, and for whom.
- Share the same basic cultural assumptions, agreement on other matters
- A powerful restraint on change, especially technological change.
- To employ a new technology that directly opposes an existing organizational culture.

ORGANIZATIONAL ENVIRONMENTS

- Environments from which they draw resources and to which they supply goods and services
- Reciprocal relationship
- Organizations are open to, and dependent on, the social and physical environment.
- Organizations must respond to legislative and other requirements imposed by government, as well as the actions of customers and competitors.
- Advertise to influence customer acceptance of their products

ORGANIZATIONAL ENVIRONMENTS (CONT.)

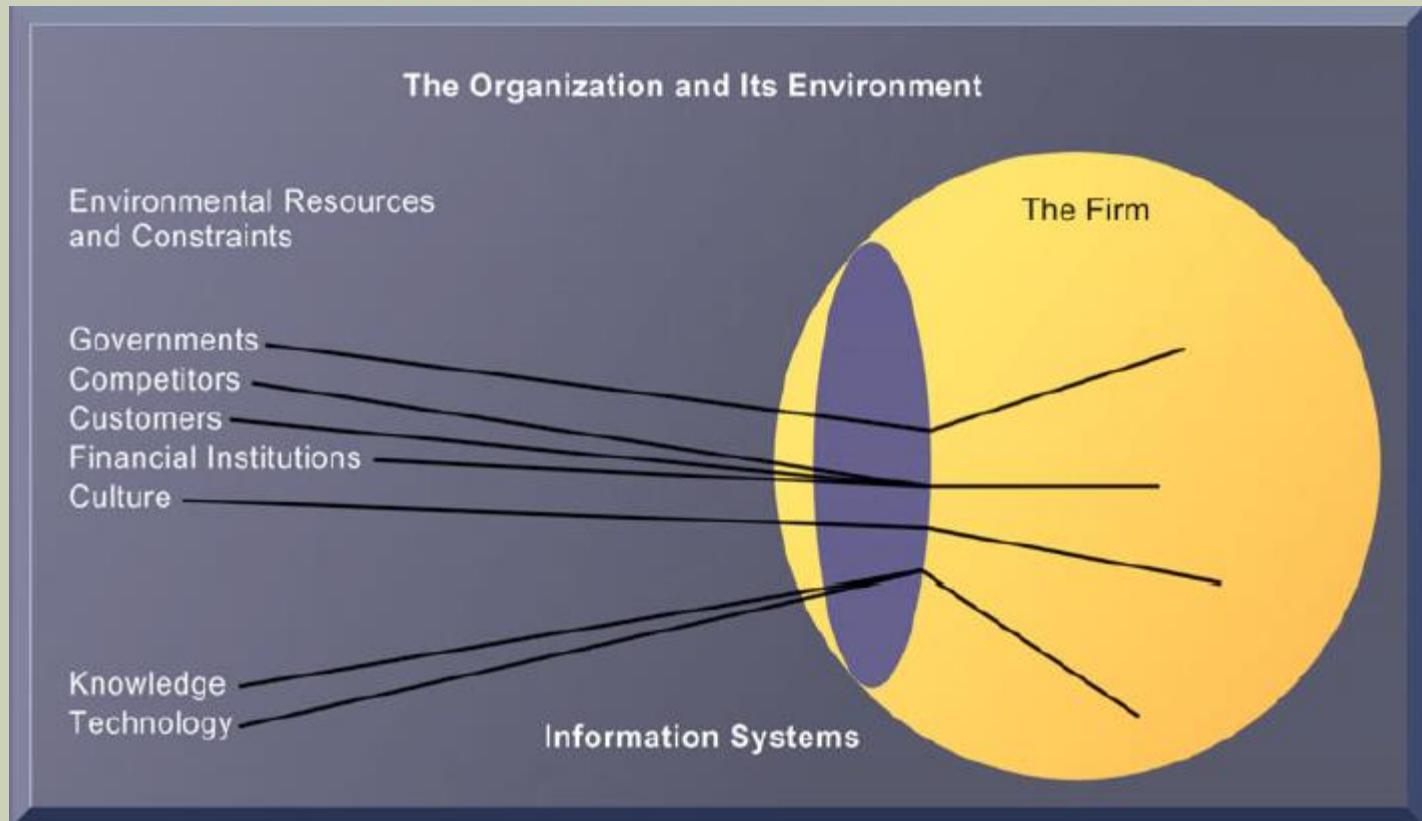


Figure: The organization and its environment

ORGANIZATIONAL STRUCTURES

ORGANIZATIONAL TYPE	DESCRIPTION	EXAMPLES
Entrepreneurial structure	Young, small firm in a fast-changing environment. It has a simple structure and is managed by an entrepreneur serving as its single chief executive officer.	Small start-up business
Machine bureaucracy	Large bureaucracy existing in a slowly changing environment, producing standard products. It is dominated by a centralized management team and centralized decision making.	Midsize manufacturing firm
Divisionalized bureaucracy	Combination of multiple machine bureaucracies, each producing a different product or service, all topped by one central headquarters.	Fortune 500 firms, such as General Motors
Professional bureaucracy	Knowledge-based organization where goods and services depend on the expertise and knowledge of professionals. Dominated by department heads with weak centralized authority.	Law firms, school systems, hospitals
Adhocracy	Task force organization that must respond to rapidly changing environments. Consists of large groups of specialists organized into short-lived multidisciplinary teams and has weak central management.	Consulting firms, such as the Rand Corporation

HOW INFORMATION SYSTEMS IMPACT ORGANIZATIONS AND BUSINESS FIRMS

- Information systems have become integral, online, interactive tools
- Minute-to-minute operations and decision making of large organizations
- Information systems have fundamentally altered the economics of organizations
- Increased the possibilities for organizing work
- Understand the changes brought about by IT

ECONOMIC IMPACTS

- IT changes both the relative costs of capital and the costs of information.
- Substitute for traditional capital and labor
- Result in a decline in the number of middle managers and clerical workers
- Increase the investments in IT because of its declining cost relative to other capital investments
- IT affects the cost and quality of information and changes the economics of information.
- Using markets is expensive because of costs such as:
 - locating and communicating with distant suppliers,
 - monitoring contract compliance,
 - buying insurance,
 - obtaining information on products

ECONOMIC IMPACTS (CONT.)

- As transaction costs decrease, firm size (the number of employees) should shrink.
- Firm size can stay constant or contract even as the company increases its revenues.
- Information technology also can reduce internal management costs.
- By reducing the costs of acquiring and analyzing information, IT permits organizations to reduce agency costs because it becomes easier for managers to oversee a greater number of employees.
- Information technology expanded the power and scope of small organizations

ECONOMIC IMPACTS (CONT.)



Figure: The transaction cost theory of the impact of information technology in the organization

ECONOMIC IMPACTS (CONT.)

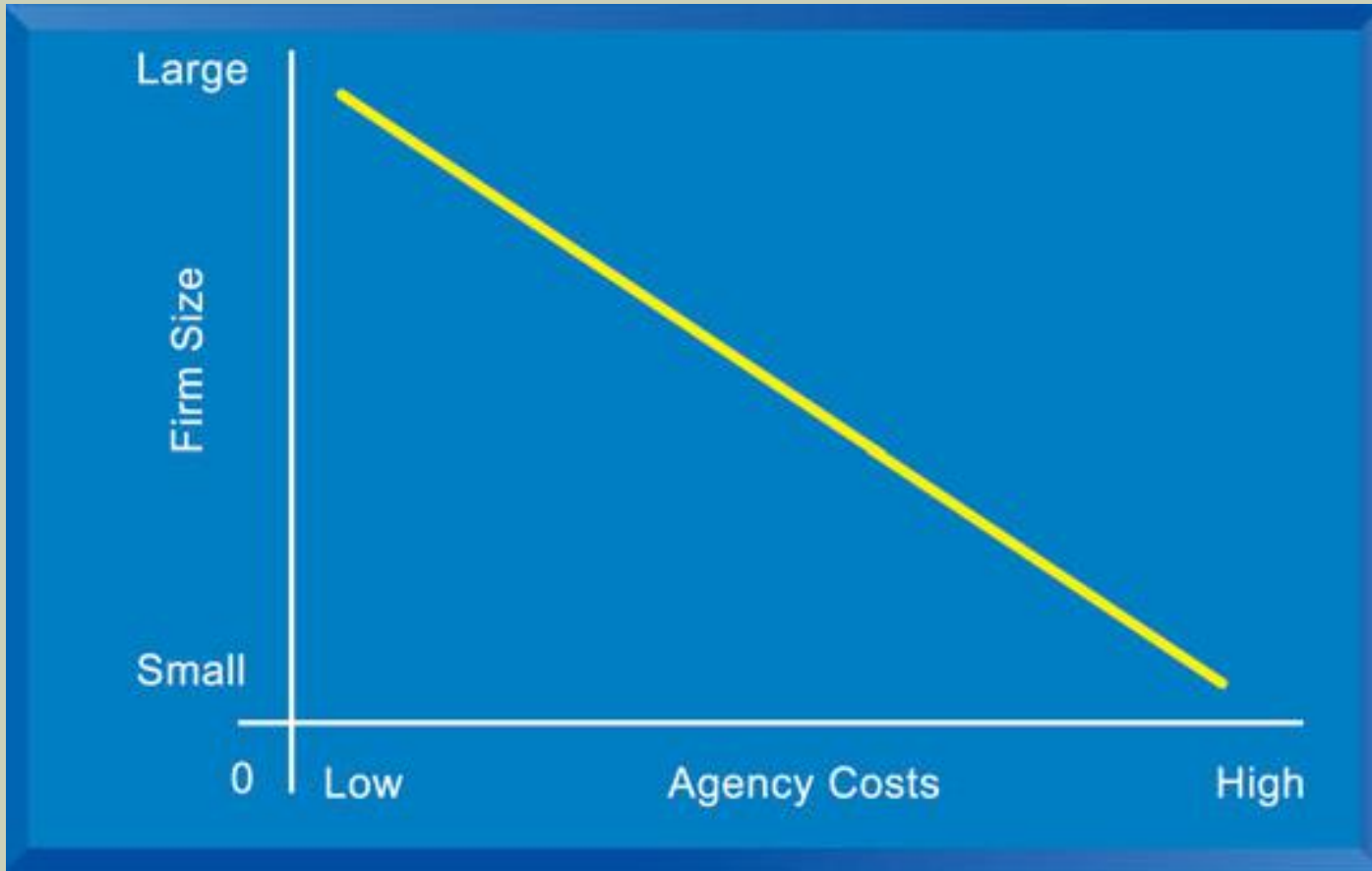


Figure: The agency cost theory of the impact of information technology in the organization

ORGANIZATIONAL AND BEHAVIORAL IMPACTS

IT Flattens Organizations

- Large, bureaucratic organizations are inefficient, slow to change, and less competitive
- Reducing the number of employees and the number of levels in their organizational hierarchies.
- Information technology facilitates flattening of hierarchies
- Increase management efficiency
- The management span of control has also been broadened, enabling high-level managers to manage and control more workers

ORGANIZATIONAL AND BEHAVIORAL IMPACTS (CONT.)

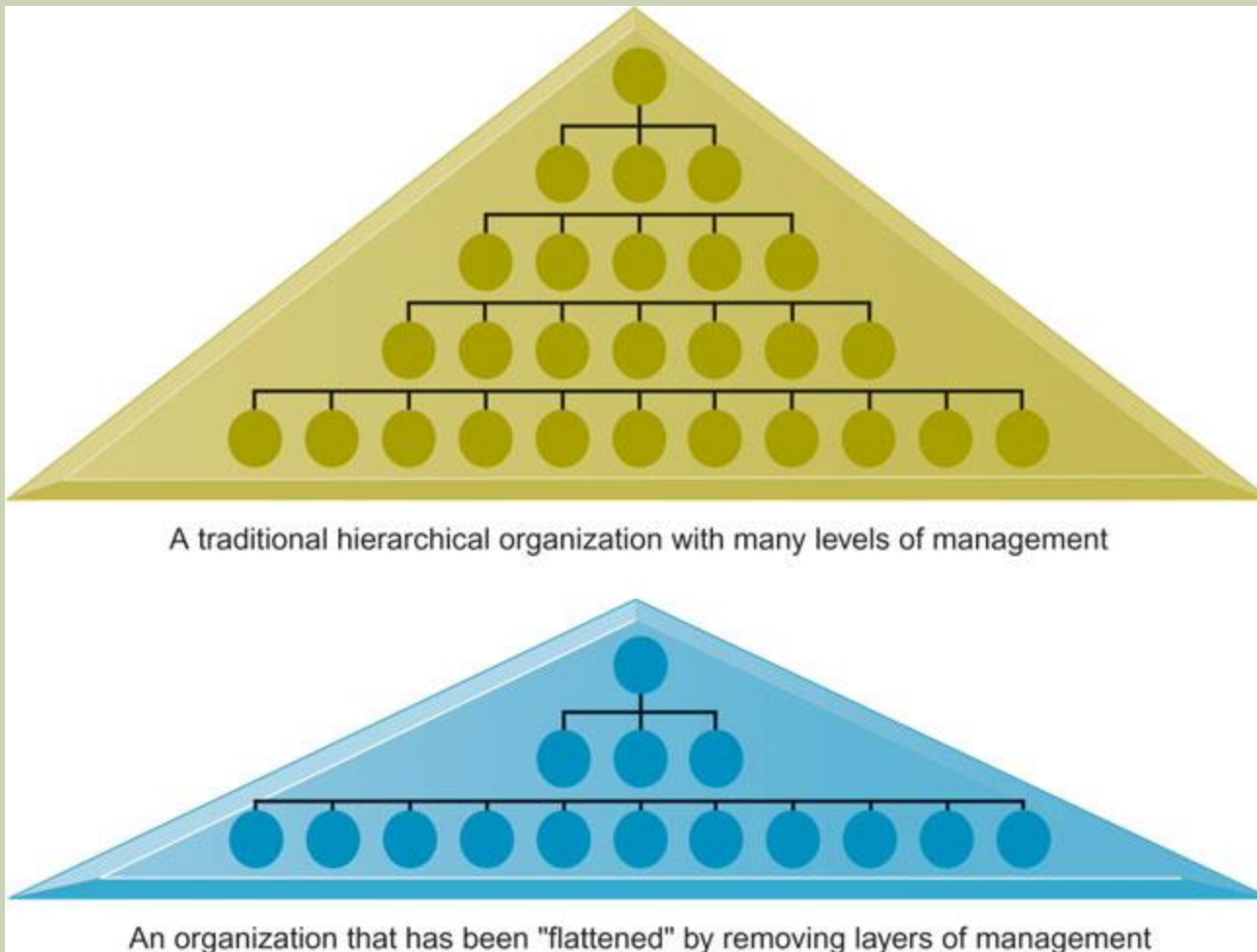


Figure: Flattening organizations

ORGANIZATIONAL AND BEHAVIORAL IMPACTS (CONT.)

Postindustrial Organizations

- Based more on history and sociology than economics
- Authority relies on knowledge and competence
- Groups of professionals come together—face to face or electronically
- Example: The global consulting service Accenture

THE INTERNET AND ORGANIZATIONS

- An important impact on the relationships between many firms and external entities
- Increases the accessibility, storage, and distribution of information and knowledge for organizations
- Lowering the transaction and agency costs
- The key business processes based on Internet technology:
 - simpler business processes,
 - fewer employees, and
 - much flatter organizations

THE INTERNET AND ORGANIZATIONS (CONT.)

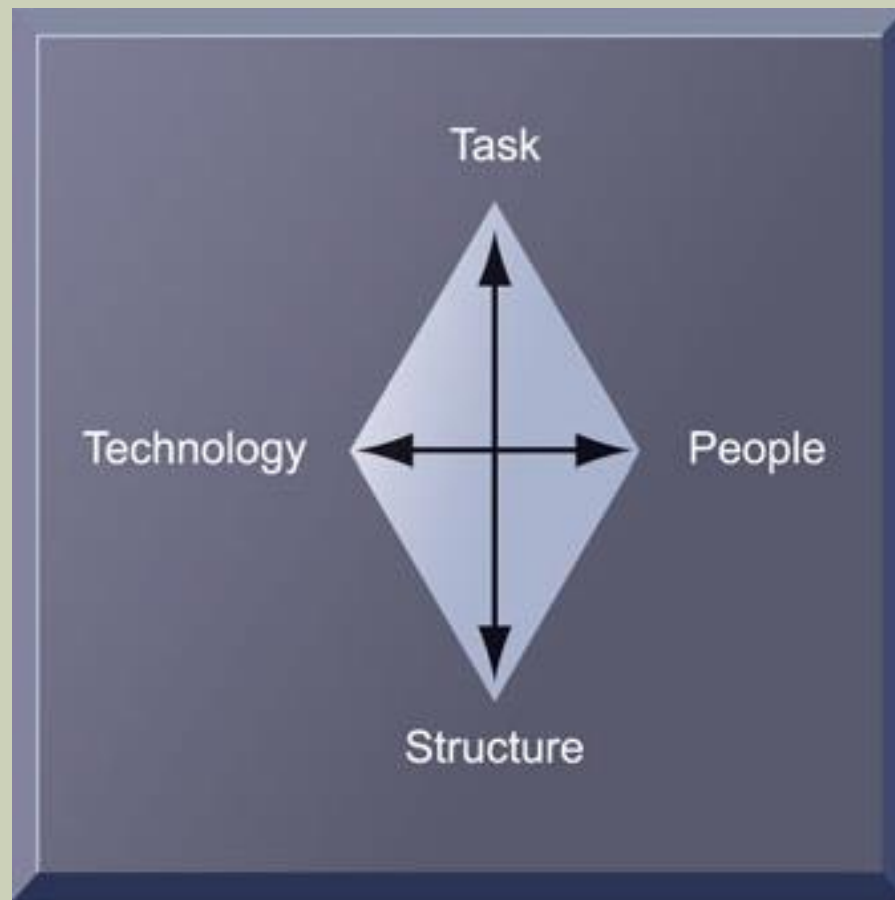


Figure: Organizational resistance and the mutually adjusting relationship between technology and the organization

USING INFORMATION SYSTEMS TO ACHIEVE COMPETITIVE ADVANTAGE

PORTER'S COMPETITIVE FORCES MODEL

- The most widely used model for understanding competitive advantage
- Provides a general view of the firm, its competitors, and the firm's environment
- The firm's general business environment
- Five competitive forces shape the fate of the firm

USING INFORMATION SYSTEMS TO ACHIEVE COMPETITIVE ADVANTAGE (CONT.)

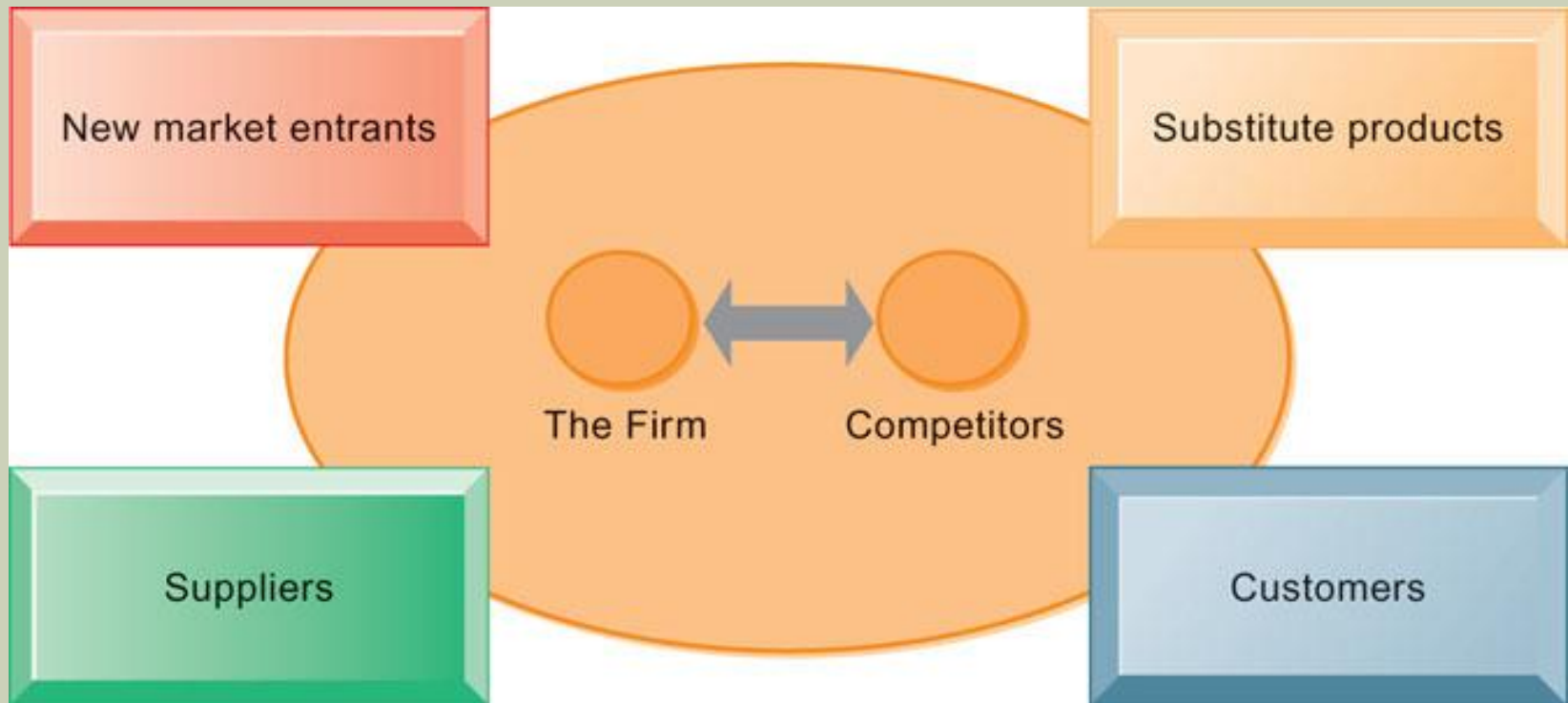


Figure: Porter's competitive forces model

USING INFORMATION SYSTEMS TO ACHIEVE COMPETITIVE ADVANTAGE (CONT.)

■ Traditional Competitors

- share market space with other competitors
- introducing new products and services, and
- attempting to attract customers

■ New Market Entrants

- with mobile labor and financial resources, new companies are always entering the marketplace
- not locked into old plants and equipment

■ Substitute Products and Services

- create new substitutes all the time
- The more substitute products and services, the less you can control pricing and the lower your profit margins.

USING INFORMATION SYSTEMS TO ACHIEVE COMPETITIVE ADVANTAGE (CONT.)

■ Customers

- switch to a competitor's products and services
- compete on price alone in a transparent marketplace

■ Suppliers

- a significant impact on firm profits
- The more different suppliers a firm has, the greater control it can exercise over suppliers
- in terms of price, quality, and delivery schedules

**Next Week Lecture: IT Infrastructure and
Emerging Technologies**

THANK YOU.