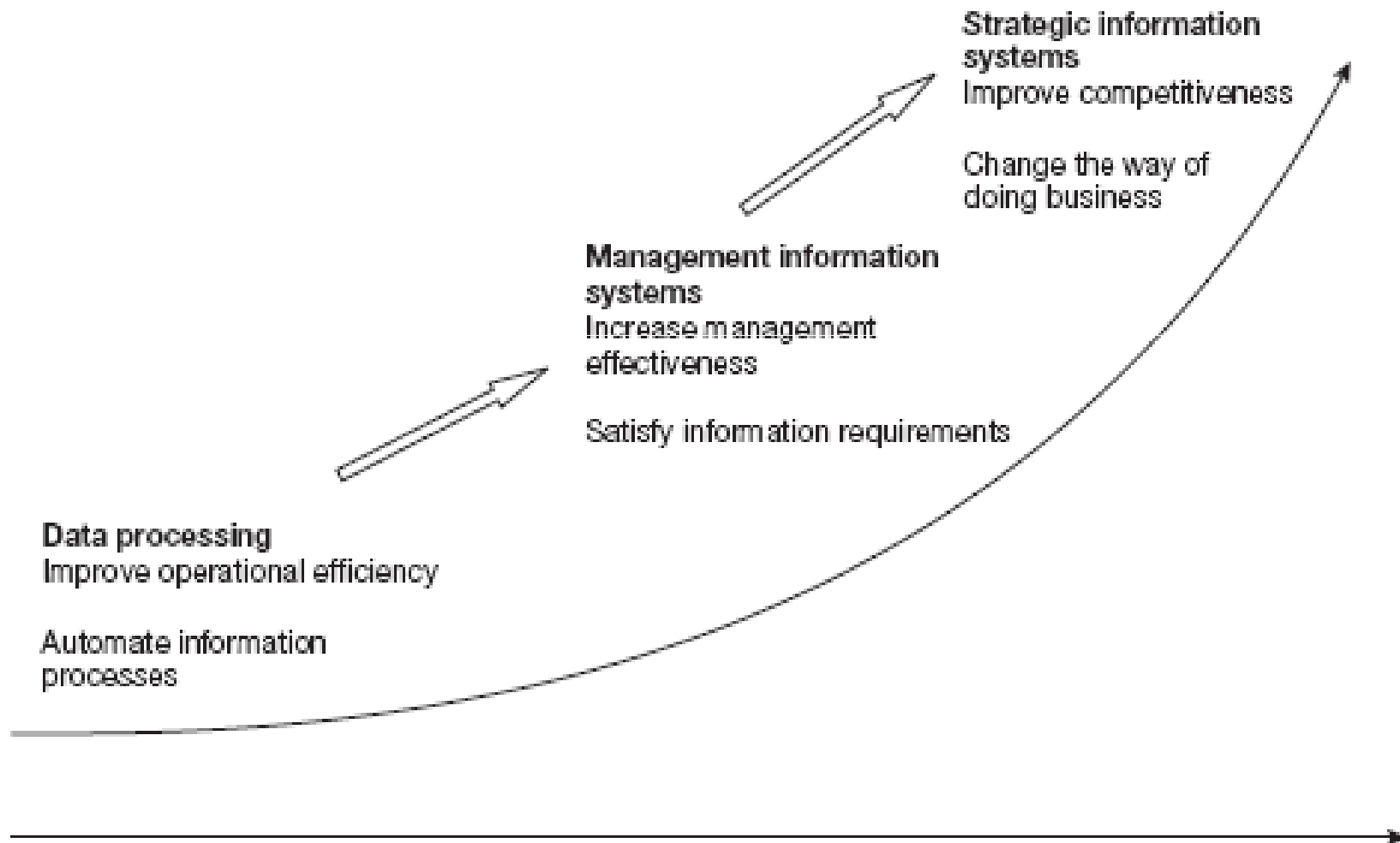


# Evolutionary Model





UNIVERSITAS KOMPUTER INDONESIA

# Chap 4: IT Organization

[curry] chap 2

**Dr. Ir. Yeffry Handoko Putra, M.T**

**MAGISTER SISTEM INFORMASI- UNIVERSITAS KOMPUTER INDONESIA**

# Three Principles in Organization

A photograph showing three men in business attire. One man is pointing at a whiteboard with a pen, while the other two look on. The whiteboard contains some diagrams and text, though it's not clearly legible.

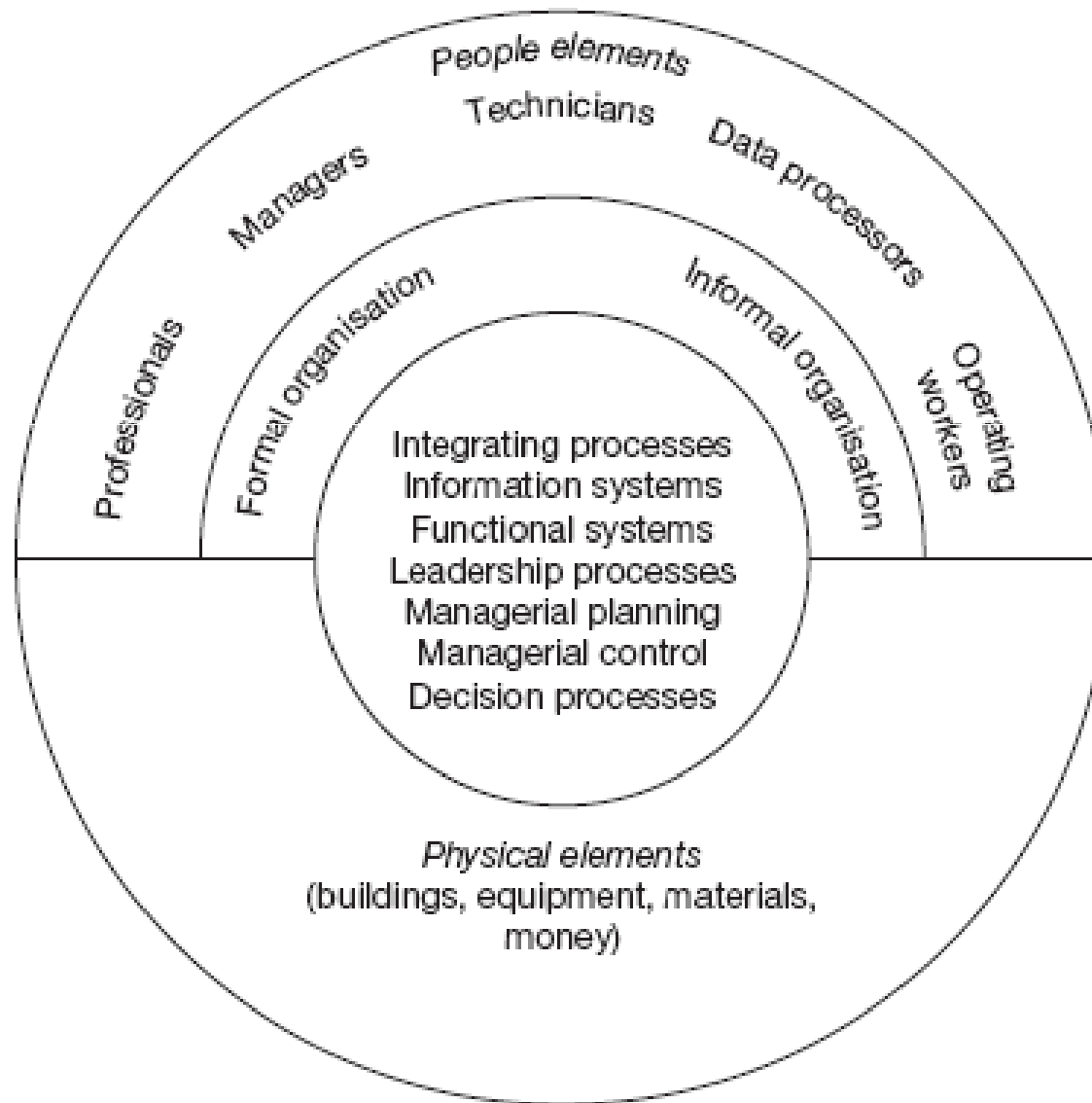
- to provide products or services;
- to make a profit;
- to continue to grow and survive as an organisation.

# Organization Definition (Galbraith, 1977)



- composed of people and groups of people;
- in order to achieve some shared purpose;
- through a division of labor;
- integrated by information-based decision processes;
- continuous through time.

# Organization Components



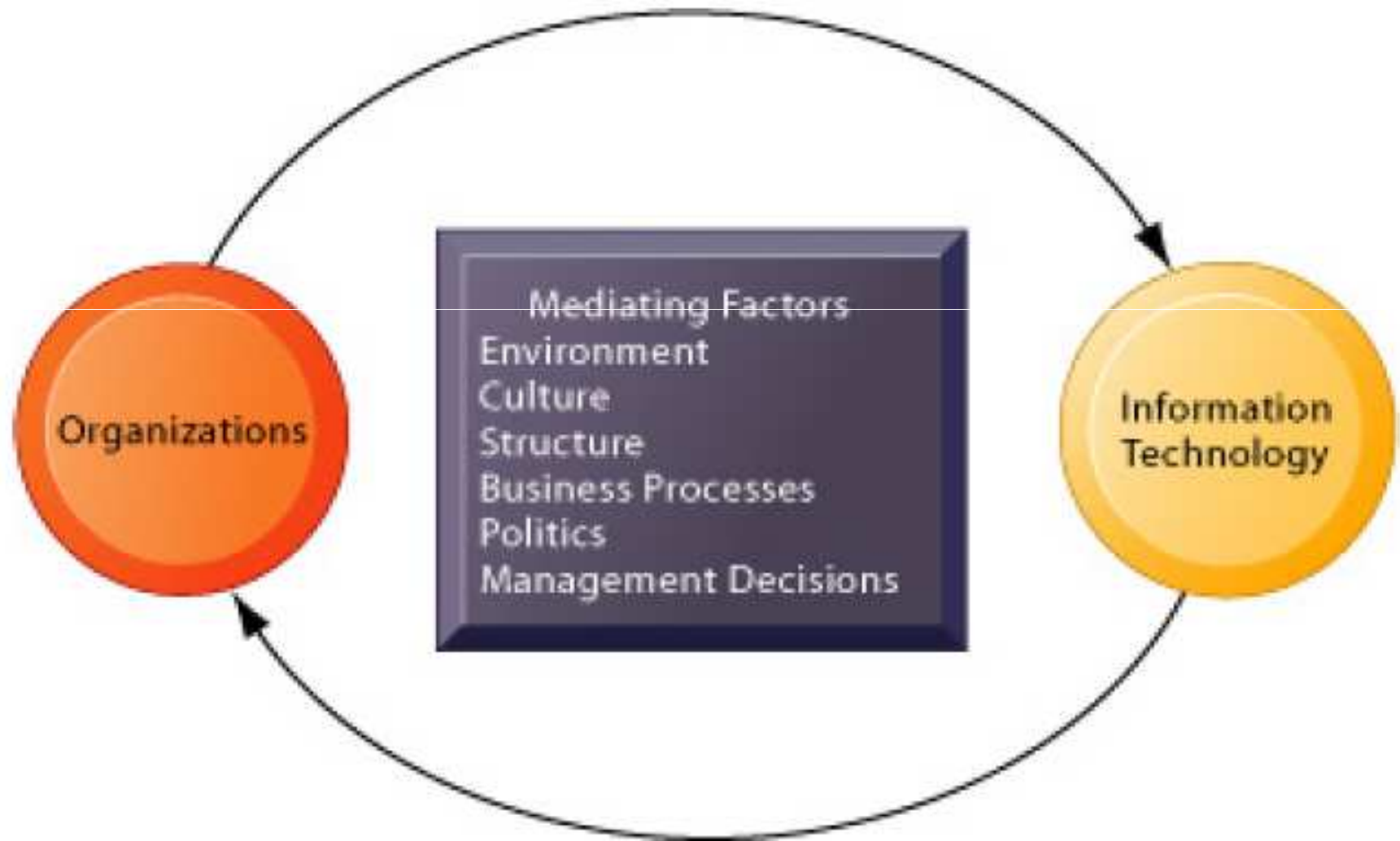
## Characteristics of effective control

Control systems that work well tend to have certain common characteristics:

<i>Accuracy</i>	a control system needs to generate reliable, valid data to provide accurate information.
<i>Timeliness</i>	control must provide timely information by minimising the measurement time lag, so that any necessary action can be taken as quickly as possible.
<i>Economy</i>	a control system must be reasonable to operate and must provide added value to the business.
<i>Flexibility</i>	effective controls must adjust to conditions as necessary and be able to take advantage of new opportunities.
<i>Comprehensibility</i>	controls that cannot be understood have no value, may give rise to errors or frustrations and may lead to the eventual abandoning of the control system.
<i>Reasonable standards</i>	control standards that are unreasonable or unattainable may demotivate or encourage people to try and cheat the system.
<i>Critical standards</i>	controls should concentrate on organisational critical success factors rather than trivia, focusing on potential variations from the norm that could do the most damage.
<i>Emphasis on exception</i>	an exception control system ensures that managers concentrate on important information first and foremost rather than be overwhelmed by too much information, resulting in managers becoming confused and unfocused.

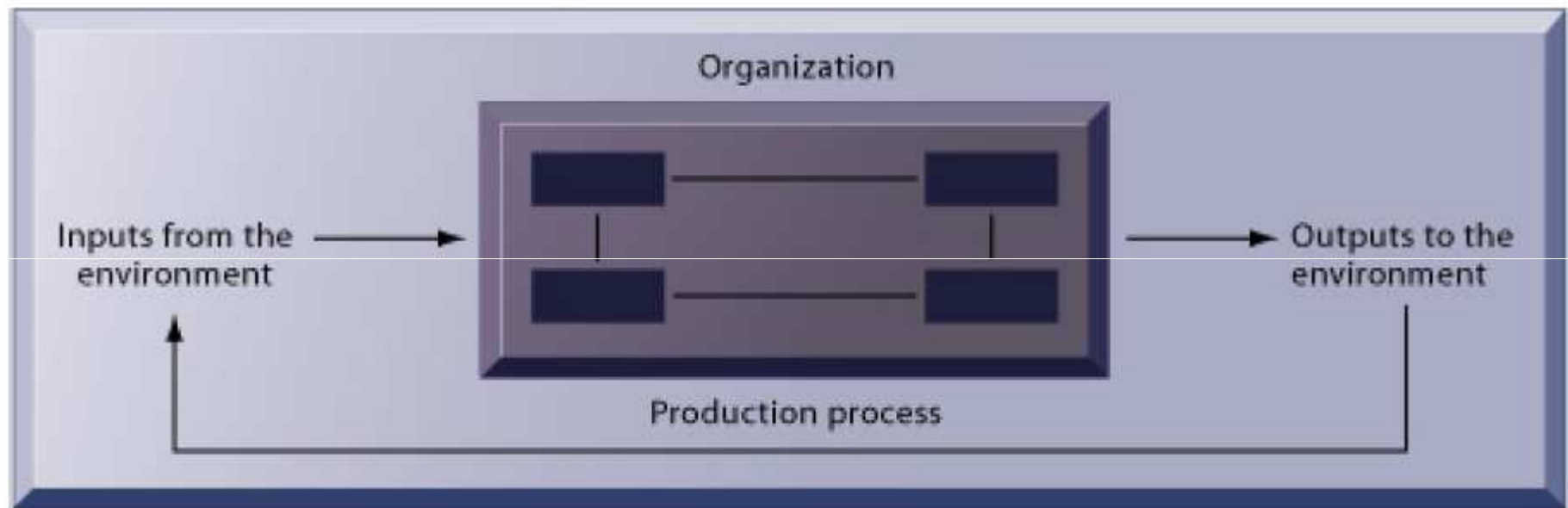
(Adapted from: Robbins, 1988)

# E.&J. Gallo Winery Interdependency



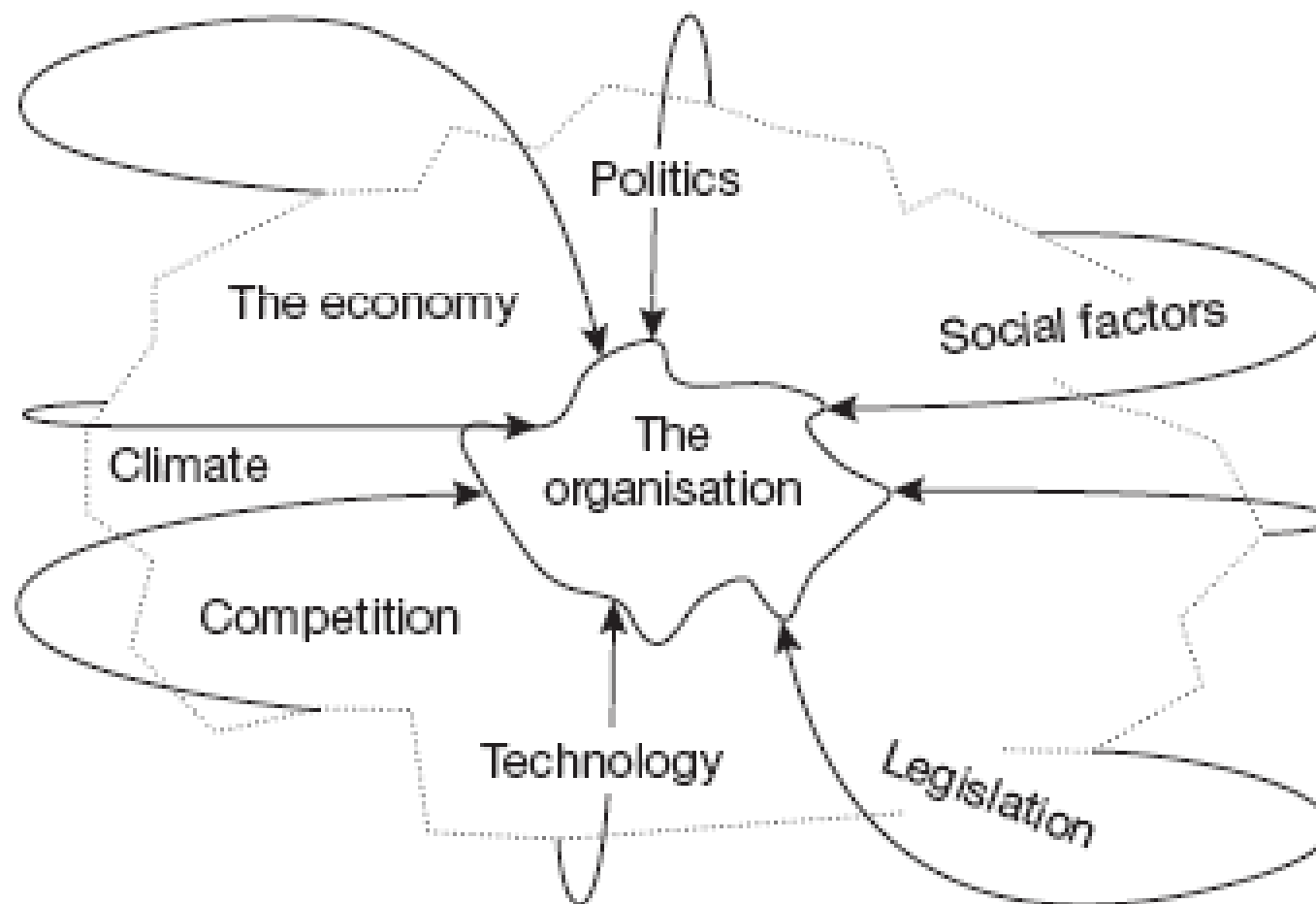


# What is Organisation

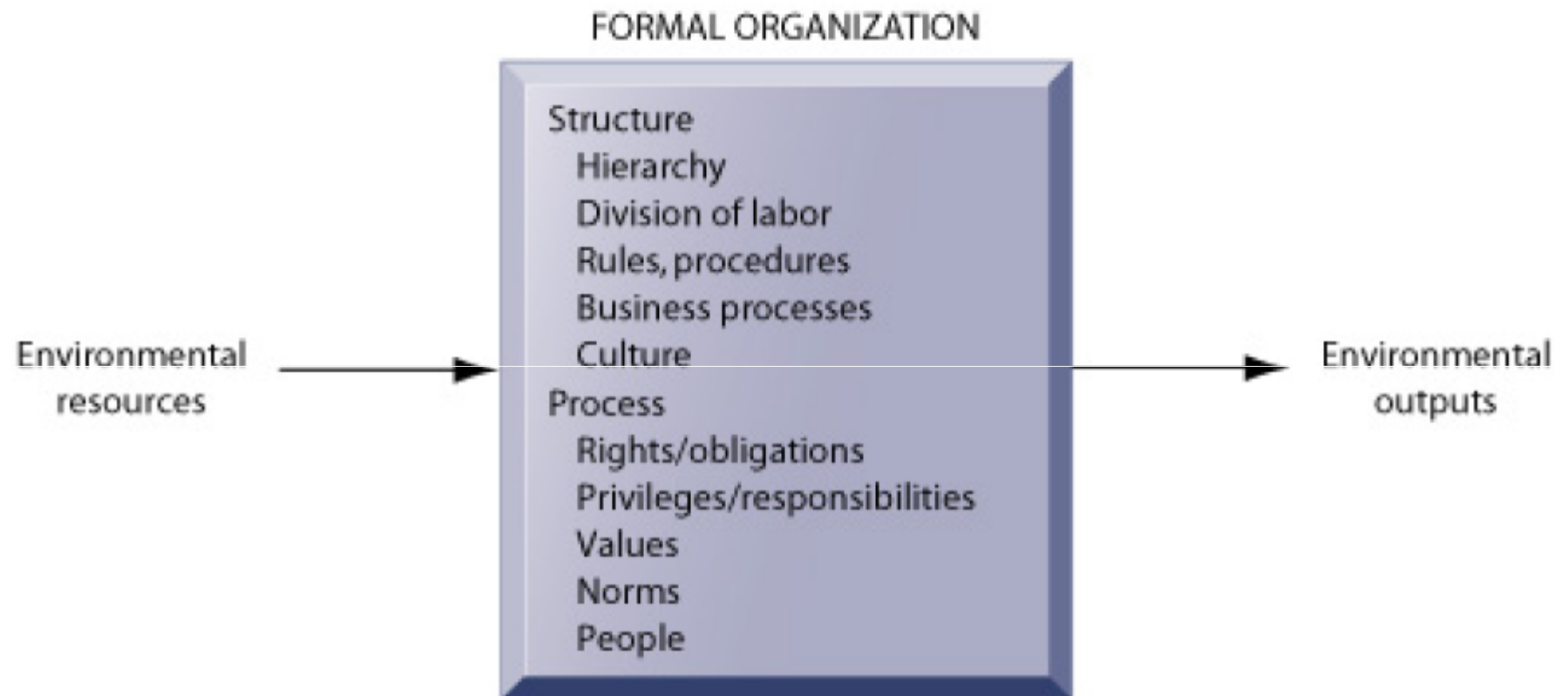


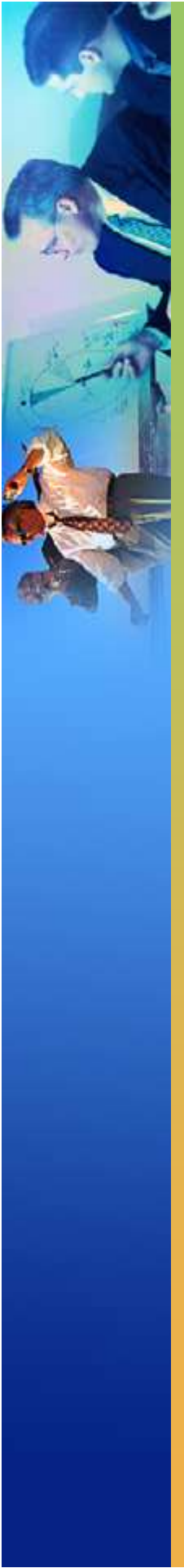


# The organisational environment



# Behaviour view of organisation





## A process-based structure

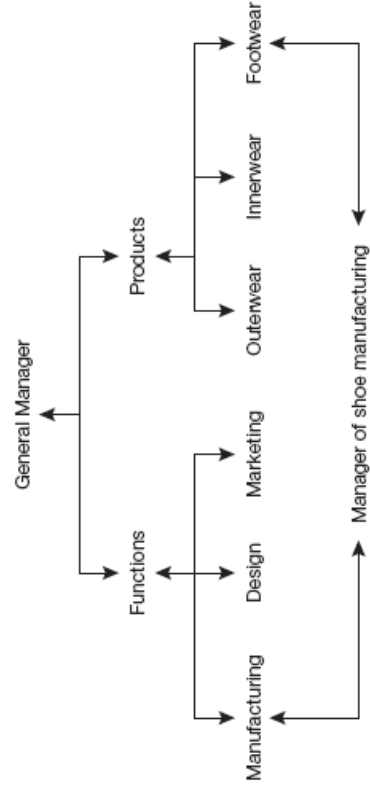
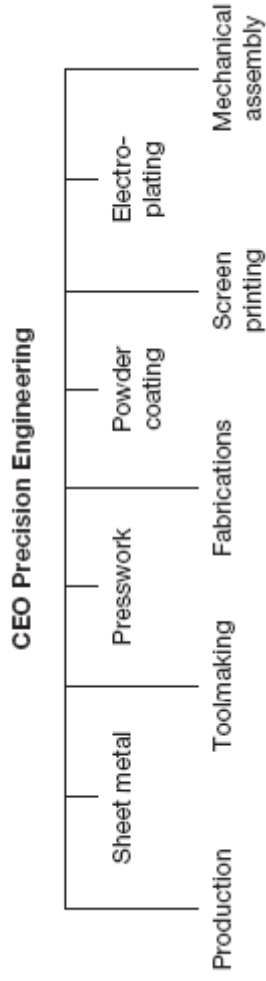


Figure 2.9 A matrix structure

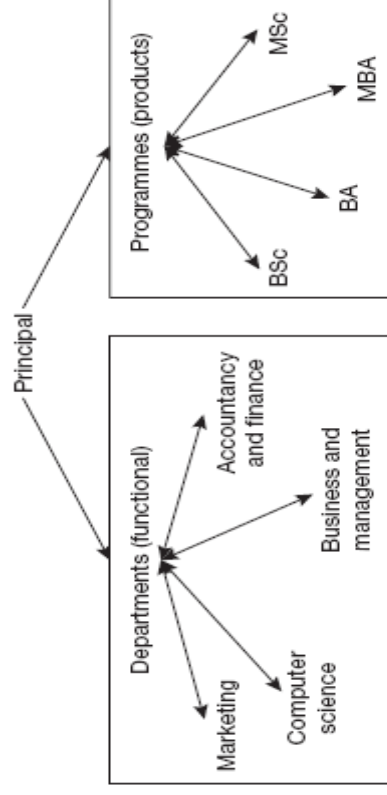


Figure 2.10 A matrix structure for a university business school

# Common feature of organisation (Max Weber)



**TABLE 3-1 Structural Characteristics of All Organizations**

Clear division of labor

Hierarchy

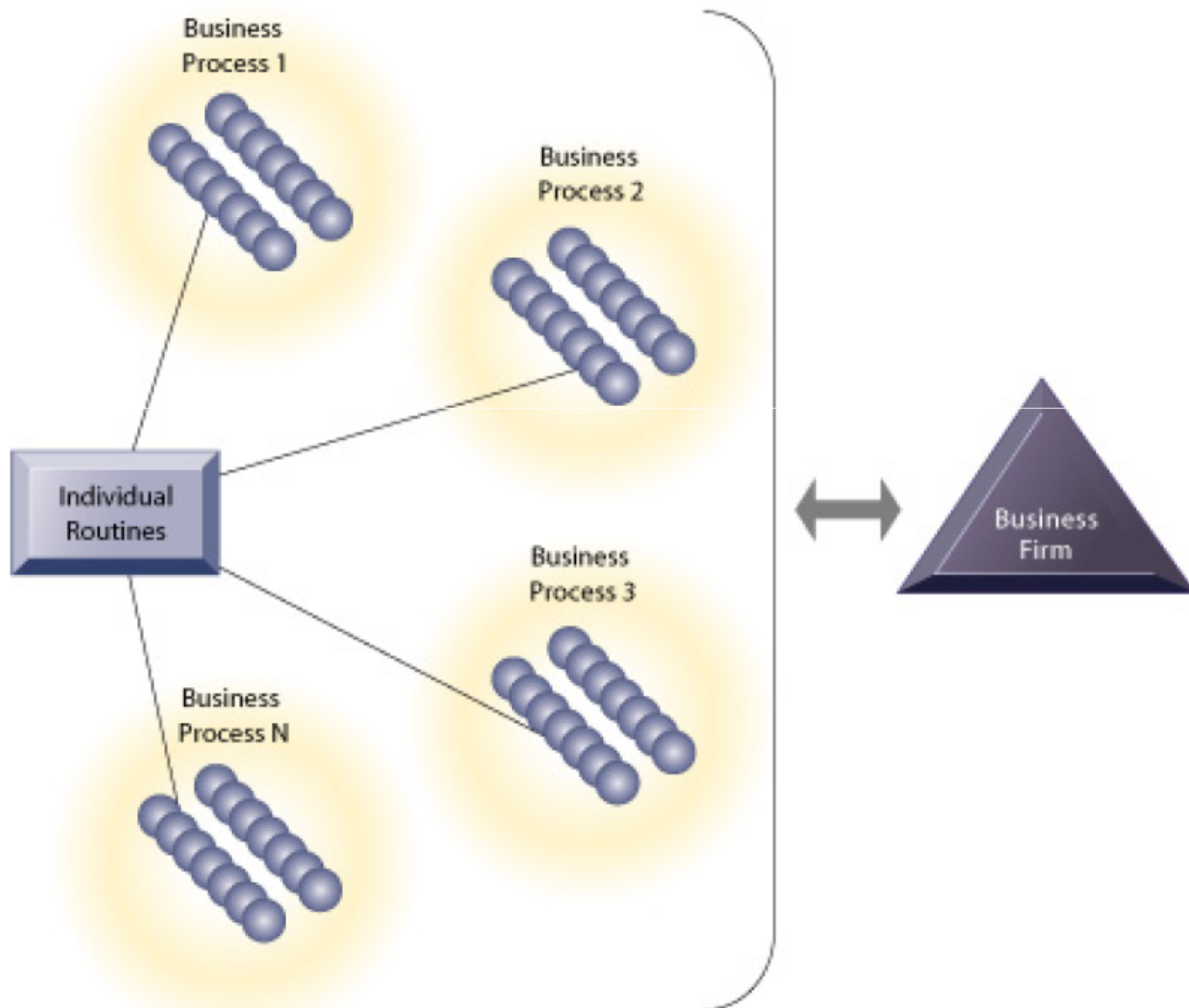
Explicit rules and procedures

Impartial judgments

Technical qualifications for positions

Maximum organizational efficiency

# Routine, Business Process, and firms



# Morgan's organisational metaphors



Organisations as machines

Mechanistic, bureaucratic

Organisations as organisms

Focused on managing organisational needs and the environment

Organisations as brains

Importance of information processing, learning, intelligence

Organisations as cultures

Sustained by ideas, values, norms, beliefs

Organisations as political systems

Different interests, conflicts and power, shape organisational activities

Organisations as psychic prisons

People trapped in their thoughts, ideas, beliefs

Organisations as flux and transformation

Focus on logics of change shaping social life

Organisations as instruments of domination

Exploitation of employees, environment and economy to achieve own ends

# Organisational Politics



- People in organizations occupy different positions with different specialties, concerns, and perspectives
- These differences matter to both managers and employees, and they result in political struggle for resources, competition, and conflict within every organization.
- Political resistance is one of the great difficulties of bringing about organizational change



# Organisational Culture



- All organizations have bedrock, unassailable, unquestioned (by the members), assumptions that define their goals and products.
- Organizational culture is a powerful unifying force that restrains political conflict and promotes common understanding, agreement on procedures, and common practices.
- organizational culture is a powerful restraint on change



**TABLE 3-2 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



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# IT Organization in yesser's project, Saudi Arabia, 2007

Suplemen for Chap 4

**Dr. Ir. Yeffry Handoko Putra, M.T**

**MAGISTER SISTEM INFORMASI- UNIVERSITAS KOMPUTER INDONESIA**

## the stage in the life cycle of the IT department



- a. **Starting:** The IT organization is very young or very small (2-3 people)
- b. **Building:** The IT organization is at the beginning of its first expansion, It is being established, and there is a considerable demand on systems, infrastructure services and IT people
- c. **Stabilizing:** IT Processes are being applied, most of the infrastructure systems have been created, and the IT department is looking for a structure that best suits the maintenance and support demand together with the demand for project and new systems
- d. **Mature:** Processes are optimized, stability achieved, minor problems and issues are arising.

# IT Organization Design Goals

A photograph showing four business professionals in a meeting. One man is pointing at a whiteboard with a diagram, while others look on attentively. The image is partially obscured by the title bar.

1. Alignment to new strategic directions of the organization
2. Solve problems resulting from structure inefficiencies
3. Eliminate job conflicts
4. Minimize errors and deficiency resulting from human behavior
5. Clarify uncertainty regarding the hierarchy and distribution of work and responsibilities
6. Enable the ability of predicting results by minimizing the personal behavior options

# IT Organization Design Process

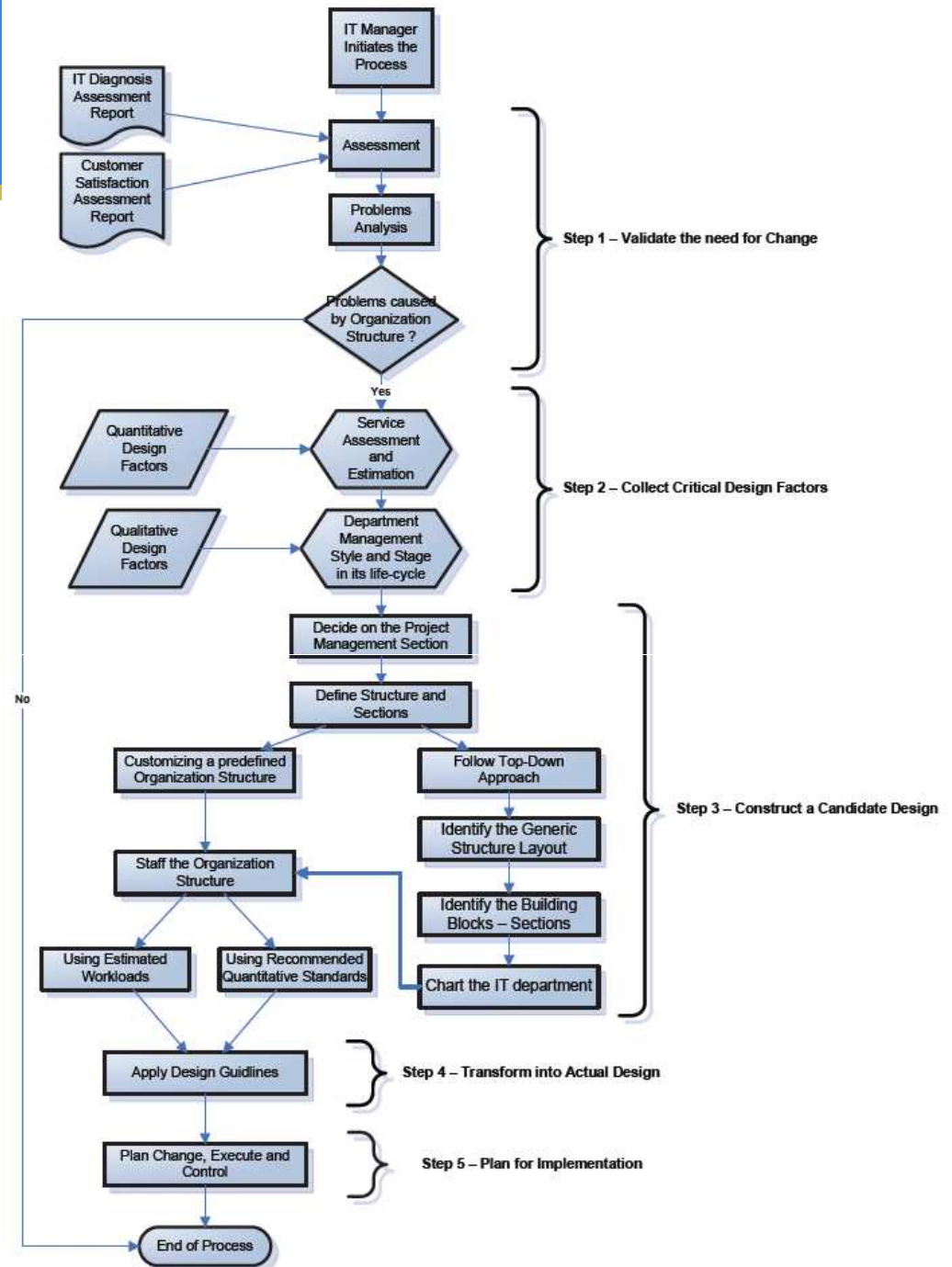


Input	Steps	Output
<ul style="list-style-type: none"><li>▪ Initiation from the IT manager to apply the IT Organization Design process</li></ul>	<ol style="list-style-type: none"><li>1. Validation of the need to change</li><li>2. Identify critical design factors</li><li>3. Construct a candidate design</li><li>4. Transform into actual design</li><li>5. Plan for implementation</li></ol>	<ul style="list-style-type: none"><li>▪ New Organization Structure and how to implement it</li></ul>
<p>The <b>purpose</b> of this process is to change the IT department structure in order to meet set plans and objectives</p>		



# Ex. Process Flow Chart for Organisation Structure

Source: Yesser, E-government Program , Saudi Arabia, 2007



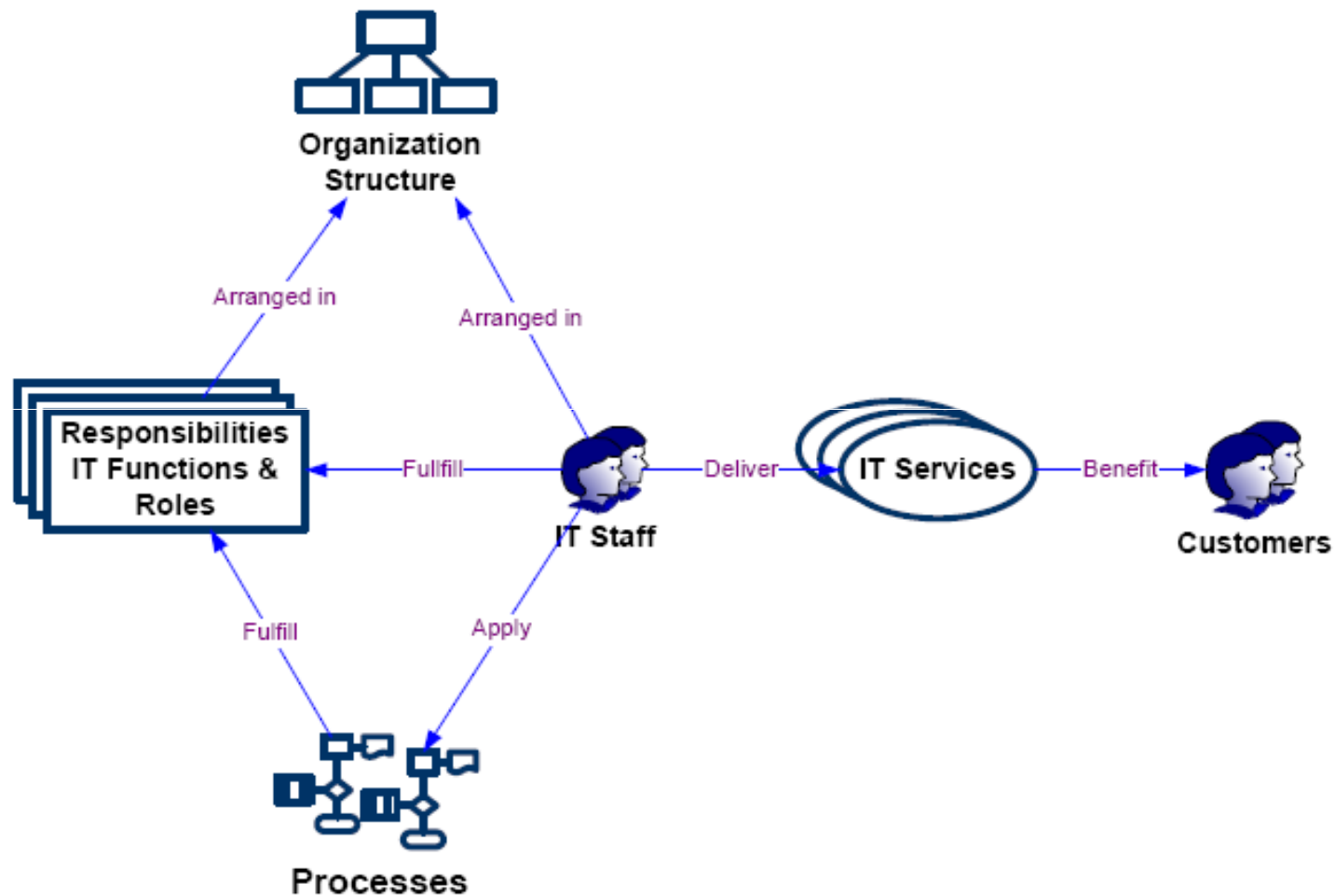


# IT Strategy, Goals and Objectives

A photograph showing three business professionals in a meeting. One man is pointing at a whiteboard, while two others look on. The image is partially obscured by the title bar.

1. Vision and Mission
2. IT strategy Plan
3. Goals and Objectives
4. Detailed plans for
  - a. Budget
  - b. Projects
  - c. Work (Tasks per resources)

# Example of IT Model



Source: Yesser, E-government Program , Saudi Arabia,2007

# IT Customers



1. Other IT departments in the government
2. Vendors and suppliers of HW/SW
3. Citizens with problems, issues or suggestions, especially customers of e-Services

# IT Services



1. Form the relation between the IT departments and its customers
2. Shape the structure of the IT department
3. Coupled with scale and demand, they justify the budget
4. Drive resource requirement and IT staff development

# Services from Customer Perspective



Category	Services
Project Management	<ul style="list-style-type: none"><li>▪ Business process support</li><li>▪ Automation</li><li>▪ Tools and utilities</li><li>▪ Office tools</li><li>▪ Applications</li></ul>
Help Desk-Desktop Support	<ul style="list-style-type: none"><li>▪ Hardware</li><li>▪ Operating systems</li><li>▪ Office tools and applications support</li><li>▪ Personal Applications</li><li>▪ User Training</li></ul>

# Services from Customer Perspective

Category	Services
Help Desk-Connectivity	<ul style="list-style-type: none"><li>▪ Telecommunications</li><li>▪ Internet/Intranet</li><li>▪ Email</li><li>▪ Printing</li><li>▪ Storage</li></ul>
Help Desk- Business Applications Support	<ul style="list-style-type: none"><li>▪ Issues</li><li>▪ Management Reports</li><li>▪ Integration</li><li>▪ Applications</li><li>▪ Data and information</li></ul>
Indirect Services	<ul style="list-style-type: none"><li>▪ Quality</li><li>▪ Security</li><li>▪ Reliability</li><li>▪ Availability</li><li>▪ Performance enhancement</li><li>▪ Disaster recovery</li><li>▪ Procurement</li><li>▪ Sourcing and supplier management</li></ul>

# IT Functions



Criteria	IT Function	IT Process
<b>Answers</b>	What need to be done	How it will be done, by whom and when
<b>Nature</b>	High level description of a group of related and similar tasks or activities	As set of ordered steps or activities to achieve a defined purpose or output
<b>Performed by</b>	A role, specialist	A group of people who are involved in the process



# IT Functions (2)



Criteria	IT Function	IT Process
<b>Grouping</b>	Similar functions are grouped based on nature, subject specialty and the needed skills	Grouping of activities depend on the purpose of the process
<b>Output</b>	Fulfillment of a job description or a responsibility	Defined purpose
<b>Combination</b>	Can be combined or further broken down depending on the demand or limitations	Each process is atomic and independent. Two processes cannot be combined, however, complex activities can be further broken down for simplicity but not as a response to demand or low resources
<b>Resources</b>	As less as possible, also might be fulfilled by multiple people of the same role	Spans anyone who is involved or affected by the process
<b>Integration</b>	Designed to be as less inter-dependent on each other	Integrates multiple activities, many people from different sections to achieve the purpose
<b>Importance</b>	IT functions are the principles by which processes are designed and implemented. They solve special cases and situations where there is no identified process or when the process conditions differ.	Processes have specific purpose and conditions, if the conditions differ (or an exceptional situation appears), the process will not be adequate to solve the situation. Then, people refer to the basic principles of work: the IT functions.

# IT Function Depends on IT Aspect



Technical Engineering	Pure Management	Generic Business Elements	IT Technology Areas
<ul style="list-style-type: none"><li>▪ Analysis</li><li>▪ Research</li><li>▪ Design</li><li>▪ Development / Implementation</li><li>▪ Testing / Quality</li><li>▪ Deployment / Deliver</li><li>▪ Support / Maintain</li><li>▪ Evaluate Performance</li><li>▪ Enhance and Update</li><li>▪ Specialization</li></ul>	<ul style="list-style-type: none"><li>▪ Organizing</li><li>▪ Planning</li><li>▪ Executing &amp; Controlling</li><li>▪ Supervision</li><li>▪ Investigation</li><li>▪ Evaluation</li><li>▪ Coordination</li><li>▪ Communicating</li><li>▪ Leading/Directing</li></ul>	<ul style="list-style-type: none"><li>▪ Budgeting</li><li>▪ Marketing</li><li>▪ Accounting</li><li>▪ Procurement</li><li>▪ Recruitment</li><li>▪ Outsourcing</li><li>▪ Asset management</li><li>▪ Business Continuity</li><li>▪ Logistics</li><li>▪ Compliance with regulations</li><li>▪ Services</li><li>▪ User Incidents</li><li>▪ Training</li><li>▪ Configuration</li><li>▪ Disaster Recovery</li><li>▪ Audit</li></ul>	<ul style="list-style-type: none"><li>▪ Computers</li><li>▪ Operating Systems</li><li>▪ Networks and Connectivity</li><li>▪ Office Applications and tools</li><li>▪ Business Applications-Automation</li><li>▪ Telecommunications</li><li>▪ Security</li><li>▪ Data-Information-Knowledge</li><li>▪ Tools</li><li>▪ Software Development</li><li>▪ IT Staff</li><li>▪ Users</li></ul>

### Table 6 - IT Functions Frame

[illegible]

# IT Function Frame



Functions	Computers	Operating Systems	Networks and Connectivity	Office Applications and Tools	Business Applications-	Telecommunications	Security	Data-Information-Knowledge	Tools	Software development	IT Staff	Users	Category
Marketing			R		R		R	R		R	O	R	Business Support
Accounting	R	R	R	R	P	R	R	R	R	P	R		Business Support
Procurement	R	R	R	R	P	R	R	R	R	P			Business Support
Recruitment											O		Business Support
Outsourcing	P	P	P	R	P	P		P	P	P			Business Support
Asset management	O	O	O	O	R	O	O	R	R	P	O		Business Support
Business Continuity	R	O	O	R	O	O	O	R		O	O		Business Support
Logistics	O		O		P	O	O			P	O		Business Support
Compliance with regulations	R	O	O	O	R	O	O	R		P	O		Business Support
Services	O	O	O	O	O	O	O	O	O	P		O	Business Support
User Incidents	O	O	O	O	O	O	O	O	O	O		O	Business Support
Training	R	R	R	R	R	R	R	R	R	R	R	R	Business Support
Configuration	O	O	O	O	O	O	O	O	O	O			Business Support
Disaster Recovery	O	O	O	O	O	O	O	O	O	O	O		Business Support
Audit	R	R	R	R	R	R	R	R		P	R		Business Support

*P= Project type*  
*O=Operation Type*  
*R=Recurring*

# IT Organization Design Activities



- Step 1 – Validate the Need for Change
  1. Conduct self assessment of the IT organization using the “IT Diagnosis Template”
  2. Record all problems, issues, unmet objectives and slippage
  3. Conduct customer satisfaction assessment by letting customers anonymously answer the questions in the customer satisfaction assessment template
  4. Conduct cause-effect analysis, where problems are analyzed to find the real causes
  5. If there are real causes related to the organization structure, proceed.

See addition paper for detail



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# Chap 4.b: Organization and Environment

**Dr. Ir. Yeffry Handoko Putra, M.T**

**MAGISTER SISTEM INFORMASI- UNIVERSITAS KOMPUTER INDONESIA**





## The Organization and Its Environment

Environmental Resources  
and Constraints

Governments

Competitors

Customers

Financial Institutions

Culture

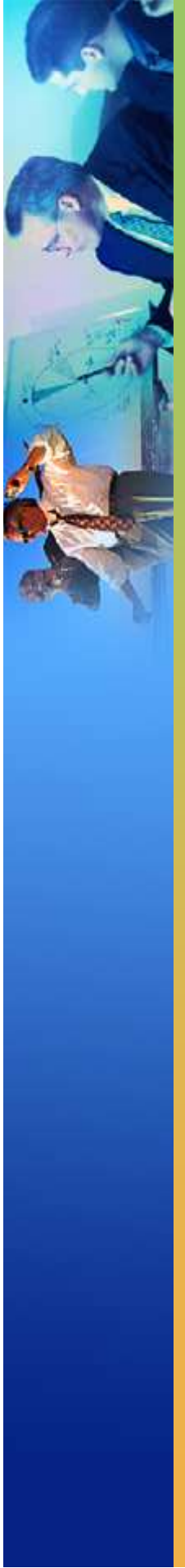
Knowledge

Technology

Information Systems

The Firm

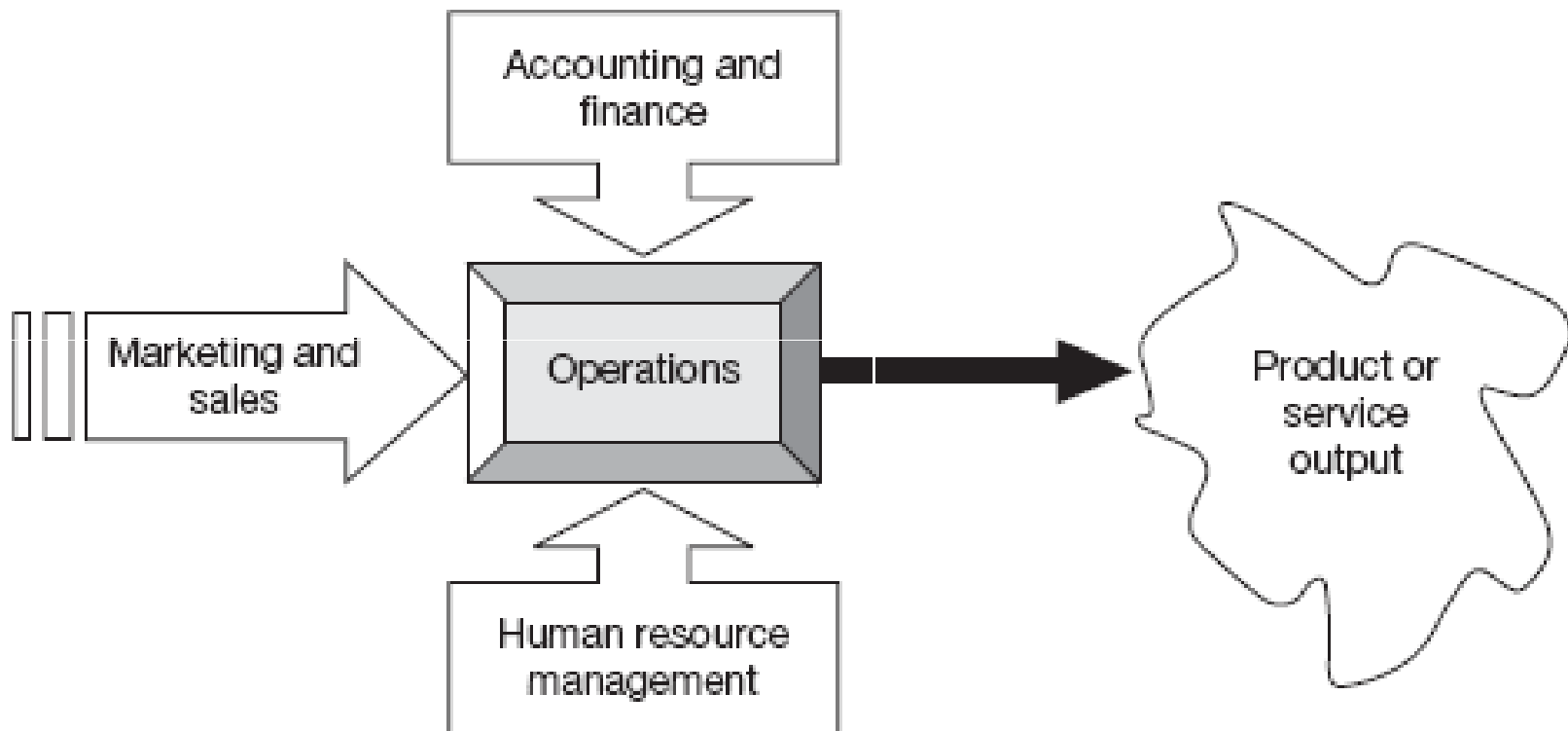




**TABLE 3-3 Summary of Salient Features of Organizations**

Common Features	Unique Features
Formal structure	Organizational type
Routines	Environments
Politics	Goals
Culture	Power
	Constituencies
	Function
	Leadership
	Tasks
	Technology

# Main functions of a business organisation



# Information Technology Services



THE ORGANIZATION  
Senior management  
Major end users (divisions)

Information Systems Department

Information Systems Specialists

CIO

Managers

Systems analysts

Systems designers

Programmers

Network specialists

Database administrator

Clerical

IT Infrastructure

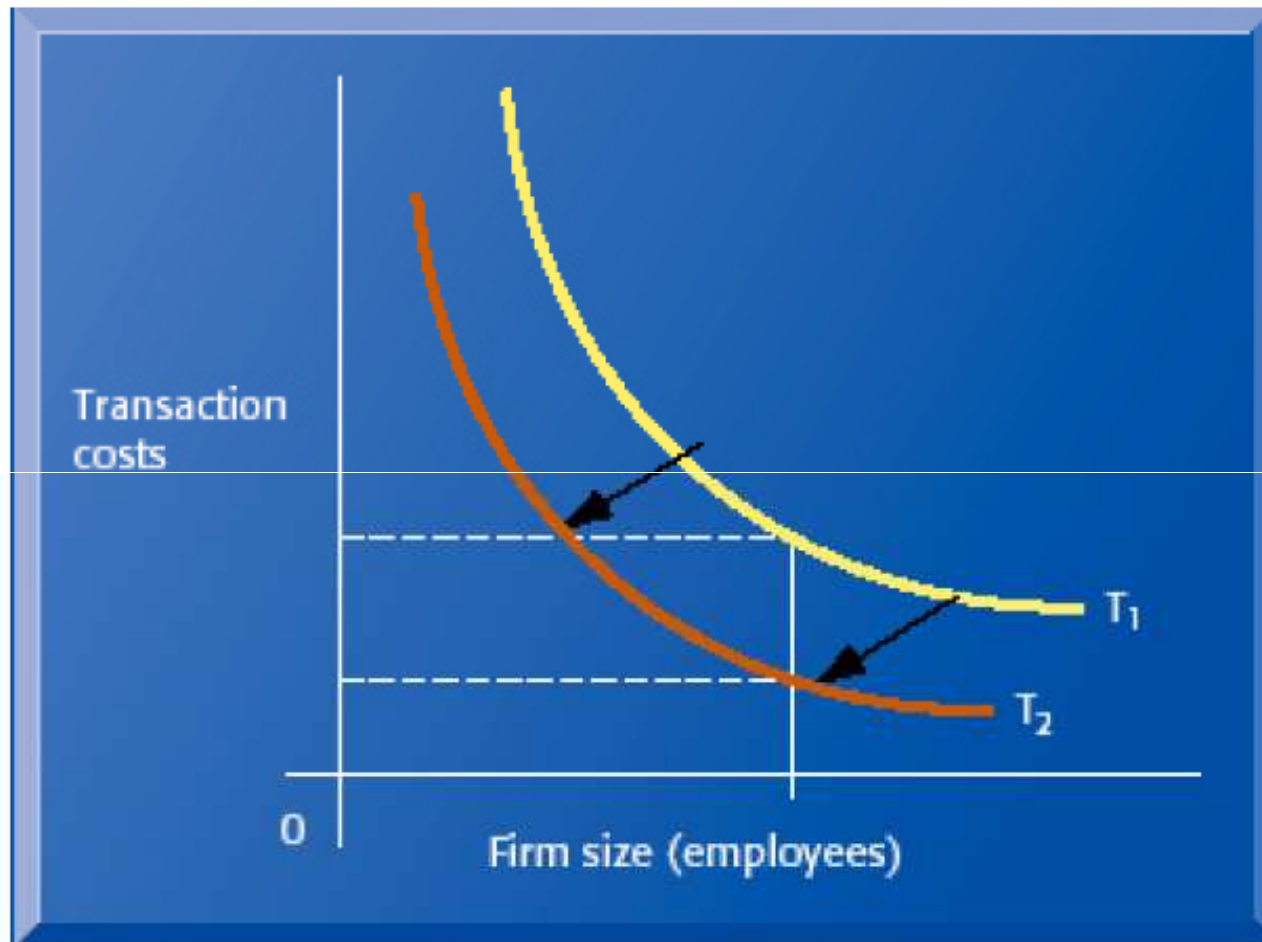
Hardware

Software

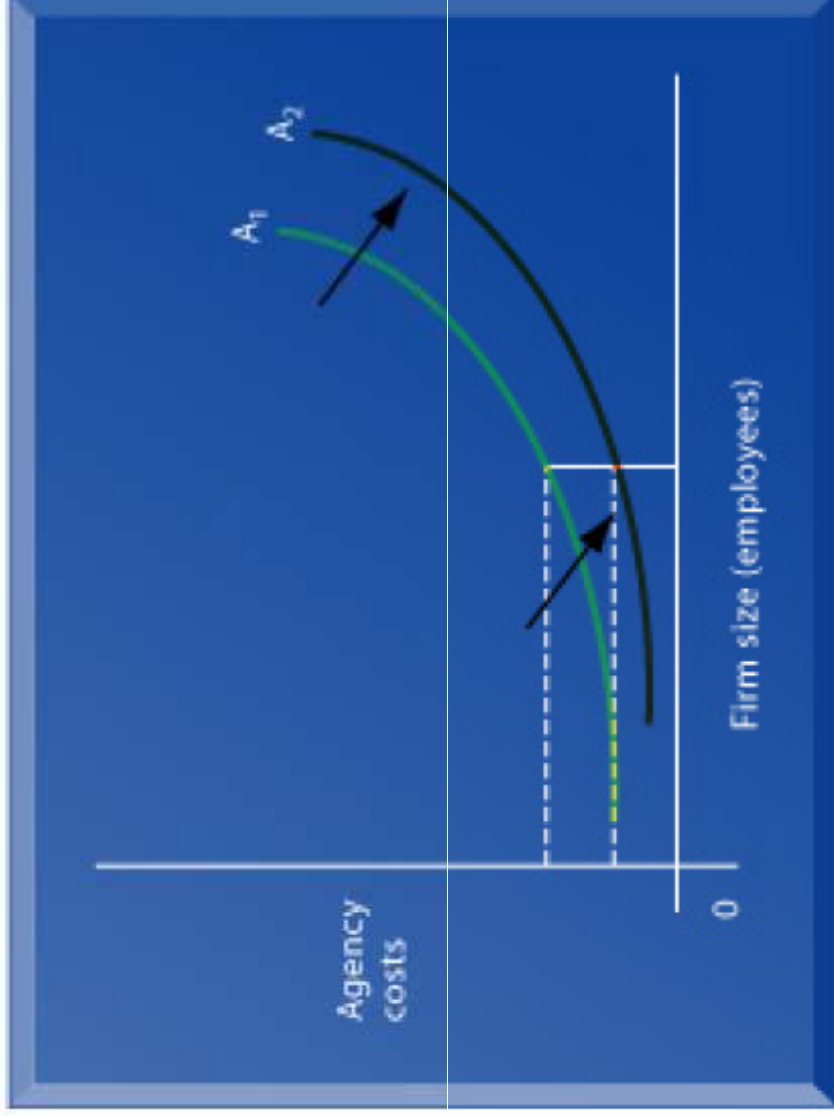
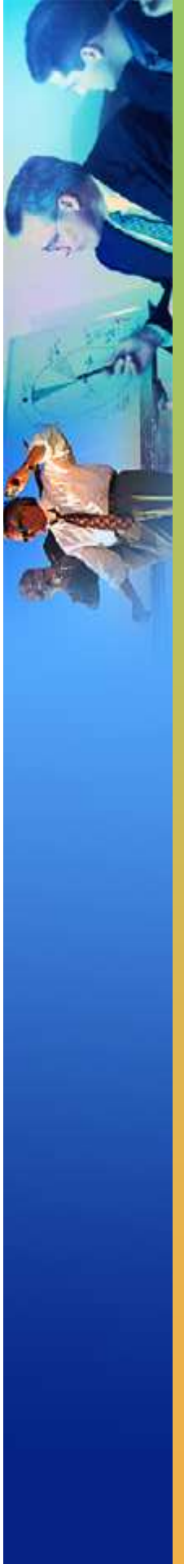
Data storage

Networks

# IS impact organization: Economic Impact



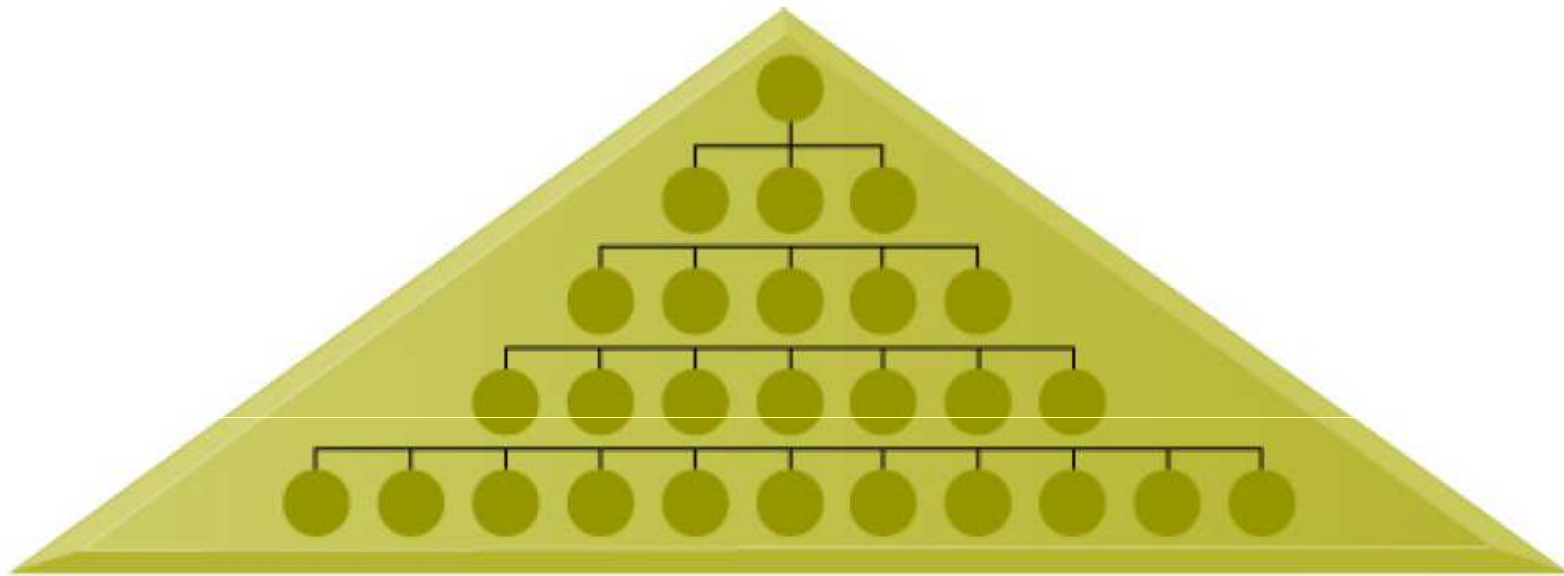
**FIGURE 3-7 The transaction cost theory of the impact of information technology on the organization**



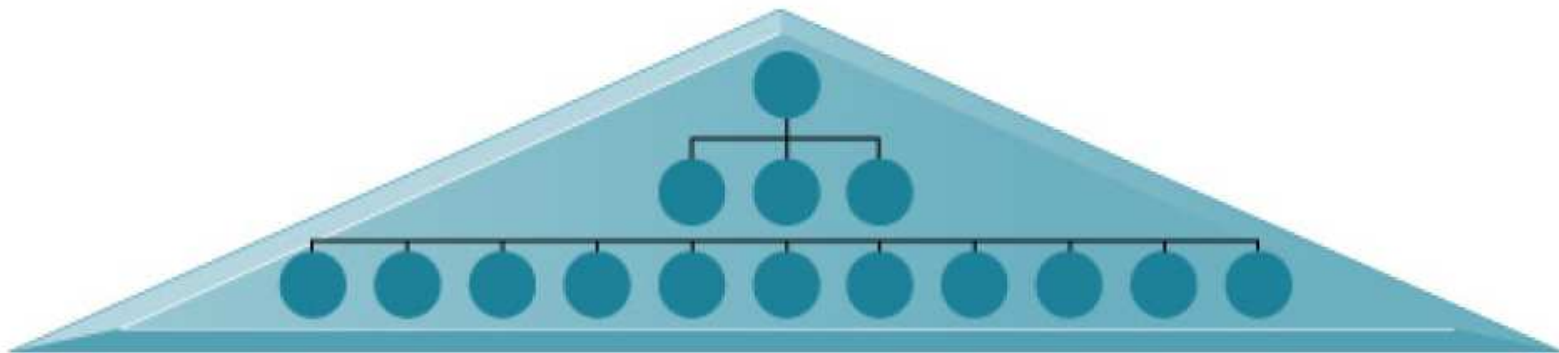
**FIGURE 3-8 The agency cost theory of the impact of information technology on the organization**

# Organisational and behavioural impact:

## 1) Flatten Organisation



A traditional hierarchical organization with many levels of management



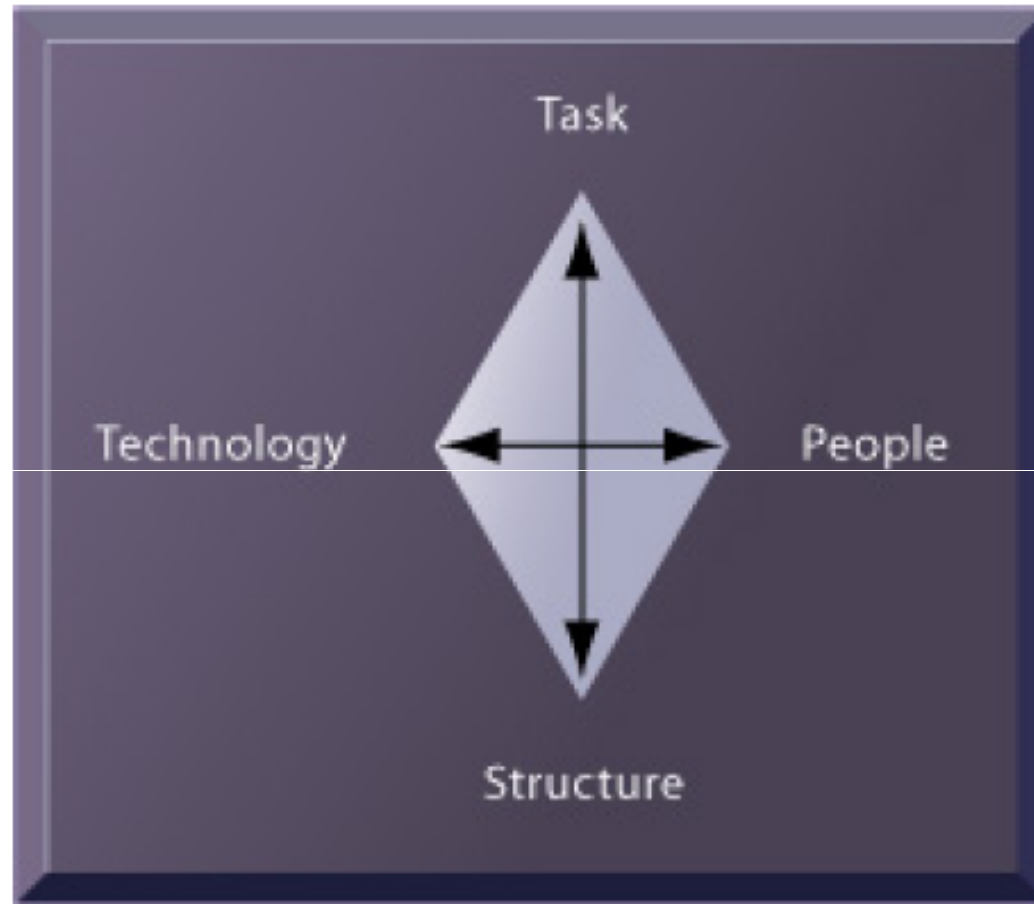
An organization that has been "flattened" by removing layers of management





- 2) POSTINDUSTRIAL ORGANIZATIONS AND VIRTUAL FIRMS**
- 3) INCREASING FLEXIBILITY OF ORGANIZATIONS**
- 4) UNDERSTANDING ORGANIZATIONAL RESISTANCE TO CHANGE**

# Organizational Resistance



**FIGURE 3-10 Organizational resistance and the mutually adjusting relationship between technology and the organization**