

# Information Technology

Information Technology  
For Management  
3<sup>rd</sup> Edition  
Turban – McLean – Wetherbe

## 2<sup>nd</sup> Lecture

Information Technology  
Concept & Management

## Information System Characteristic in 21<sup>st</sup> Century

- ◆ Several different IS can exist in one organization.
- ◆ Most of these system are interconnected, referred to as an IS.
- ◆ IS are connected by means of electronic networks, then the arrangement is known as an enterprisewide system.
- ◆ Interorganization IS involved information flow in two or more organizaions and are used primarily in e-business applications.
- ◆ An enterprisewide system/Interorganization IS is composed of large & small computer connected y different type of networks.

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## Concepts of IS

- ◆ Primary Goals of IS to economically process data to information or knowledge.
- ◆ Data items refer to an elementary description things, events, activities, and transaction that are recorded, classified, and stored, but not organized to convey any specific meaning. Data items can be a numeric, alphanumeric, figures, sounds, or images.

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- ◆ Information is data that have been organized so that they have meaning & value to the recipient.
- ◆ Knowledge consists of data or information that have been organized & processed to convey understanding, experience, accumulated learning, & expertise as they apply to current problem or activity.
- ◆ IS Configurations  $\Rightarrow$  IS components can assembly in many different configurations, resulting in a variety of IS. Therefore, is useful to classify IS in to groups that share similar characteristic.

## Classification of IS

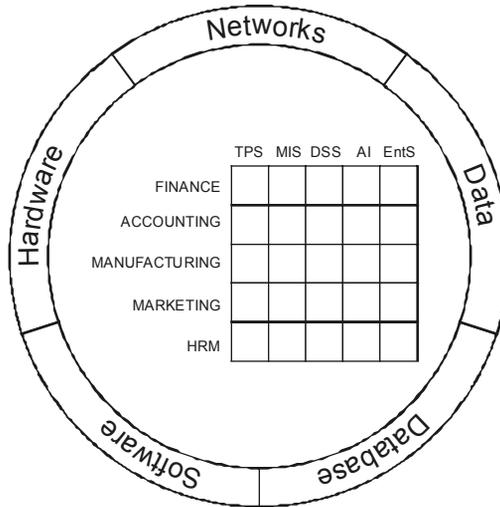
- ◆ Classification by Organizational Structure
  - Departmental information systems
  - Enterprise information systems
  - Interorganizational system
- ◆ Classification by Functional Area
  - The accounting information system
  - The finance information system
  - The manufacturing information system
  - The marketing information system
  - The human resource management information system

- ◆ Classification by Support Provided
  - Transaction processing system (TPS)
  - Management information system (MIS)
  - Knowledge management system (KMS)
  - Office automation system (OAS)
  - Decision support system (DSS)
  - Executive information system (EIS)
  - Enterprise information system (EntIS)
  - Group support system (GSS)
  - Intelligent support system (ISS)
  - Artificial neural networks (ANN)
- ◆ Classification by System Architecture
  - A mainframe-based system
  - A standalone personal computer
  - A distributed or a networked computing system

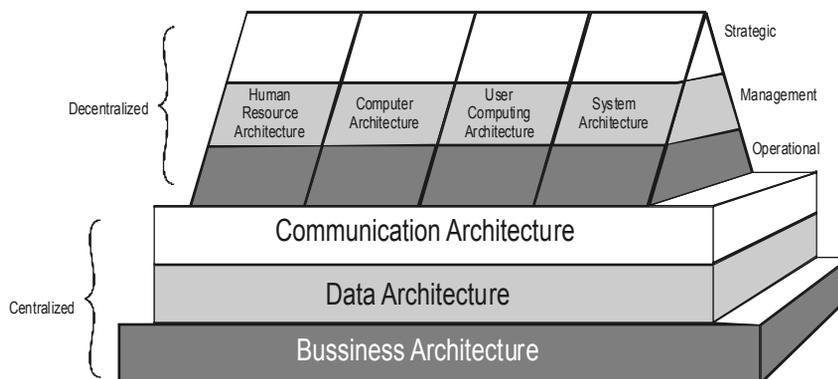
## The Evolution of Support System

- ◆ 1950s ⇒ TPS
- ◆ 1960s ⇒ MIS
- ◆ Late 1960s – Early 1970s ⇒ OAS
- ◆ 1970s ⇒ DSS
- ◆ 1980s ⇒ DSS ⇒ EIS ⇒ EntIS  
⇒ GSS
- ◆ Mid 1980s ⇒ ES
- ◆ Late 1980s ⇒ KMS
- ◆ Early 1990s ⇒ ANN

# Information Infrastructure



# Information Architecture



## Type of Architecture

- ◆ Client/Server Architecture
- ◆ Enterprise Computing
- ◆ Electronic Data Interchange
- ◆ Legacy System

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## Web-Based System

- ◆ The Internet
- ◆ Intranets
- ◆ Extranets
- ◆ E-Commerce & Storefronts
- ◆ Corporate Portals
- ◆ Electronic Markets & Exchanges
- ◆ M-Commerce

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## Managing Information Resources

- ◆ Which resource are managed by whom?
- ◆ What is role of the ISD?
- ◆ What are relationship between ISD and the end user?

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## Which resource are managed by whom?

- ◆ ISD is responsible for corporate-level & shared resources
- ◆ End Users are responsible for departmental resources

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## What is role of the ISD?

- ◆ Changing from pure technical to managerial & strategic
- ◆ Elevated from unit reporting to functional department
- ◆ Changing from technical manager to a senior executive
- ◆ Changing internal structure
- ◆ Can be centralized or decentralized or combination of the two
- ◆ Must work closely with external organization
- ◆ The key issues in ISs management changing with time

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## Traditional Major IS Function

- ◆ Managing systems development & systems project management
- ◆ Managing computer operations, including the computer center
- ◆ Staffing, training, & developing IS skills
- ◆ Providing technical services

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## New Major IS Function

- ◆ Initiating & designing specific IS
- ◆ Infrastructure planning, development, & control
- ◆ Incorporating the Internet & e-commerce into the business
- ◆ Managing system integration including the Internet, intranets, extranets
- ◆ Educating the non-IS manager about IT
- ◆ Educating the IS staff about business
- ◆ Actively participating in business process reengineering
- ◆ Proactively using business & technical knowledge to "seed" innovative ideas about IT
- ◆ Creating business alliance with vendors & ISD in other organization

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## Key MIS Issues 1999

- ◆ Data & information resources 8.32
- ◆ IS strategic process 7.75
- ◆ IS human resources 7.74
- ◆ IS for competitive advantage 7.34
- ◆ Software development process 6.93
- ◆ Telecommunication & networking 6.73
- ◆ IS applications effectiveness 6.29
- ◆ End-user computing & support 5.98
- ◆ IS control 5.76

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## What are relationship between ISD and the end user?

- ◆ Steering committee that represents all end users and the ISD, set IT policies, provides for priorities, & coordinates IS project
- ◆ Joint ISD/end-user project teams for planning, budgeting, application developments, & maintenance
- ◆ ISD representation on the top corporate executive committee
- ◆ Service agreements that define computing responsibilities & provide a framework for services rendered by ISD to end users
- ◆ Technical & administrative support for end-user
- ◆ A conflict resolution unit established by the ISD to handle end-user complaints quickly & resolve conflict as soon as possible

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## Managerial Issue

- ◆ The training to networked computing
- ◆ From legacy system to client/server to intranets
- ◆ How much infrastructure?
- ◆ The role of ISD
- ◆ The role of end users
- ◆ Ethical issues

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