



# HNDIT1212: System Analysis and Design



## Lecture 02: Applications of Information Systems



# Types of Information Systems

- Information systems can be classified in many ways,
  1. Classification by mode of processing
  2. Classification by System Objectives



# Classification by mode of processing

## 1. *Batch processing systems:*

*The transactions are collected as they occur, but processed periodically, say, once a day or week.*

## 2. *On-line batch systems:*

*The transaction information is captured by on-line data-entry devices and logged on the system, but it is processed periodically as in batch processing systems.*

## 3. *On-line Real-time systems:*

*The transaction data capture as well as their processing in order to update records (and generate reports) is carried out in real-time as the transaction is taking place.*



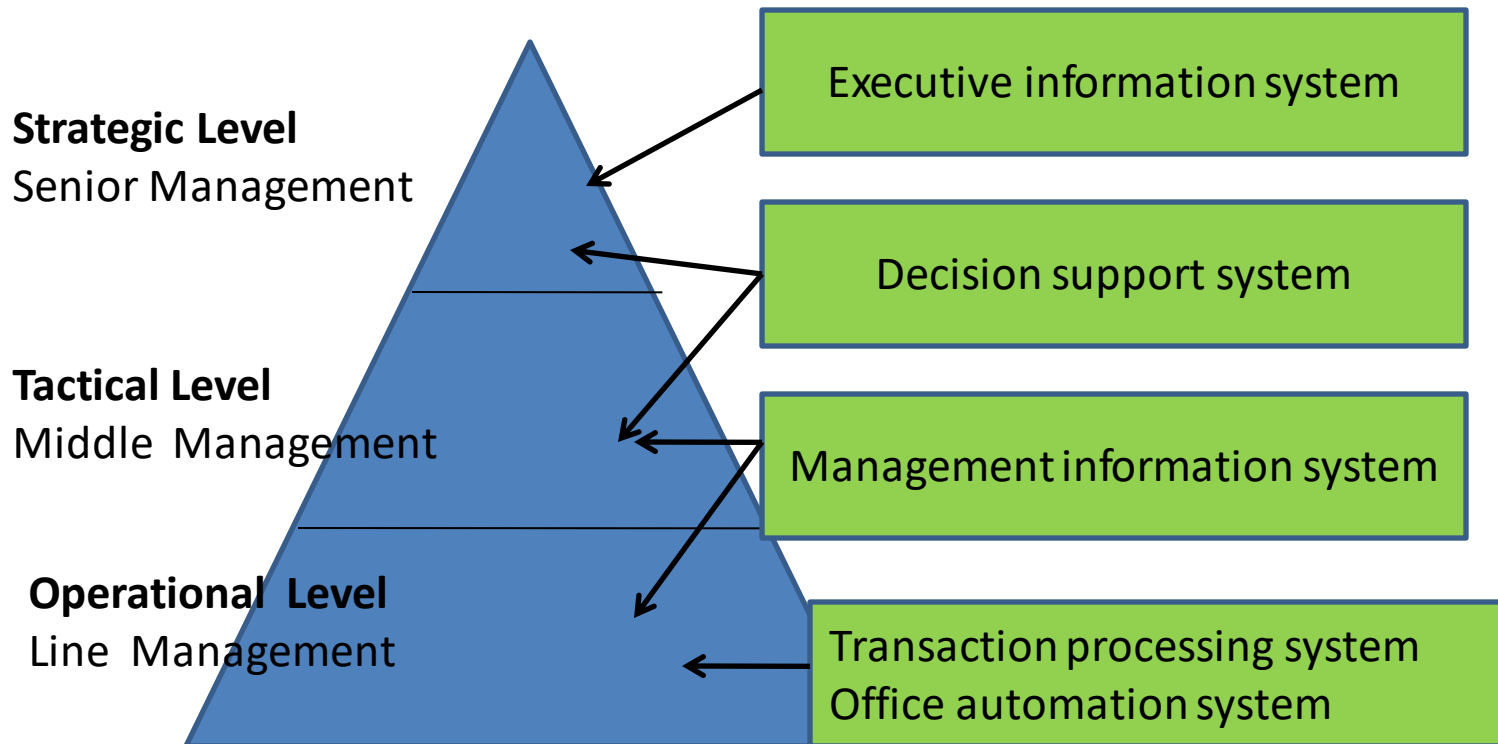
# Classification by System Objectives

## Type of information System

1. Transaction Processing System (TPS)
2. Management Information System (MIS)
3. Decision Support System (DSS)
4. Executive Information System (EIS)
5. Expert Systems (ES)
6. Communications and Collaboration Systems
7. Office Automation System
8. Geographic Information System (GIS)



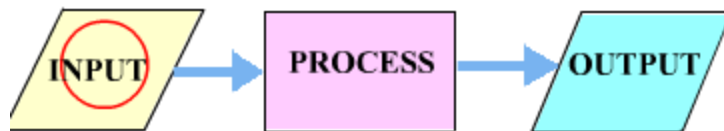
# The use of information systems by management level.





# Transaction Processing System (TPS)

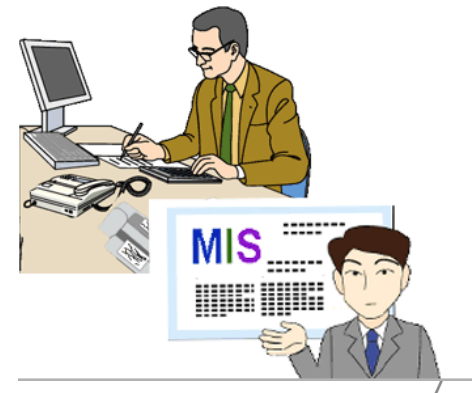
- Information Systems that capture and process data about business transactions.
- Used mainly by operational level employees





# Management Information System

- MIS is an information system application that provides for management oriented reporting.
- lower and middle **management can control, organize and plan** more effectively and efficiently.





# Decision Support System (DSS)

- Provides its user with decision-oriented information whenever decision making situation arise.
- They are interactive systems that **assist** a decision maker when faced with **unstructured or semi structured business problems**.
- Interactive computer-based modeling process





# Executive Information System (EIS) /Executive Support System(ESS)

- An information system designed for top-level managers.
- They integrates data from all over the organization into graphical indicators and controls



# Executive Information System (EIS)..

ESSs serve to,

1. indicate issues of importance to the organization
2. indicate new directions the company may take
3. help executives monitor the company's progress

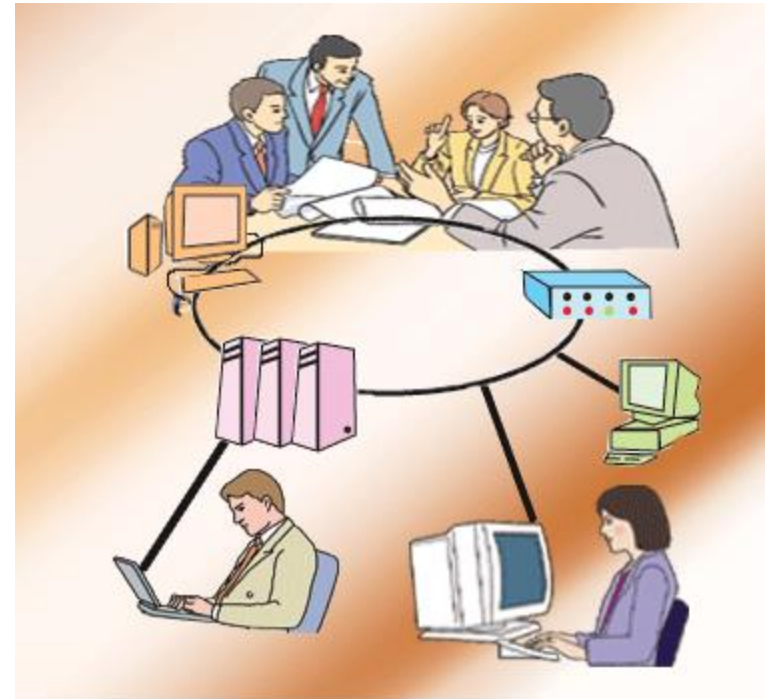


# Expert Systems (ES)

- An expert system is a programmed decision making information system.
- It capture and reproduces the knowledge and expertise of a decision maker and
- Simulates the “thinking “ of the expert.

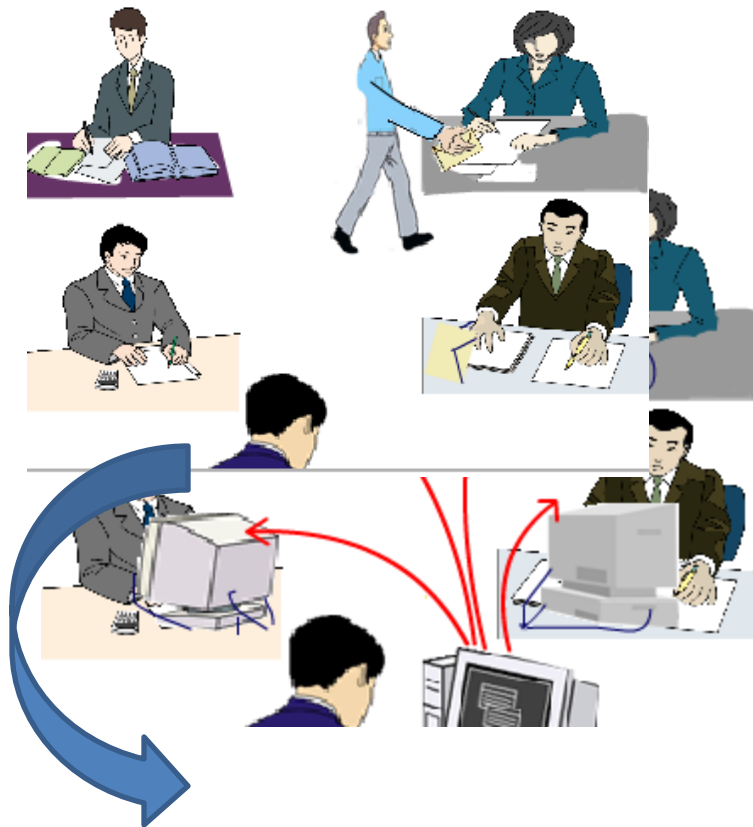
# Communications and Collaboration Systems

- An IS that enables **more effective communications** between,
  - Workers
  - Partners
  - Customers
  - Suppliers
- **Enhance** their ability to **collaborate**



# Office Automation System

- It supports the **wide range** of business office activities.
  - Work group computing
  - Work group scheduling
  - E-mail
  - Electronic document





# Geographic Information System (GIS)

- A system designed to capture, store, manipulate, analyze, manage, and present all types of spatial or geographical data.



# Legacy Systems

- Legacy system is an "*antiquated*" system.
  - potentially **problematic**
  - often run on obsolete hardware
  - spare parts for such computers become increasingly difficult to obtain
  - hard to maintain, improve and expand
  - The designers of the system may have **left** the organization, leaving no one left to explain how it works.



# Upgrading a Legacy System

Many **complex** legacy systems are yet to be upgraded to new technologies because of

- Cost
- Skills
- People required

**Force to change** – to reflect new or changing business requirements.

- Year 2000 problem (Y2K)
- Euro conversion