

# Information Systems in Organizations

## Part 2

### AAT Level II

#### Information Systems in Digital Environment (ISD)

Susantha Weerakoon  
B.Sc. (MIS), MBA (IMS), PHD (Business Psychology)



# Information Systems in Digital Environment

Lesson 07

## Information Systems in Organization

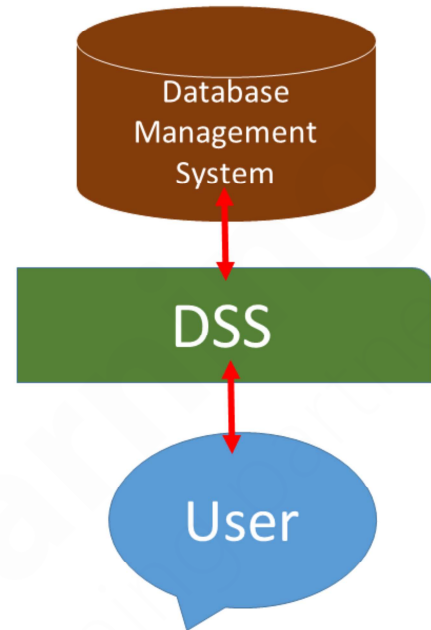
**Lecturer**

**Dr. Susantha Bandara Weerakoon**

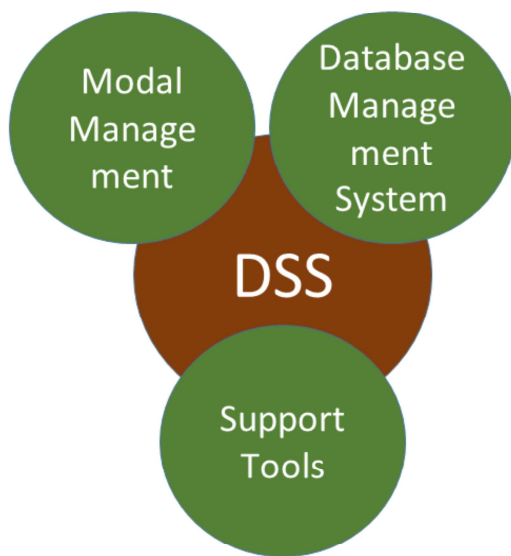
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## Decision Support Systems

A decision support system (DSS) is a specific type of computerized information system that supports business and organizational decision-making activities. DSS use summarized information, exceptions, patterns, and trends using the analytical models



## Decision Support Systems - Components



**Database Management System (DBMS)** - to solve a problem the necessary data may collect from internal or external database. In business organizations, internal data are generated through systems such as TPS and MIS in lower levels. External data flow from a variety of sources such as newspapers, web based or online data services, databases (financial, marketing, human resources). **Model Management System** - It stores and accesses models that managers use to make decisions. Such models are used for designing manufacturing facility, analyzing the financial health of an organization, forecasting demand of a product or service, etc.

**Support Tools** - Support tools like online help, graphical analysis, error correction mechanism, facilitates better user interaction with the system.



## DSS Attributes

- Adaptability and flexibility according to the situation
- Highly interactive
- Easy to use
- Higher efficiency and effectiveness
- Completely in control of decision-makers
- Extendibility
- Support for modeling and analysis
- Better access to data
- Available in standalone, integrated and Web-based models

## DSS Benefits

- Improves efficiency and speed of decision-making process.
- Increases the overall control, competitiveness and capability of advanced decision-making of the organization.
- Facilitates methods for interpersonal communication.
- Since it is mostly used in non-programmed decisions, it reveals new ways and sets up new evidences and formats for an unusual decision.
- Helps to automate managerial processes

## Programmed and Non-Programmed decisions

- Programmed decisions** are generally generate through an automated processes, general routine work. Where,
  - Decisions have been taken several times in the past.
  - Decisions follow some defined guidelines or rules. For example, setting a re-order level for a stock, is a programmed decision.
- Non-programmed decisions** occur in unusual and ad-hoc situations. So,
  - Most likely it will carry new decision.
  - There will not be any rules to follow.
  - These decisions are mostly based on the available information.
  - These decisions are based on the decision maker's preference, instinct, perception and judgment.

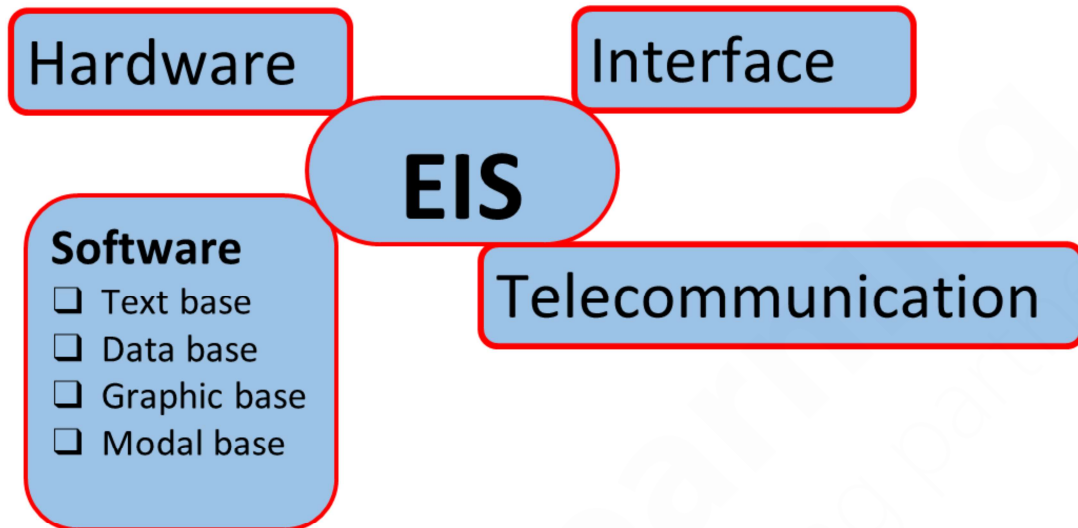
# Executive Information Systems

An information system that provides strategic information tailor-made to the needs of executives and other decision makers. The importance of EIS is, graphical displays it provides and an easy to-use user interfaces. It provides strong reporting and drill-down capabilities.

## Characteristics of EIS

- Drill Down capability
- Critical Success Factors (CSFs)
- Better access to information
- Analysis Analytical capabilities
- Exception Reporting
- Better communication facilities

## Components of EIS



### Advantages

- Easy for upper-level users to use, easy to understand even without higher technical knowledge
- Provides timely provision for company summarized information
- Information provided is easy to understand
- Filters data for management
- Provide ways to improve tracking of information
- Better efficient work environment for decision makers

### Disadvantages

- Functions are limited, cannot perform complex calculations
- Hard to quantify benefits and to justify implementation of an EIS
- Users may encounter information overload
- Systems may become slow, large, and difficult to manage
- Difficult to keep current data
- May lead to less reliable and insecure data
- Small companies may find difficult to afford initial setup costs

## Expert Systems

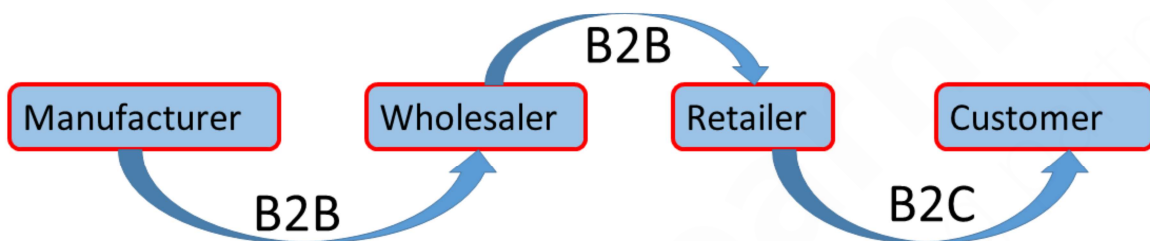
Some business scenarios are very complex in nature and require the help of advanced systems that can help with expert solutions. BES are computer based systems which use artificial intelligence (AI) and neural networks to recreate the performance level of a human-expert, thereby helping the business decisions. These systems are different from any other information system as they are capable of decision-making by themselves without human intervention. Actually, these systems are equipped with the knowledge of domain-experts and these systems simply simulate the expert knowledge to generate decisions

## Electronic and Mobile Commerce

Electronic commerce or ecommerce is a term for any type of business, or commercial transaction that involves the transfer of information across the Internet. It covers a range of different types of businesses, from consumer based retail sites, through auction or music sites, to business exchanges trading goods and services between corporations. It is currently one of the most important aspects of the Internet to emerge

## Categories of Electronic Commerce

1. Business-to-Consumer (B2C)
2. Business-to-Business (B2B)
3. Consumer-to-Consumer (C2C)
4. E-Government





## Traditional vs Electronic Commerce

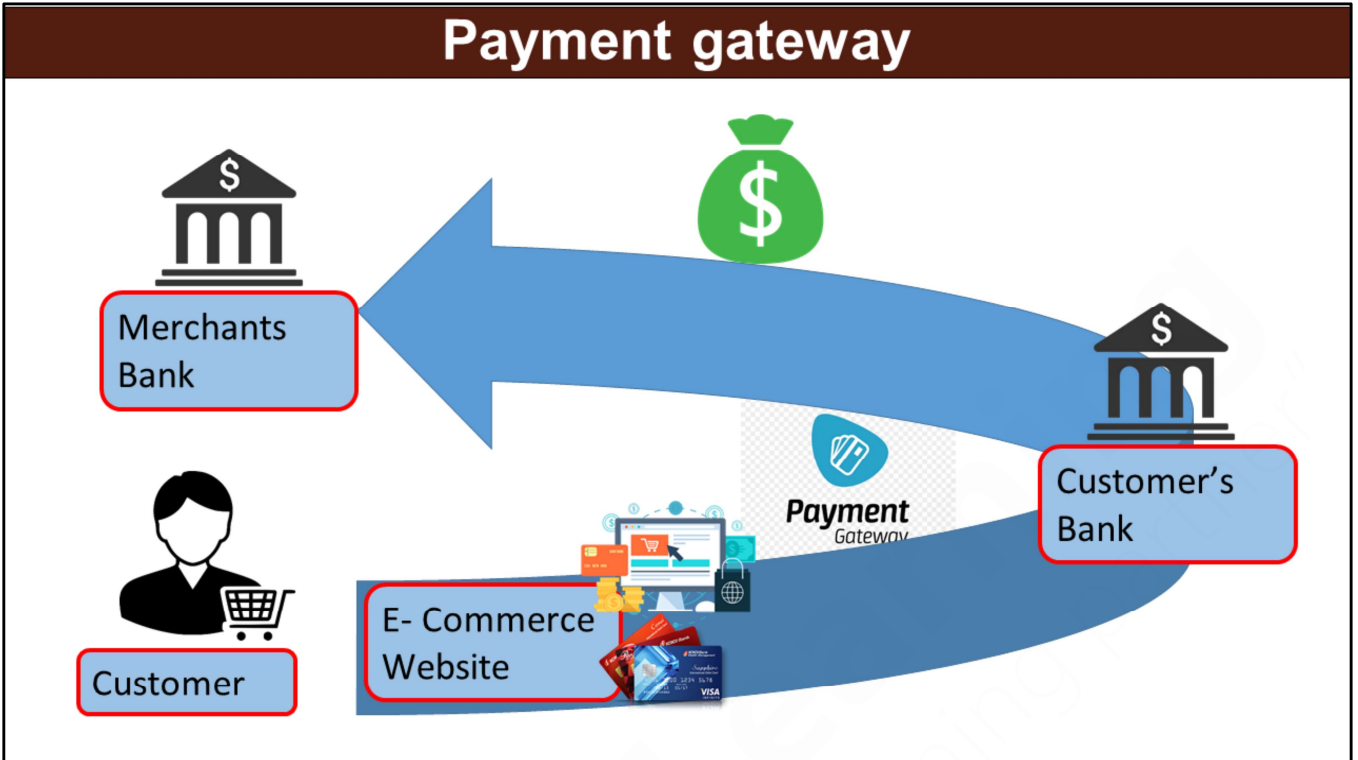
Traditional	Electronic

## M - Commerce

Mobile commerce or m-commerce, refers to ecommerce conducted in a wireless environment over the Internet. Buying, selling, marketing, servicing, delivery and payment of goods and services, are all completed over mobile technologies such as smart phones, tablets, or other wireless devices. There are a number of factors supports m-commerce.

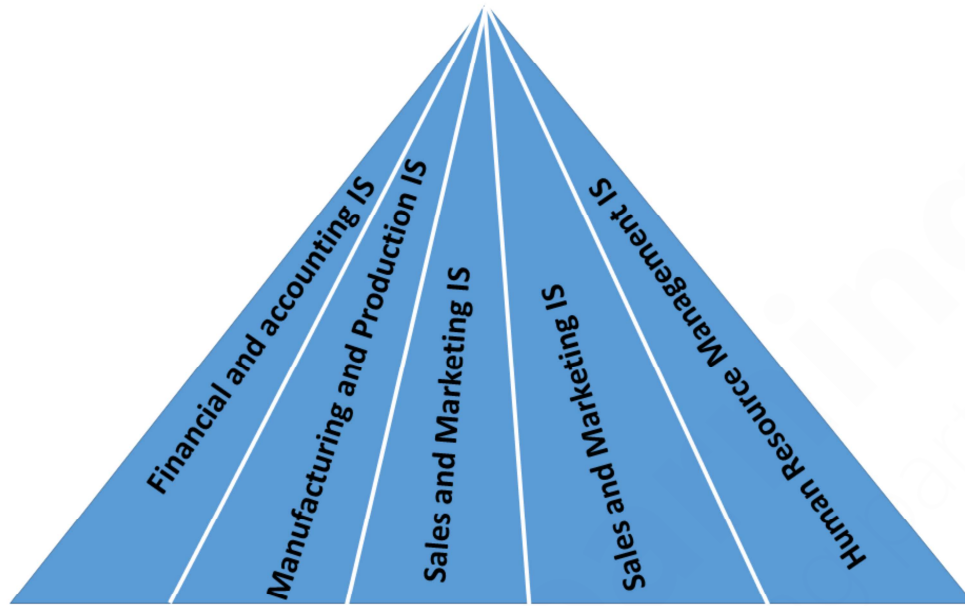


# Payment gateway



# Functional Information Systems and Enterprise Resource Planning

# Functional Information Systems



## Financial and Accounting Information Systems

**Financial  
and  
Accounting  
Information  
Systems**

Financial Forecasting

Financial Control

Fund Management

Internal Auditing

# Manufacturing and Production Information Systems

**Manufacturing  
and  
Production  
Information  
Systems**

Production Planning

Production Scheduling

Quality Control

Logistic

## Sales and Marketing Information Systems

**Sales and  
Marketing  
Information  
Systems**

Product Subsystem

Place Subsystem

Promotion Subsystem

Price Subsystem

Sales Projection



## HRM Information Systems

**HRM  
Information  
Systems**

HR Planning

Recruitment and Labor Management

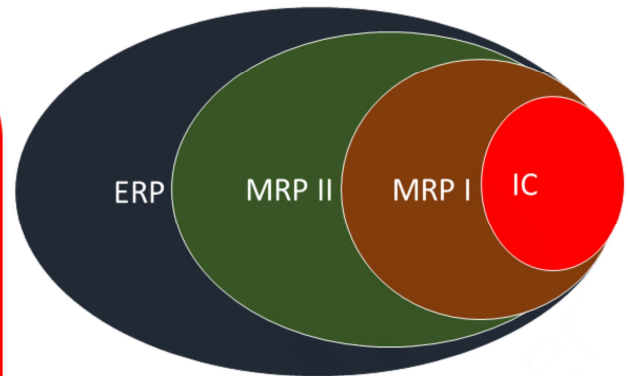
Grievances Handling

Time and Attendance

Welfare

# Enterprise Resource Planning Systems

An ERP system is driven by the ERP software suite, which is a set of integrated software modules and with a common centralized database. The software modules support the basic business processes under different functional areas and the database stores data and feeds the data to various applications supporting the internal business activities.



**Inventory Control - IC**  
**Material Requirement Planning – MRP I**  
**Manufacturing Resource Planning – MRP II**  
**Enterprise Resource Planning – ERP**

# Enterprise Resource Planning Systems



## Benefits of ERP

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