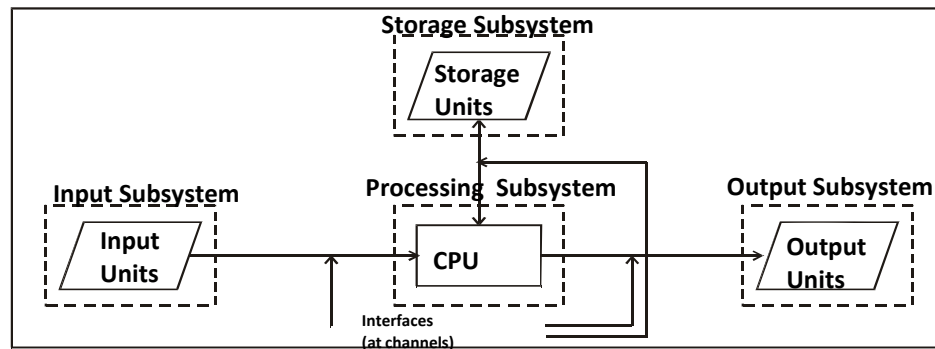
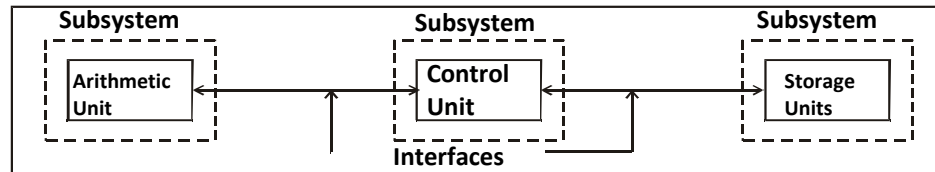


Chapter -1 Information System Concepts	
1	Definition of system
2	Types of system
1.According to elements 2.According to interactive behavior 3.According to degree of human intervention 4.According to working/output Abstract & Physical System Open & Closed System, System Entropy Manual & Automated System Deterministic & Probabilistic System	
System Classification Chart of System	
3	General model of a system - input, processing, output, storage, feedback
Feedback General Model of System	
4	System Environment
1.System boundary 2.Subsystem Characteristics of subsystem a.Decomposition b.Simplification c.Decoupling - Inventories, buffer or waiting lines, Slack & flexible resources, Standards 3.Supra system 4.System stress & system change	

Computer Configuration as system



Central Processing unit as system



Components of a Computer System

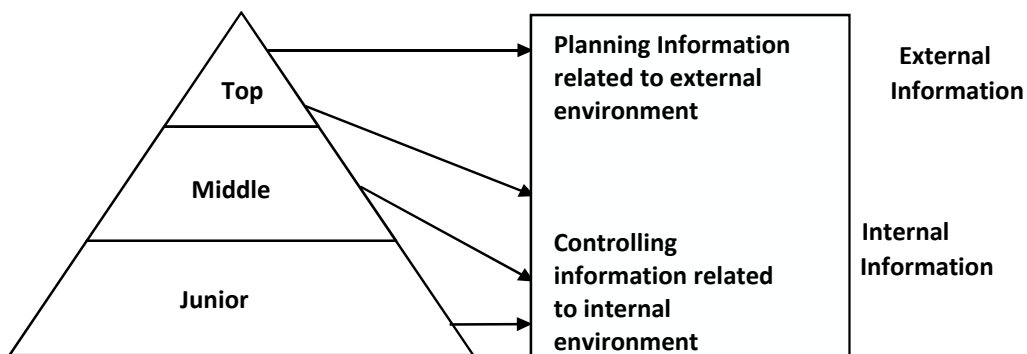
5 Information

1. Definition
2. Attributes of information

1. Available
2. Purpose
3. Mode & Format
4. Decay
5. Rate
6. Frequency
7. Completeness

8. Reliability
9. Validity
10. Quality
11. Transparency
12. Value of information
13. Adequacy

3. Types of information - Internal & External information



External and Internal Information

6 Information system & its role in management

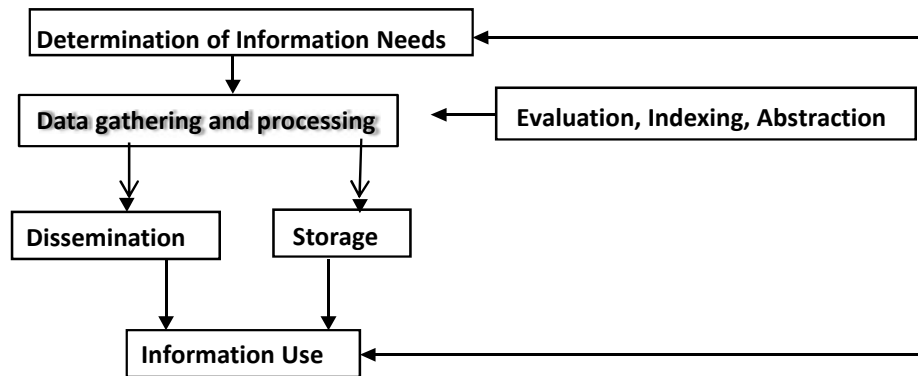
1. Important implications of information system

1. Effective decision making
 2. Gain edge in competitive environment
 3. Right decision at right time
 4. Knowledge utilisation in unusual situations
 5. Solving critical problems
 6. Formulate a strategy of action or operation
2. Factors on which information requirements depend

a. Operational function

b. Types of decision making - Programmed & Non-programmed decisions

c.Level of management activity - Strategic, Tactical, Operational level	
3.Components of computer based information system	
1.Hardware 2.Software 3.Data	4.Procedures 5.People
Processor Unit Hardware Components of CBIS	
4.Characteristics of computer based information system	
1.Work for pre-determined objectives 2.No of interrelated & interdependent subsystems or components 3.One subsystem fails, whole system does not work 4.Interaction among subsystems to achieve the goal of the system Goal of sub-system is of lower priority than the goal of entire system	
5.Major areas of computer based applications	
1.Finance & Accounting 2.Marketing & Sales 3.Production or manufacturing	4.Inventory/stores management 5.Human resource management
7 <i>Types of information systems at different levels</i>	
1.Top level management 2.Middle level management 3.Supervisory level management	Strategic level Tactical level Operational data
4.Information at different levels 1.Operations support systems - TPS, MIS, ERP 2.Management support systems - DSS, EIS, Expert system 3.Office automation systems	
8 <i>Operations support systems</i>	
1.Transaction Processing Systems	
1. TPS involves following activities	
1.Capturing data 2.Processing files/folders	3.Generation of reports 4.Processing of queries
2.TPS components - input, processing, storage, output 3.Features of TPS	
1.Large volume of data 2.Automation of basic operations	3.Benefits are easily measurable 4.Source of input for other systems
2.Management Information Systems	
1.Definitions - Management, Information, System, MIS	



Functions of MIS

2.Characteristics of MIS

- 1.Management Oriented
- 2.Management Directed
- 3.Integrated
- 4.Common Data Flows

- 5.Heavy Planning Element
- 6.Sub System Concept
- 7.Common database
- 8.Computerized

3.Misconceptions about MIS

- 1.The study of MIS is about the use of computers
- 2.More data in reports means more information for managers.
- 3.Accuracy in reporting is of vital importance.

4.Pre-requisites of MIS

- 1.Database
- 2.Support of Top Management
- 3.Qualified system and management staff

- 4.Control and maintenance of MIS
- 5.Evaluation of MIS

5.Constraints in operating MIS

- 1.Non-availability of experts
- 2.Problem of selecting the sub-system of MIS to be installed & operated upon
- 3.Due to varied objectives of business concerns
- 4.Non-availability of cooperation from staff

6.Effect of using computers

- 1.Speed of processing and retrieval of data increases
- 2.Scope of analysis widened
- 3.Complexity of system design and operation increased
- 4.Integrates the working of different information sub-system
- 5.Increases the effectiveness of Information system

7.Limitation of MIS

- 1.Quality of output depends on quality of input
- 2.MIS is not a substitute for effective management
- 3.MIS may not have requisite flexibility
- 4.MIS cannot provide tailor-made information packages
- 5.MIS takes into account mainly quantitative factors
- 6.MIS is less useful for making non-programmed decisions
- 7.Effectiveness of MIS is reduced, where the culture of hoarding information
- 8.MIS effectiveness decreases due to frequent changes

3.Enterprise Resource Planning Systems

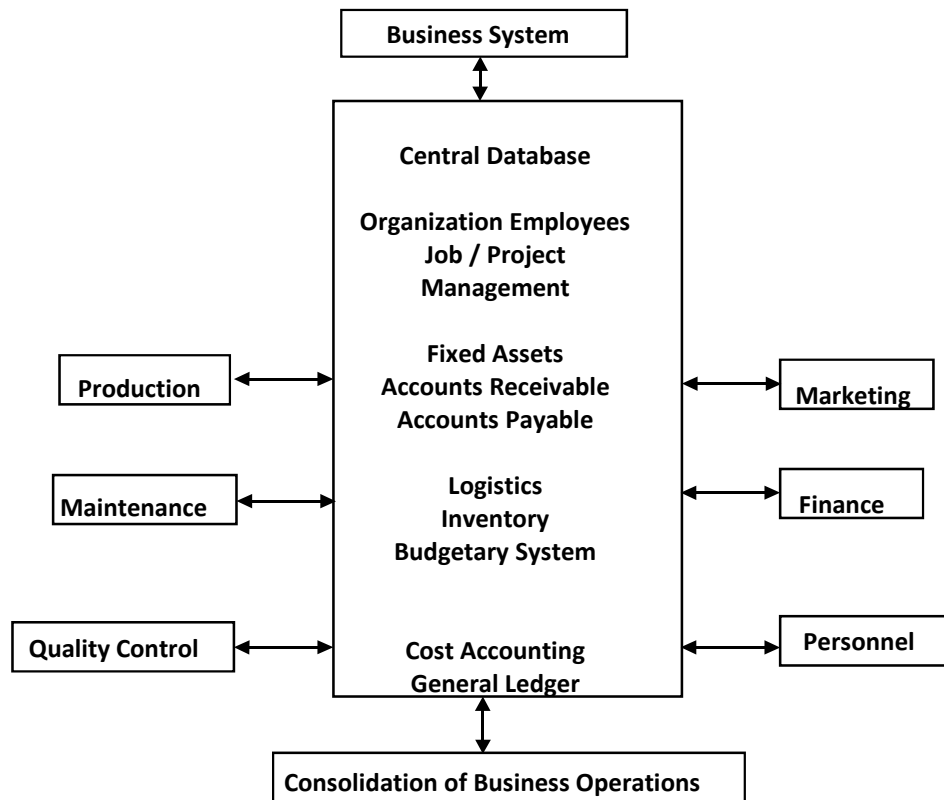
1.Objectives

- 1.Adopting best business practices
- 2.Enhancing productivity

2.ERP integrates various business processes

- 1.Business System
- 2.Production
- 3.Maintenance
- 4.Quality Control

- 5.Marketing
- 6.Finance
- 7.Personnel
- 8.Consolidation of Business Operations



Enterprise Resource Planning Model

3. Myths of ERP

1. Misconception that ERP is a computer system
2. Misconception that ERP is relevant for manufacturing organizations only

4. Characteristics of ERP

- | | |
|---------------------|----------------------------|
| 1. Flexible | 4. Best Business Practices |
| 2. Modular and Open | 5. Beyond the company |
| 3. Integrated | |

5. Features of ERP

1. Multi-platform, multi-facility, multi-code manufacturing, multi currency
2. Supports strategic and business planning activities
3. End-to-end Supply Chain Management (SCM)
4. Organization-wide integrated information system
5. Performs core activities and increases customer service
6. Bridges the information gap
7. Complete integration of system
8. Automatic introduction of the latest technologies
9. Eliminates most of the business problems
10. Augmenting the corporate image

6. Benefits of ERP

- | | |
|---------------------------------|---------------------------------------|
| 1. Better use of org. resources | 4. Decentralized Decision Making |
| 2. Lower Operating Costs | 5. Enhanced customer Satisfaction |
| 3. Proactive Decision Making | 6. Flexibility in Business Operations |

7. Limitation of ERP

1. ERP system provides current status only
2. Methods used in the ERP r not integrated with other organizational system
3. Do not include external intelligence
8. ERP packages in India - SAP, Oracle Applications, Ramco Marshals, Baan ERP

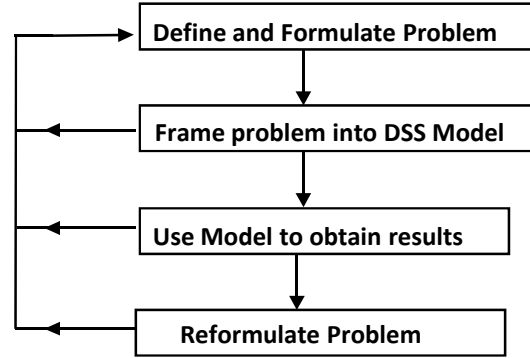
9 Management support systems

1. Decision Support Systems (DSS)

a. DSS definition & information required

1. Inventory of all the current information assets
2. Comparative sales figures
3. Projected revenue figures
4. Consequences of different decision alternatives

Programmed Decision Systems



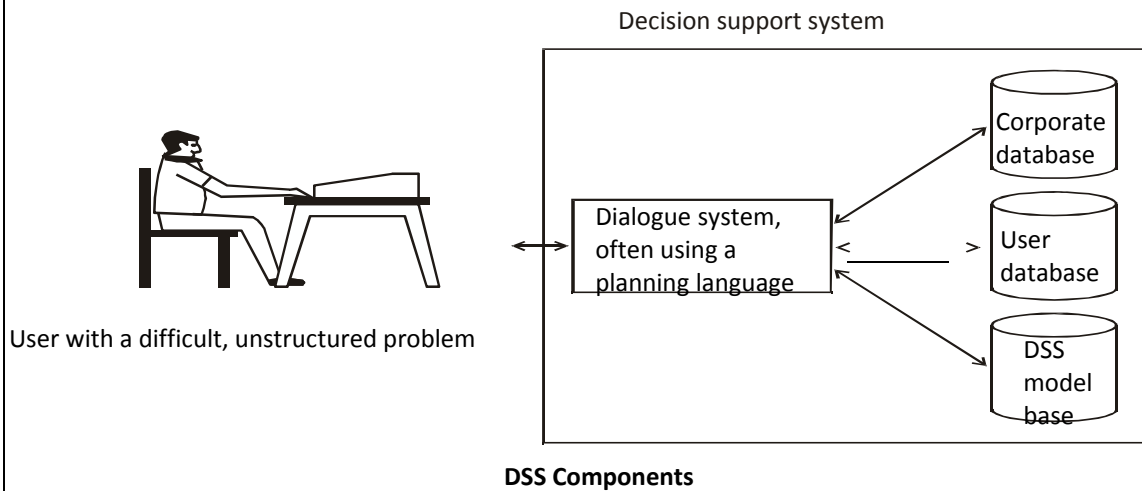
Steps in solving a problem with DSS

b. Characteristics of DSS

1. Support semi-structured or unstructured decision-making
2. Flexible enough to respond to the changing needs
3. Easy to use

c. Components of DSS

1. The user (Manager & staff specialist)
2. Databases
 - Implementation of databases - Physical, logical, external levels
3. Planning languages - General, Special purpose planning languages
4. Model base



d. Examples of DSS in accounting

- | | |
|-----------------------------|------------------------------------|
| 1. Cost Accounting System | 3. Budget Variance Analysis System |
| 2. Capital Budgeting System | 4. General Decision Support System |

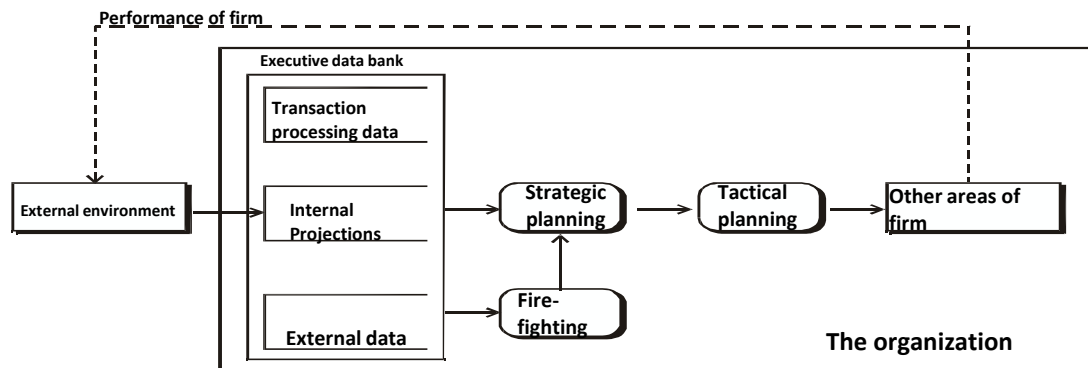
2. Executive Information (Support) System (EIS)

a. Definitions

b. Characteristics of EIS

1. Computer-based-information system
2. Enables users to extract summary data
3. Direct access to management reports
4. Capable of accessing both internal and external data

5. Provides extensive online analysis tool
 6. DSS support for decision making
- c. Executive roles & decision making
1. Strategic planning
 2. Tactical planning
 3. Fire-fighting activities



A data flow representation of the executive decision-planning environment

- d. Executive decision making environment & characteristics of types of information
1. Lack of structure
 2. High degree of uncertainty
 3. Future orientation
 4. Informal Source
 5. Low level of detail
- e. Executive Information Systems differ from Traditional Information Systems
1. Information tends to be presented by pictorial or graphical means
 2. Information is presented in summary format
- f. Contents of EIS
1. Easy to understand and collect data
 2. Balanced view of the organization's objective
 3. Performance indicators in an EIS must reflect everyone's contribution
 4. Management and staff to share ownership of the organization's objectives
 5. Information must be available to everyone in the organization
 6. Evolve to meet the changing needs of the organization

3. Expert Systems

1. Definitions
2. Business Applications

1. Accounts & Finance
2. Marketing
3. Manufacturing

4. Personnel
5. General Business

3. Need for expert systems

1. Expert labor is expensive and scarce
2. Can handle only a few factors at a time

4. Benefits

1. Preserve knowledge that might be lost through retirement, etc of expert
2. Put information into an active-form
3. Assist novices
4. Not subject to such human fallings as fatigue
5. Used as a strategic tool

5. Properties should posses to qualify for Expert System development

1. Availability
2. Complexity
3. Domain

4. Expertise
5. Structure

	6.Components 1.Knowledge Base (KB) 2.Inference Engine - forward-chaining mechanism , backward chaining 3.Knowledge Acquisition Subsystem (KAS) 4.User Interface
10	<i>Office automation systems</i> a. Office activities can be grouped into following operations i. Document Capture ii. Document creation iii. Receipts & distribution iv. Filling, search, retrieval and follow up v. Calculations vi. Recording utilization of resources b. Benefits of office automation systems i. Improve communication within an organization & between organizations ii. Reduce the cycle time between preparation of messages & receipt of messages iii. Reduce the costs of the office communication iv. Ensure accuracy of communication flows <pre> graph TD A[Computer Based Office Automation Systems] --> B[Text Processors and related systems] A --> C[Electronic document management systems] A --> D[Electronic message communication systems] A --> E[Teleconferencing and video conferencing systems] </pre> Building Blocks of Office Automation Systems c. Categories of computer based office automation systems i. Text processing systems 1. Most commonly used components of OAS 2. Automate the process of development of documents 3. Simple word processing systems or desktop publishing systems 4. Supported with printers, scanners and such other devices ii. Electronic document management systems 1. Capturing the information, storing & communicating to the users 2. Remote access of documents 3. Useful internal communication 4. Location of the executive is irrelevant iii. Electronic message communication systems 1. Components of message communication systems a. Electronic mail - features i. Electronic transmission ii. Online development & editing iii. Broadcasting & rerouting iv. Integration with other information systems v. Portability vi. economical b. Facsimile (FAX) c. Voice mail iv. Teleconferencing and video-conferencing systems