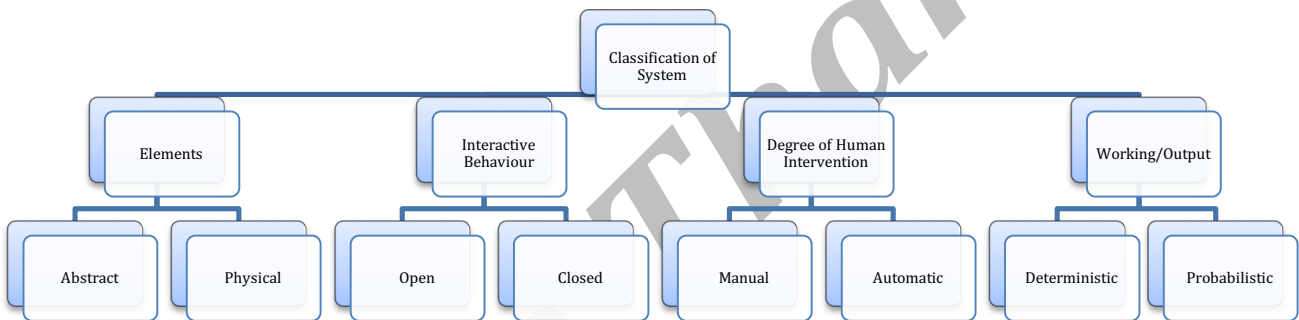


Information System Concepts

[Exam importance- 12 marks; Cash marks topic; LBH]

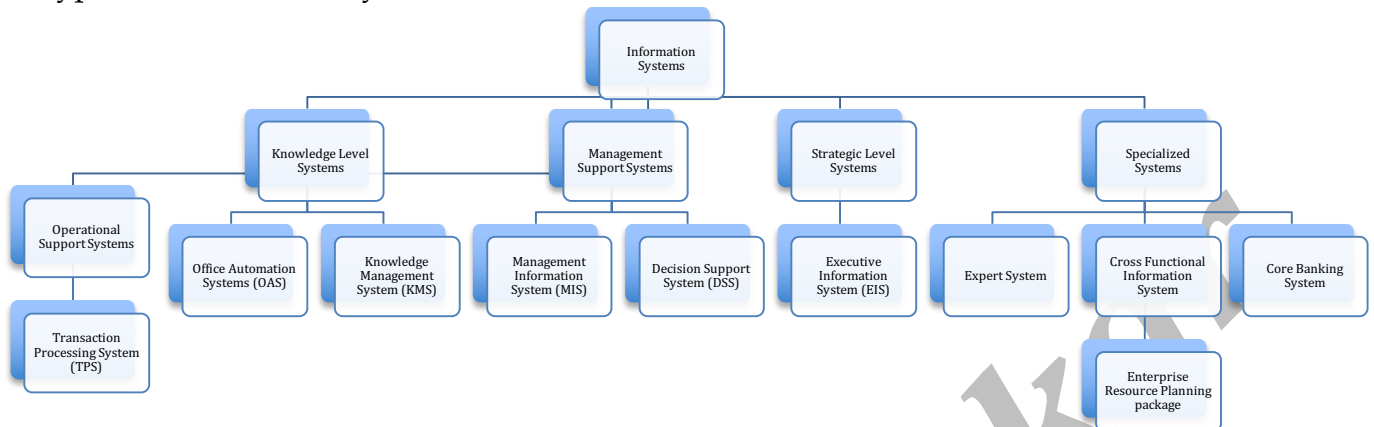
- Information: means processed data.
 - Attributes of Information:
 1. Decay (must be refreshed regularly)
 2. Purpose
 3. Complete/ Adequate
 4. Availability
 5. Reliability
 6. Transparency
 7. Frequency
 8. Quality
 9. Value of Information
 10. Mode & Format
- System: is a group of inter-related components that work towards the accomplishment of a common goal by accepting inputs and producing outputs in an ordered process.



- Components (parts) of INFORMATION SYSTEM:
 1. People
 2. Computer System
 - a. Hardware
 - b. Software
 3. Data
 4. Network
- Information System MODEL comprises of following steps: Input> Processing> Output (if 5 marks, then: Control and Feedback)
- Characteristics of Computer Based Information System (CBIS):
 1. Work for predetermined objectives
 2. Has several interrelated Subsystems
 3. If one subsystem fails, entire system comes to a standstill
 4. Subsystems interact with each other to achieve common goal of system
 5. Work of individual subsystems is Integrated to achieve common goal
- Major areas of CBIS:
 1. Finance and Accounting
 2. Marketing and Sales

3. Production
4. Inventory/ Stores Management
5. Human Resource Management

➤ Types of Information Systems:



➤ Transaction Processing System (TPS):

- Activities involved in TPS:
 1. Capture data & organize into files
 2. Process files using application software
 3. Generating information in the form of reports
 4. Processing queries from various parts of the org.
- Components of TPS:
 1. Inputs
 2. Processing
 3. Output
 4. Storage
- Features of TPS:
 1. Automation of basic operations
 2. Benefits easily measurable
 3. Large volume of data
 4. Source of input to other systems

➤ Office Automation System (OAS):

- Different Office Activities:
 1. Document Capture
 2. Document Creation
 3. Receipts & distribution of correspondence
 4. Filing, search, retrieval & follow-up of docs.
 5. Calculations
 6. Recording utilization of resources
- Benefits of OAS:
 1. Improves communication
 2. Reduces cost of communication
 3. Reduces cycle time b/w preparation & receipt of messages
 4. Ensures accuracy of communication flows

- Office Automation SYSTEMS (OAS):
 1. Text Processing System
 2. Electronic Document Management System
 3. Electronic Message Communication System
 - a. E-mail
 - i. Economical
 - ii. Very quick (e-transmission)
 - iii. Online development & editing
 - iv. Broadcasting & Rerouting
 - v. Portability
 - b. Fax
 - c. Voice mail
 4. Teleconferencing & Video-conferencing

➤ Knowledge Management System (KMS):

- Types of knowledge:
 - Explicit knowledge (can be formalized and easily recorded)
 - Tacit knowledge (resides within a person; un-articulated)

➤ Management Information System (MIS):

- Characteristics of an Effective MIS:
 1. Management Oriented
 2. Management Directed
 3. Common Data flows
 4. Common Database
 5. Subsystem Concept
 6. Integrated
 7. Heavy planning element
 8. Computerized
- Misconceptions about MIS:
 1. Any CBIS is MIS
 2. Any Reporting system is MIS
 3. MIS is a management technique
 4. MIS is a bunch of technologies
 5. Study of MIS is about use of computers
 6. More data generated = more information to managers
- Pre-requisites of MIS:
 1. Qualified Staff
 2. Database
 3. Control & maintenance
 4. Support of Top management
- Constraints of operating a MIS:
 1. Qualified staff not available
 2. Staff co-operation not available
 3. Standard approach not possible
 4. Selection of subsystem by Expert
- Limitations of MIS:
 1. Quality of output governed by quality of Input
 2. Not flexible enough to quickly update itself to changes

3. Ignores non-quantitative factors
4. Cannot provide tailor-made packages
5. Effectiveness reduces with changes in management & teams
6. Not suitable for unstructured decision making
7. Merely a tool; cannot replace managers in decision making ability

➤ Decision Support System (DSS):

- 2 types of Planning Languages used in DSS:
 - General Purpose Planning Language (GPPL)
 - Special Purpose Planning Language (SPPL)
- Characteristics of DSS:
 1. Supports decision making
 2. Should be flexible & adaptable
 3. Focus on decision rather than data & info.
 4. Easy to use; User friendly
 5. Used mainly for decision making, rather than communicating decisions
 6. Used for structured problems
 7. Should help group in decision making, rather than individuals
 8. Extensible and Evolve over time
- Components of DSS:
 1. User; manager & staff specialist (analyst)
 2. Databases; implementation of DB:
 - a. Physical level; b. Logical level; c. External level
 3. Model base (brain)
- Examples of DSS:
 1. Cost Accounting system
 2. Capital Budgeting system
 3. Budget Variance system
 4. General decision support system
- Difference between DSS and MIS (pg-2.14 JC Book)

➤ Executive Information System (EIS):

- Characteristics of EIS:
 1. It's a CBIS that serves the information need of top executives (e.g. CEO)
 2. Provides rapid access to timely information
 3. Capable of accessing internal & external data
 4. Provides online analysis tools (like trend analysis, etc.)
 5. DSS support can be easily given to EIS
 6. Locates problem without the need to learn query languages or high computer skills
- Characteristics of Information Used in EIS:
 1. Lack of Structure
 2. Future oriented
 3. Informal Source
 4. High degree of Uncertainty
 5. Low level of detail
- Contents of EIS: (a practical set of principles to guide the design of measures & indicators to be included in an EIS)

1. EIS measures must be easy to understand and collect
 2. Data in EIS must reflect the objectives of the org.
 3. Performance indicators in EIS must reflect everyone's contribution in a fair and consistent manner
 4. EIS measures must encourage mgt. & staff to share ownership of org's objectives
 5. EIS measures must evolve to meet the changing needs of the org.
- Difference between EIS and Traditional Information System (pg-2.15 JC Book)
- Expert System:
- Some business applications of Expert system:
 1. Accounting and Finance
 2. Marketing
 3. Manufacturing
 4. Personnel/ HR Mgt.
 5. General Business
 - Need for Expert System:
 1. Experts are scarce & expensive
 2. Experts can handle only few factors at a time
 - Benefits of Expert System:
 1. Preserve knowledge, which is lost when expert dies
 2. Puts information in Active-form; making it close to real life expert
 3. Assists in thinking the way experts do
 4. No subject to human feelings (e.g. fatigue & emotion)
 5. Can be used as a Strategic Tool
 - Properties an application must possess to qualify as an expert system:
 1. Availability (capable of communicating decisions)
 2. Domain (small & limited domain; e.g. just finance or a specific field)
 3. Complexity (tasks which can't be handled by conventional IS)
 4. Expertise (should possess the knowledge & intuition needed)
 5. Structure (must be able to cope with ill-structured & conflicting situations)
- Cross Functional Information Systems (Enterprise Resource Planning (ERP)):
- Components of ERP:
 1. Software Component
 2. Process Flow
 3. Customer Mindset
 4. Change Management
 - Benefits of ERP:
 1. Streamlining processes & workflows with a single integrated system
 2. Reduce data redundancy
 3. Establish uniform processes
 4. Improved workflow & efficiency
 5. Improved customer satisfaction
 6. Provides consolidated picture of sales, inventory and receivables
 7. Reduced inventory costs
 8. Better Costing tracking mechanism
- Core Banking System (CBS): (element of CBS)

1. Opening new accounts
 2. Making & servicing notes
 3. Processing cash deposits & withdrawals
 4. Calculating Interest
 5. Customer Relationship Management (CRM) activities
 6. Managing customer accounts
 7. Maintaining records for all transactions
 8. Establishing criteria for int. rates, min. balance, etc.
- Application of Information Systems in an Enterprise:
- Important Roles performed by IS in Business Firm:
 1. Support org's business processes & operations
 2. Support business decision making
 3. Support strategic competitive advantage
 - To operate IS effectively and efficiently, business manager / user should have the following knowledge about it:
 1. Foundation concepts
 2. Information Technologies (IT)
 3. Business Applications
 4. Development Processes
 5. Management Challenges
 - Important implications of IS in business:
 1. Helps in Decision making
 2. Well-designed IS will help org. survive in a competitive market
 3. Helps in making right decision at the right time
 4. Helps in generating innovative ideas for solving critical problems
 5. Knowledge gathered through IS may be utilized in unusual situations
 6. IS is viewed as a process; it can be integrated to formulate a strategy of action / operation.
- Various types of Business Applications:
1. E-business
 2. Financial service sector
 3. Wholesaling & Retailing
 4. Others (e.g. entertainment, travel, etc.)
- IT Tools/ Technologies Crucial for Business Growth:
1. Business Website
 2. Internet & Intranet
 3. Software Packages
 - a. ERP packages
 - b. Data Mining software
 4. Business Intelligence (BI) [e.g. EIS, budgeting tools]
 5. Computer Systems and support devices like Smartphones