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Management Information System

Computer based system that help organizations collect, store, and use information to make decisions and manage thier activities efficiently.

Key aspects

1. Systematic Process
2. Decision Support
3. Intgration
4. User Support

Components

1) Hardware
2) Software
3) Data
4) People
5) Procedures

Uses of MIS

1) Performance Monitoring and Control
2) Coordination and Integration
3) Data management and Information Sharing
4) Forecast planning
5) Decision making
   - → Strategic Decisions
   - → Tactical Decisions
   - → Operanational Decisions

Benefits

1) Improved Decision making
2) Increased efficiency
3) Enhanced Data accuracy
4) Greater flexibility
5) Better resource management

Types of Information System

1) Transaction Processing System
2) Management Information System
3) Decision Support System
4) Executive Information System
5) CRM

Challenges in MIS

1) Data Seurity
2) High costs
3) System downtime
4) User resistance
5) Scolibity
6) Complexity
7) Integration issues

Organization Theory → how org. work
how they are structured
how they can be managed

- Struture (job role)
- Behavior (people interaction)
- Process (operate and achieve)
- Adaption (change and evolve)

Theories

1) Classical management
2) Human relation
3) Contingency Theory
4) System Theory
5) Mordern management

System approch

System with inter connected and inter dependent parts working together to acheive common goals.

Function	Benefits
1) Planning	1) Better decision
2) Organizing	2) Higher Efficiency
3) Controlling	3) More Flexibility

Evolution of Information System

1) Mannual Information System (Pre-1940s)
   - Entirely mannual
   - Slow or prone to error
   - Handling large data is impractical

2) Early Data processing System (1940s-1960s)
   - First wave of automation
   - Batch processing
   - Mainframe computers used

3) Management Information System (1960s-1970s)
   - help manager to make decisions
   - Report focused
   - Data stored in centralized systems

4) Decision Support System (1970s-1980s)
   - Analytical tools for decision making
   - Complex decision making
   - Complex, semi structured and unstructured decisions

5) Enterprise Resource Planning (1990s)
- Integration of departments
- Real time decision making
- Modular design

6) Knowledge management System (Late 1990s)
- Manage both explict and tactical Knowledge
- Knowledge Sharing Sharing across teams

7) Business ~~Integ~~ Intelligence and Analytics (2000s)
- Data driven decisions
- Predictive analysis
- Big data management

Types of Information System

a) Transaction processing System
- handle day to day operation
- Sales, payroll, inventory managent etc

b) Management Information System
- Grather data from TPS
- Summarizing and report
- ~~Re~~ Reports and dashboards

c) Decision Support System
- helps in semi structured and unstructured decisions
- Complex decision making
- simulate ~~se~~ scenario, evalute options and forecast outcomes

d) Executive information System
- help senior executive
- high level Summary and graphical representation
- KPI

Decision making

a) Operational decision
b) Tactical decision
c) Strategic decision

Role of IS in DM

1) Data collection and Storage
2) Data analysis and reporting
3) Scenario Planning and forecasting
4) Real time Monitoring

Conceptual System Design

→ Intial phase of MIS development
→ System blueprint (based on user needs and business goals)
→ Outline what the system should achieve, the required information, and the main component without focusing technical implementation details.

Problem Defination

→ Specific business issue the system aims to solve
→ Identify area of pain
→ Scope of the problem
→ Business impact
→ Grather requirements → Functional (Report generation)
→ Non Functional (performance)

Objectives

1) System Objectives
2) Improve System effectiveness
3) Set measurable target to access System Sucess [KPI]
4) Focus on usability and ease of use for end users
5) Ensure efficient ~~handldi~~ handling of Key task and process
6) Maintain accurate, validated, and ~~Setre~~ Secure data
7) Design for future growth and adpatability
8) Ensure Seamless integration with existing System
9) Consider hardware, software and budget constraints

Steps

1. Requirement analysis
2. Data modeling
3. System architecture design
4. Designing System Components
5. User Interface Design
6. Prototyping
7. Evolution and Feedback

Information need in CSD

- → Who will use the info
  - Operational data
  - Tactical data
  - Strategic data
- → Scope of info (diff dept)
- → level of detail (granularity)
- → Timeline (real time or near real time)

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Sources of information

1) Internal Sources
   - → TPS
   - → Database
   - → Report & Docs
   - → Employee input

2) External Sources
   - → Market Research report
   - → Public Database
   - → Web & Social media
   - → Suppliers and partners
   - → Govt report

3) Automated vs Manual Data entry

→ Automated (without human) ⇒ Iot, api

→ Manual (Require human) ⇒ Customer Service notes