

BBA VI Semester

**Subject- MANAGEMENT INFORMATION SYSTEM
(MIS)**

TOPIC- INTRODUCTION TO MIS

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MANAGEMENT INFORMATION SYSTEMS

Management information system (MIS).

DEFINITION:

Management information system is a system consisting of people, machines, procedures, databases and data models, as its elements. The system gathers data from the internal and external sources of an organisation.

MEANING:

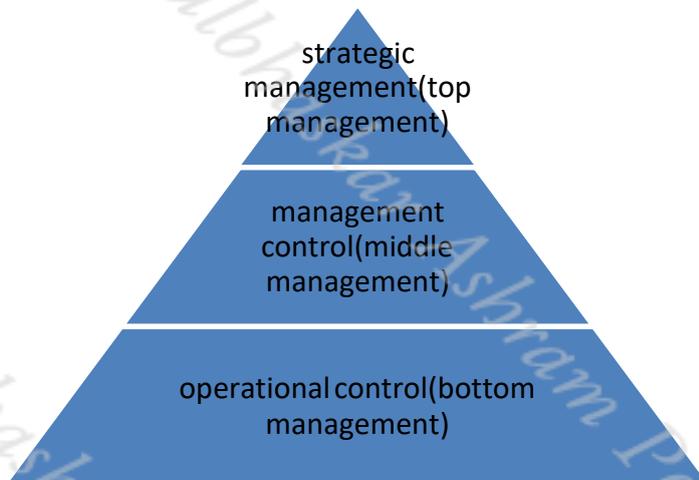
Management information system is an acronym of three words, viz., Management, information, system .in order to fully understand the term MIS, let us try to understand these three words.

Management:

Management is the art of getting things done through and with the people in formally organised groups.

Managerial function:

Management hierarchy:



Information:

Information is data that is processed and is presented in a form which assists decision-making. It may contain an element of surprise, reduce uncertainty or provoke a manager to initiate an action.

Data usually take the form of historical records. In contrast to information, raw data may not be able to surprise us, may not be organised and may not add anything to our knowledge.

DATA-----→PROCESSING -----→INFORMATION

System:

The term system is the most loosely held term in management literature because of its use in different contexts. However, a system may be defined as a set of elements which are joined together to achieve a common objective. The elements are interrelated and interdependent.

The set of elements for a system may be understood as input, process and output. A system has one or multiple inputs; these inputs are processed through a transformation process to convert these input into outputs. The three elements of a system are

INPUT-----→PROCESS ----- →OUTPUT

Functions of information systems -

One of the mostly widely used bases for organising activities in almost every organisation is the business function. Business activities are grouped around functions such as production, marketing, finance and personnel etc... Resulting in the respective department or an area of the business organisation. These departments or functional areas are commonly known as the functional areas of business.

There is no standard classification of such sub-system in an organisation, but a typical set of functions in a manufacturing organisation includes:

- Production
- Marketing
- Finance and accounting
- Materials and
- Personnel systems

Production:

- Production planning and control
- Engineering standards
- Quality control
- R & D etc

Marketing:

- Sales order
- Forecasting
- Sales analysis
- Billing
- Distribution
- Stock availability
- Sales quota control
- Pricing
- Product promotion

Finance and accounting:

- Financial planning
- Budgeting
- Cost accounting
- Asset accounting
- Accounts receivable
- Payroll
- Accounts payable, etc...

Materials:

- Material planning
- Bill of material
- Cost estimate
- Warehousing planning etc...

Personnel:

- Employee recruitment
- Employee selection
- Employee development
- Employee transfers
- Employee retirements etc...

Information system resources.

In information system includes four major resources, hardware, software, people and data. Let's briefly discuss some basic concepts and examples of how these resources contributes to the information processing activities of information system.

- Hardware it includes all physical devices
- Software-----it includes all set of information processing instructions.
- People -----people are required for the operation of all information systems. These people resources include specialists and end users.

- Data-----data is more than the raw material of information systems. The concepts of data resources have been broadened by managers and information system professionals.

Different types of information.

Information could be classified on the basis of the purpose for which it is utilised, into three main categories:

- Strategic information----- it is required by the managers at the strategic level of management for the formulation of organisational strategies.
- Tactical information -----information in this category is used in short term planning and is of use at management control level.
- Operational information -----it applies to short periods which may vary from an hour to a few days.

Need for an information system.

- Meeting global challenges
- Capturing opportunities in marketplace
- Supporting corporate strategy
- Linking departments whose functions are different
- Enhancing worker productivity
- Increase in quality of goods and services

Classification of information system.

The discipline of MIS is in its evolutionary stage. MIS is a concept, which is a matter of degree rather than an absolute one. The classifications of information system are

- Transaction processing system.
- Management information system.
- Decision support system.
- Executive support system.
- Office automation system.
- Business expert system.

Transaction processing system:

It represents the automation of the fundamental, routine process used to support business operations. It does not provide any information to the user for his/her decision making. Previously Transaction processing system was known as MIS. Prior to computers, data processing was performed manually or with simple machines.

(INPUT) DATA----->PROCESSING ----->DATA (OUTPUT)

Management information system:

MIS is an information system which process data and converts it into information. A MIS uses TPS for its data inputs. The information generated by the information system may be used for control of operations, strategic and long range planning, short range planning, management control and other managerial problem solving.

It has some functional business areas. They are

- Marketing
- Production
- Human resources
- Finance
- Accounting etc...

TPS----->DATA----->INPUT----->PROCESSING----->OUTPUT-----
---->INFORMATION

Decision support system:

The Decision support system (DSS) is an information system application that assist decision making. Decision support systems tend to be designed primarily to serve management control level and strategic planning level managers.

The data in the database typically is a combination of master files (internal corporate data) and from external sources.

Database ← ----- → model base

☒ user interface ☑



User

Executive support system:

Executive support system (ESS) is an extension of the management information system which is a special kind of DSS. An ESS is specially tailored for the use of chief executive of an organisation to support his decision making.

An ESS is designed to cater to the information needs of a chief executive keeping in view not only his requirements but also taking into account his personality and style of functioning etc.,

Office automation system:

Office automation refers to the application of computer and communication technology to office functions. Office automation systems are meant to improve the productivity of managers at various level of management by providing secretarial assistance and better communication facilities. Office automation systems are the combination of hardware, software and people in information systems, that process office transactions and support office activities at all levels of the organisation.

These systems include a wide range of support facilities, which include word processing, electronic filing, electronic mail, message switching, data storage, data and voice communication etc...

In the first category, the following is a list of activities.

- Typing
- Mailing
- Scheduling of meetings and conferences
- Calendar keeping and
- Retrieving documents

In the secondary category,

- Conferencing
- Production of information
- Controlling performance

Business expert system:

Business expert system (BES) is a knowledge based information system that uses its knowledge about a specific, complex application area to act as an expert. This system is one of the knowledge based information system.

Expert system provides decision support to managers in the form of advice from an expert in a specific problem area. Expert systems find application in diverse areas, ranging from medical, engineering and business.

Knowledge base ←-----→ inference engine

user interface

1. Discuss about cost benefit analysis.

Every legitimate solution will have some advantages is benefits and some disadvantages or costs. These advantages and disadvantages are identified when each alternative solution is evaluated. This process is typically called cost/benefit analysis.

Examples: ↑ in sales or profits.

↓ in operating costs.

↓ in required investment

Selecting the best solution:

Once all alternative solutions have been evaluated the process of selections the best solution can begin. Alternative solutions can be compared to each other because they have been evaluated using the same criteria. It is possible that to decide to select the best solution to the problem.

Implementing a solution:

Once a solution has been selected it must be implemented. An implementation plan may be developed. An implementation plan specifies the activities, resources and timing needed for proper implementation.

Post implementation review:

The final step of the system approach recognized that an implemented solution can fail to solve the problem for which it was developed. The results of implementing a solution should be monitored and evaluated. This is called a post implementation review process.

Global business strategies:

MNC is a firm that operates across products, markets, nations and cultures. It consists of the parent company and a group of subsidiaries. They are geographically dispersed and each one may have its own unique goals, policies and procedures.

Multinational strategies:

It was a type of "hands off" strategy in which the parent allowed the subsidiaries to develop their own products and practise. The information flows are primarily from the subsidiaries to the parent in the form of financial reports.

Global strategy and international strategy is also comes under cost/benefit analysis.

Components /resources of information system.

An information system depends on the resources of people, hardware, software, data and networks to perform input, processing, output, storage and control activities that convert data resources into information.

IS consists of 5 major resources:

People resources:

People are the essential ingredient for the successful operation of all information systems. This people resource includes:

- **End users** are also called users or clients are people who use an information system or the information it produces. They can be customers, salespersons, engineers etc... Most of us are **IS** end users.

- **IS SPECIALISTS** are people who develop and operate information system. They include system analysis, software developers, system operators and other managerial, technical and clerical IS personnel.

Hardware resources:

It includes all physical devices and materials used in information processing.

Examples of hardware in computer based information system are:

- **Computer system** which consists of central processing units containing microprocessors and a variety of interconnected peripheral devices. Example: handheld, laptop, midrange computer systems and large mainframe computer systems.
- **Computer peripherals** which are devices such as a keyboard or electronic mouse for input of data and commands a video screen or printer for output of information and magnetic or optical disks for storage of data resources.

Software resources:

It includes all set of information processing instructions. It includes not only the set of operating instructions called programs. Examples are

- **System software** such as an operating system program which controls and supports the operations of computer system.
- **Application software** which are programs that direct processing for a particular use of computers by end users. Example sales analysis program, a payroll program and a word processing system.

Data resources:

Data resources of information systems are typically organised, stored and accessed by a variety of data resources mgt technologies into:

- Database that hold processed and organised data.
- Knowledge bases the hold knowledge in variety of forms such as facts, rules, and case.

Network resources:

Telecommunications technologies and networks like the internet, intranets and extranets. The concept of network resources emphasizes that communications technologies and networks are a fundamental resource component of all information systems. Network resources include:

- **Communications media** includes twisted pairs wire, coaxial and fiber optic cables and microwave, cellular and satellite wireless technologies.
- **Network infrastructure** this generic category emphasizes that many hardware, software and data technologies are needed to support the operation and use of a communication networks.

Fundamentals and dimensions of information system.

It shows the 3 major roles of the business applications of information systems. Example: consider a retail store as a good example of how these three fundamental roles can be implemented by a business.

- Support business processes and operations
- Support business decision making
- Support strategies for competitive advantage

Support business processes and operations:

As a consumer you have to deal regularly with the information systems that support the business processes and operations at the many retail stores where you shop. Example: most retail stores now use computer based information systems help them record customer purchase, keep track of inventory, pay employees, buy new merchandise and evaluate sales trends.

Support business decision making:

IS also help store managers and other business professionals make better decisions and attempt to gain a competitive advantage.

Support strategies for competitive advantage:

Gaining a strategic advantage over competitors requires innovative use of information technology.

DIMENSIONS:

The major dimensions of information systems are:

1. Organisation: IS are integral parts of organisations. The key elements of an organisation are its:
 - People
 - Structure
 - Business processes
 - Politics
 - Culture
2. Management: management's job is to make sense out of many situations faced by organisations, make decisions and formulated action plans to solve organisational problems.
3. Technology: information technology is one of many tools managers use to cope with change in various resources of technology involved in IS are:
 - Computer hardware
 - Computer software
 - Data management technology
 - Networking and telecommunication technology