

UNIT 1
MANAGEMENT INFORMATION SYSTEMS

1. INTRODUCTION

1. Management

Management covers the planning, control, and administration of the operations of a concern.

The top management handles planning; the middle management concentrates on controlling; and the lower management is concerned with actual administration.

2. Information

Information, in MIS, means the processed data that helps the management in planning, controlling and operations.

3. System

Data is processed into information with the help of a system. A system is made up of inputs, processing, output and feedback or control.

4. A management information system (MIS) is a computer system consisting of hardware and software that serves as the backbone of an organization's operations.

5. An MIS gathers data from multiple online systems, analyzes the information, and reports data to aid in management decision-making.

6. MIS is the use of information technology, people, and business processes to record, store and process data to produce information that decision makers can use to make day to day decisions.

7. MIS is the acronym for Management Information Systems.

2. Nature and Scope of MIS.

3. Characteristics of MIS.

Management information being a specialized information system conforms to certain characteristics. These characteristics are generic in nature.

These characteristics remain more or less the same even when the technology around such management information system changes:

1. Management oriented

a. One important feature of MIS is that MIS is designed top-down.

b. This means that the system is designed around the need felt by the management at different levels for information.

c. The focus of the system is to satisfy the information needs of management.

2. Management directed

a. Since MIS is 'for the' management it is imperative that it also should have a very strong 'by the' management initiative.

b. Management is involved in the designing process of MIS and also in its continuous review and up gradation to develop a good qualitative system.

3. Integrated

a. MIS is an integrated system.

b. It is integrated with all operational and functional activities of management.

c. This is an important characteristic and- requirement for a system to qualify as MIS.

d. The reason for having an integrated system is that information in the managerial context for decision-making may be required from different areas from within the organization.

4. Common data flows

a. Through MIS the data being stored into the system, retrieved from the system, disseminated within the system or processed by the system can be handled in an integrated manner.

b. The integrated approach towards data management will result in avoiding duplication of data, data redundancy and will help to simplify operations.

5. Strategic planning

a. MIS cannot be designed overnight.

b. It requires very high degree of planning which goes into creating an effective organization.

c. The reason for this kind of planning is to ensure that the MIS being built not only satisfies the information need of the managers today but can also serve the organization for the next five to ten years with modifications.

6. Bias towards centralization
 - a. MIS is required to give 'one version of the truth', i.e., it must supply the correct version of the latest information.
 - b. There is a requirement for the data repository to be centralized.
 - c. Centralized data management helps MIS to exercise version control as well as provide an integrated common view of data to the managers.
 - d. In a non-centralized system, data will get entered, updated and deleted from the system from different locations.
 - e. In such a case it becomes difficult to provide correct information to managers.

4. Need and Role of MIS.

1. A manager has to take decisions with two main challenges:
2. First, a manager has to take quick decisions, or else there's a chance of the business being taken over by his competitors. The liberalization and globalization, in which organizations are required to compete globally, has further enhanced the necessity for such a system.
3. Second, information is doubling up every two or three years, a manager has to process a large voluminous data; failing which he may end up taking a strong decision that may prove to be very costly to the company.
4. Hence, Management Information System has proved to be the one of the most important in today's business environment.
5. MIS satisfies the diverse needs through a variety of systems such as Query System, Analysis System, Modeling System and Decision Support System.
6. It helps in strategic planning, management control, operational control and transaction processing.
7. It helps in the clerical transaction processing.
8. It answers the queries on the data pertaining to the transaction, the status of a particular record and reference on a variety of documents.
9. MIS for Junior Management: Providing the operational data for planning, scheduling and control, and helps them further in decision-making at the operation level to correct an out of control situation.
10. MIS for Middle Management: In short-term planning, target setting and controlling the business functions which is supported by the use of the management tools of planning and control.
11. MIS for Top- Level Management: in goal setting, strategic planning and evolving the business plans and their implementation.
12. It plays the role of information generation, communication, problem identification and helps in the process of decision-making.

5. Impact of MIS.

1. The impact of MIS on the functions is in its management.
2. With a good MIS support, the management of marketing, finance, production and personnel becomes more efficient, the tracking and monitoring the functional targets becomes easy.
3. The functional managers are informed about the progress, achievements and shortfalls in the activity and the targets.
4. The manager is kept alert by providing certain information indicating the probable trends in the various aspects of business.
5. This helps in forecasting and long-term perspective planning.
6. The manager's attention is brought to a situation which is exceptional in nature, inducing him to take an action or a decision in the matter.
7. A disciplined information reporting system creates a structured database and a knowledge base for all the people in the organization.
8. The information is available in such a form that it can be used straight away or by blending and analysis, saving the manager's valuable time.
9. The MIS creates another impact in the organization which relates to the understanding of the business itself.
10. The MIS begins with the definition of a data entity and its attributes.

11. It uses a dictionary of data, entity and attributes, respectively, designed for information generation in the organization.
12. Since all the information systems use the dictionary, there is common understanding of terms and terminology in the organization bringing clarity in the communication and a similar understanding of an event in the organization.
13. The MIS calls for a systemization of the business operations for an effective system design.
14. This leads to streamlining of the operations which complicate the system design.
15. It improves the administration of the business by bringing a discipline in its operations everybody is required to follow and use systems and procedures.
16. This process brings a high degree of professionalism in the business operations.
17. Since the goals and objective of the MIS are the products of business goals and objectives, it helps indirectly to pull the entire organization in one direction towards the corporate goals and objectives by providing the relevant information to the people in the organization.
18. A well designed system with a focus on the manager makes an impact on the managerial efficiency.
19. The fund of information motivates an enlightened manager to use a variety of tools of the management.
20. It helps him to resort to such exercises as experimentation and modeling.
21. The use of computers enables him to use the tools and techniques which are impossible to use manually.
22. The ready-made packages make this task simpler.
23. The impact is on the managerial ability to perform.
24. It improves the decision making ability considerably.

6. Functions of MIS.

1. Data Capturing:
 - a. MIS captures data from various internal and external sources of an organization.
 - b. Data capturing may be manual or through computer terminals.
 - c. End users, typically record data about transactions on some physical medium such as paper form or enter it directly into a computer system.
2. Processing of data:
 - a. The captured data is processed to convert it into the required management information.
 - b. Processing of data is done by such activities as calculating, comparing, sorting, classifying and summarizing.
3. Storage of information:
 - a. MIS stores processed or unprocessed data for future use.
 - b. If any information is not immediately required, it is saved as an organizational record.
 - c. In this activity, data and information are retained in an organized manner for later use.
 - d. Stored data is commonly organized into fields, records, files and databases.
4. Retrieval of information:
 - a. MIS retrieves information from its stores as and when required by various users.
 - b. As per the requirements of the management users, the retrieved information is either disseminated as such or it is processed again to meet the exact demands.
5. Dissemination of MI:
 - a. Management information, which is a finished product of MIS, is disseminated to the users in the organization.
 - b. It could be periodic, through reports or on-line through computer terminals.

7. MIS a support to the management.

1. The management process is executed through a variety of decisions taken at each step of planning, organizing, staffing, directing coordinating and control.
2. If the management is able to spell out the decisions required to be taken, the MIS can be designed suitably.
3. The decisions required to be taken in these steps are tabulated in Table below.

Steps in Management	Decision
Planning	A selection from various alternatives - strategies, resources, methods, etc.
Organization	A selection of a combination out of several combinations of the goals, people, resources, method and authority.
Staffing	Providing a proper manpower complement.
Directing	Choosing a method from the various methods of directing the efforts in the organization.
Coordinating	Choice of the tools and the techniques for coordinating the efforts for optimum results.
Controlling	A selection of the exceptional conditions and the decision guidelines

4. The objective of the MIS is to provide information for a decision support in the process of management.
5. It should help in such a way that the business goals are achieved in the most efficient manner.
6. Since the decision making is not restricted to a particular level, the MIS is expected to support all the levels of the management in conducting the business operations.
7. Unless the MIS becomes a management aid, it is not useful to the organization.

8. MIS for organizational effectiveness.

1. Systems and Innovation Opportunities
 - a. Development in information systems has brought opportunities but also threats.
 - b. The focus is on the organization to identify opportunity and implement it.
 - c. Organization needs to develop strategies, which can best utilize information systems to increase overall productivity.
2. Systems and Customer Delight
 - a. Customer satisfaction alone will not suffice; organization needs to strive for customer delight. Information systems with data warehousing and analytics capability can help organization collect customer feedback and develop products, which exceed customer expectation.
 - b. This customer delight will lead to a loyal customer base and brand ambassador.
3. Systems and Organizational Productivity
 - a. Organizations require different types of information systems to mitigate distinctive process and requirements.
 - b. Efficient business transaction systems make organization productive.
 - c. Business transaction systems ensure that routine process are captured and acted upon effectively, for example, sales transaction, cash transaction, payroll, etc.
4. System and Workers Productivity
 - a. Information systems have facilitated the increase in workers' productivity.
 - b. With introduction of email, video conferencing and shared white board collaboration across organization and departments have increased.
 - c. This increased collaboration ensures smooth execution and implementation of various projects across geographies and locations.
5. Information systems as a Value Add for Organization
 - a. Organization use information systems to achieve its various strategy as well as short-term and long-term goals.
 - b. Development of information systems was to improve productivity and business effectiveness of organization.
 - c. Success of information systems is highly dependent on the prevalent organization structure, management style and overall organization environment.

UNIT 2

Strategic Design and Development of MIS

1. Strategic management of the business

1. Strategic management is the continuous planning, monitoring, analysis and assessment of all that is necessary for an organization to meet its goals and objectives.
2. Fast-paced innovation, emerging technologies and customer expectations force organizations to think and make decisions strategically to remain successful.
3. The strategic management process helps company leaders assess their company's present situation, chalk out strategies, deploy them and analyze the effectiveness of the implemented strategies.
4. The strategic management process involves analyzing cross-functional business decisions prior to implementing them.
5. Strategic management typically involves:
 - Analyzing internal and external strengths and weaknesses.
 - Formulating action plans.
 - Executing action plans.
 - Evaluating to what degree action plans have been successful and making changes when desired results are not being produced.

6. Strategic Business Objectives include:

a. Operational Excellence

- This relates to achieving excellence in business in operations to achieve higher profitability.
- For example, a consumer goods manufacturer may decide upon using a wide distribution network to get maximum reach to the customers and exposure.

b. New Products, Services, and Business Models

- This is part of growth strategy of an organization.
- A new product or a new service introduced, with a very fast growth potential provides a mean for steady growth business turnover.
- With the help of information technology, a company might even opt for an entirely new business model, which will allow it to establish, consolidate and maintain a leadership in the existing market as well as provide a competitive edge in the industry.

c. Customer and Supplier Intimacy

- When a Business really knows their Customers and serves them well, 'the way they want to be served', the Customers generally respond by returning and buying more from the firm.
- It raises revenues and profits.

d. Improved Decision Making

- A very important pre-requisite of strategic planning is to provide the right information at the right time to the right person, for making an informed decision.
- Well planned Information Systems and technologies make it possible for the decision makers to use real-time data from the marketplace when making informed decisions.

e. Competitive Advantage and Survival

The following list illustrates some of the strategic planning that provides competitive advantage and survival –

- Planning for an overall growth for the company.
- Thorough market research to understand the market dynamics involving demand-supply.
- Various policies that will dominate the course and movement of business.
- Expansion and diversification to conquer new markets.