

STUDY ON MANAGEMENT INFORMATION SYSTEM, ITS COMPONENTS AND IMPLEMENTATION PROCESS

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ABSTRACT

Management Information System is a combination of three different words which plays a very important role in the organisation that is Management, Information, System. Without Management, quality Information and proper System an organisation cannot attain success. This is the era of high competition in every field. Day by day new technologies are developed so that with the use of that technology a person or an organisation can attain success in their life. Because of high competition every organisation has to suffer from stress to attain success in the market. They always want to use new technologies with the help of which their work become easy, effective and efficient. Management information system is that system which helps managers or organisation to manage people and make decisions which leads their organisation to growth in future. The main purpose of this paper is to explain about Management Information System, its components (Management, Information, and System) and its implementation process

Keywords: Management Information System, its components (Management, Information, System), its implementation process

I. INTRODUCTION

A. WHAT IS MANAGEMENT INFORMATION SYSTEM?

Management Information system refers to a computer based system that provides managers with tools for organising, evaluating and efficiently running their departments.

Management information system is

Right information

To the right person

At the right place

At the right time

In the right firm

At the right post

In organisation management information system is useful for every department of the organisation whether it is sales or marketing department, finance department, production department or Human Resource department. There are some examples of management information system that are supply chain management, project management, customer relationship management. These all are included under management information system. This system increase business and management complexity. Business complexity refers to technological revolution, research and development, explosion of information whereas Management complexity refers to decision making, management science technologies, use of computers. Management information system gathered information, organised it, processed it and after that analyse it efficiently.

B. DEVELOPMENT IN TECHNOLOGIES

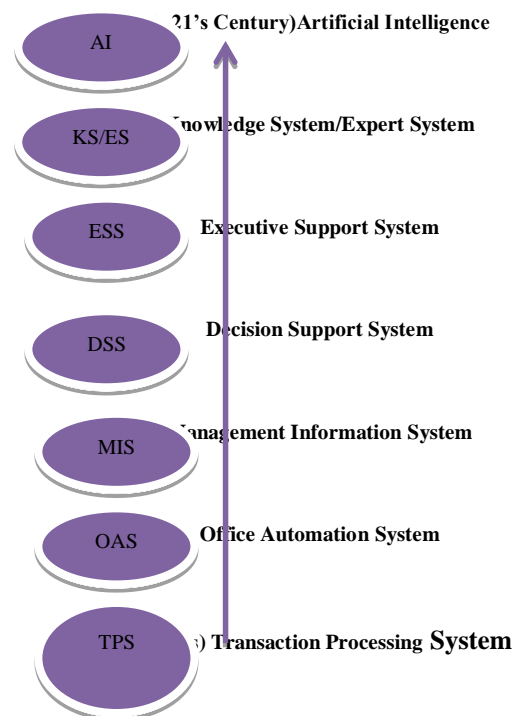


Fig. 1 Development in technologies from 1950's to 21's Century.

II. COMPONENTS OF MANAGEMENT INFORMATION SYSTEM

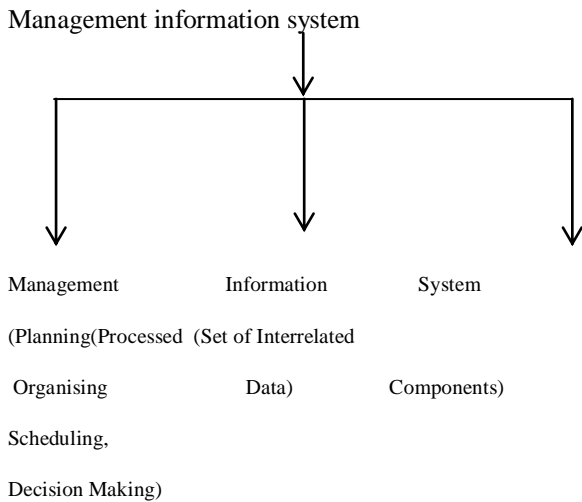


Fig. 2 Components of MIS

A. MANAGEMENT

Management focusing on the ultimate use of such information system for managerial decision making. This system helps the management in so many ways. This system helps the every department of the organisation whether it is sales or marketing department, finance department, HR department or production department.

In sales and marketing department this system helps in all the activities relating to the promotion and sales of products or services. These transactions are sales orders, promotion orders.

In finance department it is responsible for ensuring adequate organisational financing at low cost as possible.

In personnel /HR department it is helpful in hiring, training, record keeping, payment and termination of personnel

In production department it includes product engineering planning of production facilities, operation of production facility, employment and training of production personnel, quality control and inspection.

B. INFORMATION

The data which has been converted into a useful and meaningful form is information. Information is important for any decision making process in the organisation. Understanding of complex information starts with a clear understanding of information and its characteristics. Information can be considered a vital part for any organisation.

QUALITY OF INFORMATION

- **Time Dimension:** This includes Timeliness, Currency, Frequency and Time period
 - Timeliness: It means that the information must reach the recipient with in the specified time period.

- Currency: It means that the information must reach the recipient up to date.
- Frequency: It means that the information should be provided to the recipient when needed.
- Time period: It means that the information can be provided about past, present and future time periods.

- **Content Dimension:** This includes Accuracy, Precision, Unambiguity, Relevance, Adequacy, Completeness, Explicitness, And Exception Based
 - Accuracy: It means that the information is free from mistakes and errors on which raw data is based.
 - Precision: It is an important attribute of quality information. The information should be as relevant as possible.
 - Unambiguity: Clarity of information is an important attribute of good information. Information must be in such a manner that it conveys the same meaning to the different users.
 - Relevance: Information is said to be relevant if it should be related to the information needs of a specific recipient for a specific situation.
 - Adequacy: It means that the information must be sufficient in quantity.
 - Completeness: In Management information system the information which is provided to a manager must be complete. Incomplete information may result in long decision and may proof costly to the organisation.
 - Explicitness: A report is said to be of good quality if it does not require any further analysis.
 - Exception based: Exception reporting means that only those information to be provided to a manager which is according to his interest.
- **Firm Dimension:** This includes Clarity, Detail, Order, Presentation And Media
 - Clarity: Information should be provided in a firm that is easy to understand.
 - Detail: Information should be provided in detailed form.
 - Order: Information can be arranged in a pre-specified order
 - Presentation: Information can be presented in numeric, graphic or some other firms.
 - Media: Information can be provided in the form of printed paper documents, video displays or other media.

C. SYSTEM

A system may be defined as a group of interrelated components working together towards a common goal by accepting inputs and producing output in an organised process. The components of a system are interrelated and

interdependent. The model of a system is described as below:



Fig. 3 Model of a System

A business organisation can be considered as a system in which the parts like divisions, departments, sections and units are joined together for a common goal.

COMPONENTS OF A SYSTEM

- **Input:** It involves capturing and assembling components that enter the system to be processed
- **Process:** It is the transformation activity that converts input into the specific output.
- **Output:** It involves transferring elements that have been produced by the transformation process to their ultimate destination.
- **Feedback:** It is the function that provides information on the deviation between output and prescribed standards.
- **Control:** It is defined as the system function that compares output to a predetermined standard.
- **Environment:** It is the super system in which an organisation operates.
- **Boundary:** It is the limit that identifies its components, processes and interrelationships when the system interacts with other systems.

TYPES OF SYSTEM

- **Formal system:** This system works on fixed definitions of data and procedures for collecting, storing, processing. Such a system operates in conformity that predefined rules are fixed and cannot be changed easily.
Example: Car manufacturing Process
- **Abstract system:** It is concerned with theoretical ideas which may or may not be eligible in the world. Example: Philosophy
- **Physical system:** They are generally concrete, operational systems made up of human beings, materials, machines, energy and other physical things.
Example: Transportation or any production system
- **Deterministic System:** It is the system in which the occurrence of all the events is known with certainty.
Example: $2+2=4$
- **Probabilistic System:** It is the system in which the occurrence of events cannot be perfectly predicted.
Example: Weather forecasting
- **Open system:** It is the system that interacts with other systems in an environment.
- **Closed System:** It is the system which does not interact with its environment.
Example: Computer Program
- **Adaptive System:** It is the one which reacts to its environment in such a way to improve its functioning, achievement or probability of survival.

- Example: Evolution theory
- **Non Adaptive System:** A system that does not react to its environment to change is called a non-adaptive system.
Example: Anything which is dead
- **Super System:** This is the part of the larger system where it acts as a subsystem.
- Example: PTU and Distance Education
- **Permanent System:** The system which is designed for a long period of time without modification.
Example: Policy of an Organisation
- **Temporary System:** The system which is designed for a specific period of time is called a temporary system.
Example: A small research project in the lab
- **Stationary System:** A system whose properties and operations do not change significantly.
Example: Super market store operation
- **Non Stationary System:** A system whose properties and operations change significantly.
Example: Human Being
- **Natural System:** The entire ecology of life is the natural system.
Example: Solar System
- **Manufacture System:** This system performs when human beings gather in a group to generate a system. One system may be concerned with national defence, another may be transportation system.

III. MIS IMPLEMENTATION PROCESS

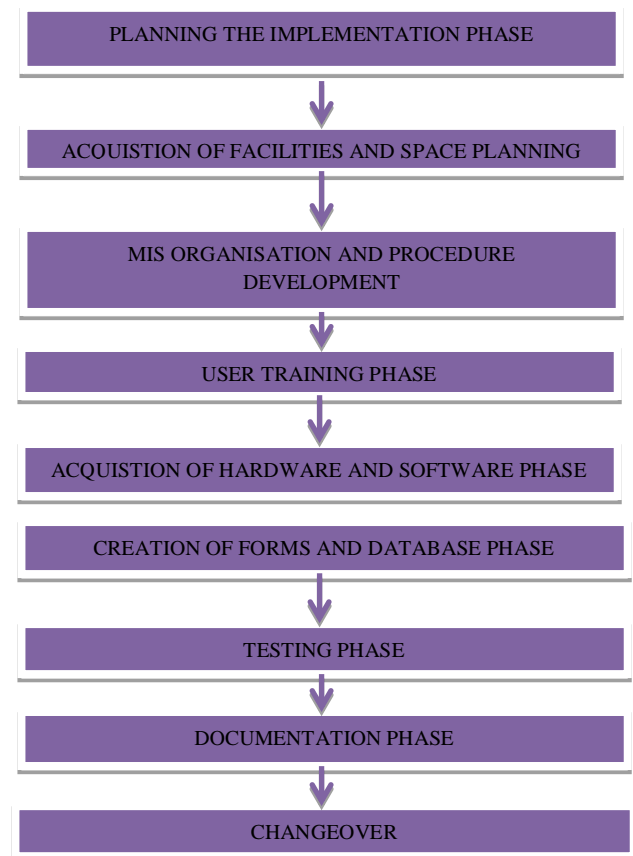


Fig. 3 Implementation Process of MIS

- **Planning the Implementation Phase:** The first step in the implementation of MIS is to plan. For Proper implementation the plan is perquisite and is known as pre implementation activity. It is the planning step that various activities which are required for implementing a system are identified.
- **Acquisition of facilities and space planning:** the information system to be implemented may be for a new organisation where no old system is in existence where the information has been modified to a great extent or all together a new system has been developed. This requires acquisition of facilities office, computer room and computer library.
- **MIS Organisation and Procedure Development:** It is also important that a manager should be given the responsibility of guiding the task of implementation it will help, manage end users resistance and increase their flexibility of accepting the things. It is in this step that the MIS manager starts hiring other required personnel.
- **User Training Phase:** The user training is an important activity of an information system. Information system personnel such as user consultants must be sure that the end users are trained to operate a new system or its implementation will fail.
- **Acquisition of hardware and software phase:** The process of acquiring the hardware and software should start immediately once the design specification of the system are over. It should be ensured that facilities which are required for installing the hardware such as site preparation work, computer room layout, air conditioning and electric connections should be complete.
- **Creation of forms and database phase:** Forms are very important for transmitting data. They are also required for input to the system and output from the system for implementation of MIS. The required forms should be generated but make sure that the forms are generated according to the entire MIS process.
- **Testing of Phase:** Testing, documentation and training are important factors for successful implementation of a new system. System Testing involves testing hardware devices, testing and debugging computer program and testing information processing procedure.
- **Documentation Phase:** Developing good documentation is an important part of the implementation process. Example include manuals, sample display screen, forms and reports. During the implementation stage the system documentation manuals should be prepared to finalise the documentation of a large system.
- **Changeover:** Changeover is the event of switching over from the old system to a new system which takes place after the system is tested and found reliable. The existing system is replaced by the new system in this phase.

IV. CONCLUSION

The study concludes that Management information system is very important part of the organisation. It helps the organisation in many ways and makes their work easy and simple. It is very helpful for every department of the organisation and helps in decision making process of the organisation. In this era of high competition this system is a good technology to use which leads to organisation success in future which is the main purpose of the organisation.

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