

## MANAGEMENT INFORMATION SYSTEM

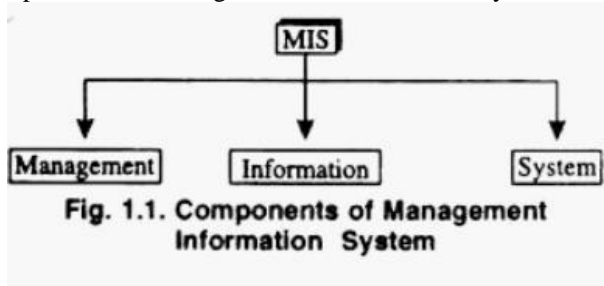
Indu Khatri<sup>1</sup>, Jogender<sup>2</sup>, Arpit Arora<sup>3</sup>, Pravesh Pal<sup>4</sup>

<sup>1</sup>Asst. Professor CSE, <sup>2,3,4</sup>Department of CSE, BMCEM, Sonipat (Hr.)

**Abstract:** *Management is not a static phenomena (i.e. decision once taken will not be able to serve the purpose every time). A continuous performance appraisal is essential for the success of management. It is somewhat a continuous process to keep the situation balanced which used to happen every moment relating/effecting to the goals of the organisation. Further, the management is not merely to solve the problems but it is to anticipate the problems and to take such measures so as to avoid problems or at least to take such necessary action so that problems have the least effect. The management must know and know continuously what is happening, what is within the control limits and what is outside the control limits and anticipation.*

### I. INTRODUCTION

Management Information System (MIS) consists of three components i.e. Management Information and System.



**Management:** It means planning and controlling operations to achieve pre-determined objectives.

**Information:** Information has to be distinguished from data. For example, customer invoices are data only but when the same data after programming being transferred into sales analysis etc. Then it becomes information. Hence, information is the processed data which can be used for decision making. Further time factor can not be ignored when we are talking about information. The processed data represented in time will only be called information. If it is not presented in time it may become only a useless piece of papers. Another important factor is the degree of accuracy (DOA). DOA should be determined in relation to the purpose for which the information is required and the decision which might come be taken out of it. Data can be compared with raw material, as raw material after processing is converted into finished goods for the use of the consumer. Similarly, data after processing is converted into information (like finished goods). Further, as finished goods of a company may be a raw material for another user, similarly one information may become data for another level of professionalism in management.

**System:** A system in simple words is a group of activities

linked together for a common goal. It implies a systematic approach to turn data into information and integrate all systems of a business.

### II. HISTORIC DEVELOPMENT

The modern digital computer was primarily designed for scientific calculations. Ever since the use of computer for the American Census work in 1954, however, the commercial application of computers far exceed the scientific applications. It is estimated that the commercial applications amount for as high as 80% of the investment in hardware and software. A significant portion of such commercial applications aims at providing the management of an enterprise, some form of information system support. The broad area that deals with such an information support came to be widely known as Management Information System (MIS). The concept of Management Information System has changed substantially over the years. In the 50's and 60's, the management saw the potential of computers to process large amounts of data speedily and accurately. The speed and accuracy of such data processing equipment far exceeded that of human clerks, who used to undertake data processing in those days. The departments that were involved with such activities were known as Electronic Data Processing (EDP) departments. The focus of EDP was Record-Keeping – an activity statutorily required in many organisations. The majority items whose records need to be kept were primarily accounting data – symbolically described by many users in India as Payroll data. So, many EDP departments fell in the administrative control of accounting Departments. Interestingly in India, we had taken as early lead in such applications. A classic example in the Indian context is the extensive use of EDP by Indian Railways. The next stage of development was concerned more with the insight and analysis that can possibly be provided by the routine availability of such accurate and timely data. In the 70's when many organisations took to EDP with the availability of more powerful computers, there was a discernible shift from data to information. The focus was not on data but on the analysis of the corporate data. There was a shift in Philosophy. Such a concept came to be widely known as „Management Information System“. The 80's sawed the Personal Computers (PC) revolution. In the 70's the top management relied on the staff departments of EDP and MIS to supply the necessary information. Their access to information was always indirect, until then. The personal computers and the desk-top metaphor changed the picture completely. With new generation software consisting of Word Processing, database and Spreadsheet a new avenue of direct interaction with corporate data was open. At least those managers who did mind „getting hooked on“ to the personal computers saw an immense potential through this

avenue. Their demands for information were much higher, they were no longer content with indirect information support. The biggest pay-off for such direct use was the “what-if” analysis capability. Suddenly, the executives realized the “decision support” capability of personal computers. This led to emerge of Decision Support Systems – a new generation of systems with a new philosophy, pioneered by Keen[].

### III. ROLE OF MIS

- It provides the right information to the right person.
- Helps in planning and control.
- Links the various level of organisation.
- Ensures regular flow of information.
- Fulfil the needs of management at a different level.
- It helps in database integration.

A Management Information System or MIS is used by businesses to gather, compile and analyse information. Today, an MIS is highly integrated with a company’s computer systems, usually involving databases with vast amounts of data. While the type of information used can vary from one business to another and even between departments, the role of management information systems is almost always the same: to improve operations, strategies and decision-making. The amount of information available to any business today can be overwhelming. How this information is managed and therefore leveraged to better decisions depends on the goals and objectives of your business. Just as no two people use their cell phones for the same things, no two businesses use MIS in the same way. To understand the functions of MIS in an organization, it’s best viewed at four levels: transactions, operations, management and strategy.

### IV. SYSTEMS APPROACH TO MIS

One may not be able to solve problems in isolation, independent of other activities of the organisation. For example, in a manufacturing company, there might be a general feeling that the less production is due to lack of sufficient funds and it can be solved only with the additional in-flow funds which may not be the only reason. There might be other factors which can be traced-out only if one will view the problems with a system (or systematic approach).



Due to the problem in any of these stages in a cycle of system approach to MIS, production will suffer. There may be a compilation of huge mismatch inventory thereby blocking unwanted funds, there might be a huge amount of slow moving stock, long processing time, poor realization from debtors i.e. poor credit management etc., these may be several areas resulting into fall in productions.

One of the best examples of the system is the Solar System. This is a natural system. Systems like computer, defence, organization are man-made system. The basic purpose of a management information system is to help the management to achieve their objectives. To develop a proper MIS one must have a good understanding of the organization structure and objectives.

### V. COMPUTER SYSTEMS AND MIS

The widespread availability of computer explains to a large extent the extensive use of computers to implement any meaningful MIS today. Since the major applications of computers, today are for the design, development and operation of MIS systems, to a distant observer Computer Systems (CS) and Information Systems (IS) appears synonymous. However, Computer Systems (CS) provide only the technology component and successful MIS calls for an understanding of the organisational systems and procedures. While the importance of good computer systems for the success of MIS cannot be underestimated, one should not make the mistake of over-emphasizing Computer Systems component in the design of the management information systems. Computer Systems (CS) and Information System (IS) are two disciplines that sufficiently overlap and yet have quite independent service. While the information system (IS) is man-centric, Computer

Systems (CS) is machine-centric. Information System is an applied area while CS has a strong theoretical foundation. Information System is specific to managerial and organisational context, while CS is far more generic. The intellectual challenge is very high in CS discipline while IS calls for a very high conceptual challenge. While many of the tools of IS are context-specific, the concepts of CS are by and large context-independent.

### VI. LOGICAL FOUNDATION OF MIS

MIS as a discipline has no intrinsic theory of its own, The data processing application had a simple goal of accurate and efficient data processing just a simple control mechanism. With the refinement of data processing into MIS and later DSS there was increasing demand for “What-If capability. Such a demand necessitates the extensive use of mathematical, statistical, optimization and simulation models collectively known as the models of Operations Research and Management Science. While the models were powerful, they could not be applied to real-world problems due to the non-availability of data. With streamlined data available to the decision-maker through MIS systems, the power of statistical and operations research models could be very well explained. The classic example being the extensive use of

Operations Research in the Airline Industry []. Recently a new generation of spreadsheet software with optimization capability reinforces this trend []. Thus the quantitative tools of Operations Research and Management Science form one of the logical foundation of MIS.

Since the MIS is primarily concerned with managerial decision making, the theory of organisational behaviour and the underlying understanding of human behaviour in the organisational context from another logical foundation for the MIS area. The socioeconomic impact of competition, globalisation, democratisation and their impact on organisational structure must be well understood before one can design a successful MIS system today.

Computing Science would form the third logical foundation in the MIS field. Since every major MIS system developed today is built on some computational device (PC to mini to the mainframe to supercomputer with or without an underlying computer network), a clear understanding of the various facets of computing becomes a major pre-requisite to the success of an MIS professional.

Information theory would form the fourth logical foundation of MIS today. Information theory developed independently an ability to analytically quantify the information context of a message. This area also developed related areas like noise reduction, error deduction and control, signal processing, image processing, compression schemes, image restoration and enhancement etc. In short, it provides insight into the fundamental aspects of information processing at an abstract level. With the emergence of Multi-media, Recognition Technology etc., Information Theory will play a key role in the future development of MIS.

## VII. THE FUTURE

The dominant profession of mankind throughout the world used to be agriculture for many centuries. This is still true of countries like India which are yet to attain full economic development, the scene, however, is far difficult in economically developed countries, particularly after the Industrial Revolution. In the past industrial revolution years, the percentages of agriculture-related jobs dwindled to a mere single-digit percentage. Until the seventies, there was substantial growth in manufacturing-oriented jobs. With the onset of the Information Revolution, the percentage of manufacturing-related jobs has also been reduced substantially. The fastest-growing sector is the service sector which is likely to account for almost 90% of the entire job market. The workers in this category are generally known as “white-collar” or “knowledge worker”.

Services include banking, financial organisation, health care, entertainment, travel and tourism and education. All these sectors depend heavily on the information service for their very survival. Consequently, the share of total business by the Information Technology industry is likely to foreshadow the Oil and Automobile industry by the run of the century.

Even in India, the IT industry is growing at a very respectable rate. While we got on to EDP in the early seventies, the overprotection by the political powers in the seventies and early eighties kept India very much behind the International scene in the IT area. Luckily we have been

„catching up“ in the past six years and just in this time the Indian IT industry grace up to a high extent. With the policies of government, it is likely to go further.

Even in the not so distant future, information management can substantially improve the quality of life in the Indian context in the manner of better land record management leading to less litigation and violence in rural sector, better natural resource planning, better financial and banking services and networked educational institutes etc.

SOURCE:  
INTERNET  
BOOKS

## REFERENCE

- [1] Elements of system analysis and design
- [2] Management Information System [ET&T]
- [3] <https://bizfluent.com/>
- [4] [https://en.m.wikipedia.org/wiki/Management\\_Information\\_system](https://en.m.wikipedia.org/wiki/Management_Information_system)