

CONCEPTS AND APPLICATIONS OF MANAGEMENT INFORMATION SYSTEMS

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Abstract

Management information system (MIS) is an integrated system for providing information to support the planning, organization, control function That covers the unction's of middle management from management especial reports.

Management information systems(MIS)are generally automated information systems that are used within organizations andincludes allinformationand communicationchannelsthatareorganized. Aninformation systemisAll elements in thecollectionand dissemination ofdata andinformationinvolved, and usuallyinvolvechanges inhardware, software, people, data, andinformationandcommunicationchannels.Operationof the systemincludingdata collection, data processing and conversion ofraw dataintovaluable information, storage and retrieval ofdataandoutputssuch asmanagement reports.

KEYWORDS: MIS, Role of information systems, Conceptual, foundations, structure of MIS, Executive information, Concepts and applications of information, MIS Concepts & Design

Introduction

This paper discusses the subjective management information system. Management information system is statistically based management information. As you know, we cannot ignore the two factors of 21 century management :

1 - Thestrategy of competition2 -reducing costs,
Whichhasa policy ofexportcompetitiveness. For this.Use of Information systems, such asinformation (IT) and communicationtechnologiesis necessary.

Today's managers are faced with an abundance of information. Information as data processing system has to be able to understand, diagnosis, maintenance and retrieval. On the other hand, systems management and monitoring tools have been many changes over time; these changes can be noted in four cases.

- 1 - Traditional Control
- 2 - Bureaucratic Control
- 3 - Charismatic Control
- 4 - Informatics Control

Management Information Systems

Management Information Systems (MIS) are information systems, typically computer-based, that are used within an organization. WorldNet describes an information system as "a system consisting of the network of all communication channels used within an organization". A management information system may also be defined as "a system that collects and processes data (information) and provides it to managers at all levels who use it for decision making, planning, program implementation, and control." An information system is comprised of all the components that collect, manipulate, and disseminate data or information. It usually includes hardware, software, people, communications systems such as telephone lines, and the data itself. The activities involved include inputting data, processing of data into information, storage of data and information, and the production of outputs such as management reports.

As an area of study it is commonly referred to as information technology management. The study of information systems is usually a commerce and business administration discipline, and frequently involves software engineering, but also distinguishes itself by concentrating on the integration of computer systems with the aims of the organization. The area of study should not be confused with [Computer Science] which is more theoretical in nature and deals mainly with software creation, or [Computer Engineering], which focuses more on the design of computer hardware.

In business, information systems support business processes and operations, decision-making, and competitive strategies. (Awad, 1988 & McLeod, 1998)

The concept of management information systems

The management information system is not something distinct and separate from other information systems. It provides a general framework based on the information systems that are compatible with each other. Over time it became clear that it is very difficult to implement the concept of a fully integrated system.

The fact is that, an integrated system, means a structure that is not a homogeneous unit and its components are based on a schematic. Management information systems are regarded as a federation of sub-systems are designed and implemented as needed, but consistent with the overall plan, standards and procedures for information systems management. So instead of a management information system and the overall, Organization can have a lot of relevant information systems to management needs in different ways to provide different levels. Experience shows that a fully integrated system is impossible. There are many factors that must be considered simultaneously and in combination and maintenance of such systems is difficult. That's why, as part of the design of management information systems are more and integrating only in cases where it is necessary to apply. In summary, management information systems provide a basis for the integration of enterprise information processing (Davis and Olson, 1985).

Historical development

The role of business information systems has changed and expanded over the last four decades. In the incipient decade (1950s and '60s), "electronic data processing systems" could be afforded by only the largest organizations. They were used to record and store bookkeeping data such as journal entries, specialized journals, and ledger accounts. This was strictly an operations support role.

By the 1960s "management information systems" were used to generate a limited range of predefined reports, including income statements (they were called P & L's back then), balance sheets and sales reports. They were trying to perform a decision making support role, but they were not up to the task.

By the 1970s "decision support systems" were introduced. They were interactive in the sense that they allowed the user to choose between numerous options and configurations. Not only was the user allowed customizing outputs, they also could configure the programs to their specific needs. There was a cost though. As part of your mainframe leasing agreement, you typically had to pay to have an IBM system developer permanently on site.

The main development in the 1980s was the introduction of decentralized computing. Instead of having one large mainframe computer for the entire enterprise, numerous PC's were spread around the organization. This meant that instead of submitting a job to the computer department for batch processing and waiting for the experts to perform the procedure, each user had their own computer that they could customize for their own purposes. Many poor souls fought with the vagaries of DOS protocols, BIOS functions, and DOS batch programming.

As people became comfortable with their new skills, they discovered all the things their system was capable of. Computers, instead of creating a paperless society, as was expected, produced mountains of paper, most of it valueless. Mounds of reports were generated just because it was possible to do so. This information overload was mitigated somewhat in the 1980s with the introduction of "executive information systems". They streamlined the process, giving the executive exactly what they wanted, and only what they wanted.

The 1980s also saw the first commercial application of artificial intelligence techniques in the form of "expert systems". These programs could give advice within a very limited subject area. The promise of decision making support, first attempted in management information systems back in the 1960s, had step-by-step, come to fruition.

The 1990s saw the introduction of "strategic information systems". This was largely because of developments in the subject of strategic management by scholars like M. Porter, T Peters, J. Reise, C. Markides, and J. Barney in the 1980s. Competitive advantage became a hot management topic and software developers were happy to provide the tools.

The role of business information systems had now expanded to include strategic support. The latest step was the commercialization of the Internet, and the growth of intranets and extranets at the turn of the century. (Wikipedia)

Ackoff Management Misinformation Systems

Ackoff identifies five assumptions commonly made by designers of management information systems (MIS). With these assumptions, Ackoff argues that these assumptions are in most cases not justified cases, and often lead to major deficiencies in the resulting systems, i.e. "Management Misinformation Systems." To overcome these assumptions and the deficiencies which result from them, Ackoff cases, and often lead to major deficiencies in the resulting systems, i.e. "Management Misinformation cases, and often lead to major deficiencies in the resulting systems, i.e. "Management Misinformation Systems." To overcome these assumptions and the deficiencies which result from them, Ackoff recommends that management information system should be imbedded in a management control system.

The Ackoff Assumptions are that:

- (1) Due to lack of relevant information, most managers operate under this deficiency; with the first assumption and contention, I'd have to disagree. According to Ackoff, it seems that only certain information is useful, while the other is useless and it overburdens the managers. Therefore, top management usually receives filtered input that subordinates have carefully screened several times.

However, top management needs more information and data, more qualitative input, and less formal analysis than it receives. Sometimes, the useful information might seem useless at one time, may become more important at another time. Therefore, I believe that all information be readily available for the manager to proceed forward in a timely fashion.

- (2) The manager needs the information he wants; I agree to a certain aspect to this ideology. Without a doubt, without the proper information, the manager is useless because they are not able to direct their workers in the right direction. People working for the manager tend to require more information from the top. More important, they need a general and, sometimes, a specific sense of direction and support. Without a proper direction, all people involved will concurrently feel underutilized, and will try to gather all information, relevant or irrelevant and fill up their work time, without achieving any goals.
- (3) A manager will improve his decision making, if he has the information he needs, this is a straight-forward logical agreement with the author. It is obvious that if the information is available, the manager will be able to make a better judgment. Without proper information from above, the people working for the manager will be lost. On the other hand, if the manager has the information need to complete the task, then the objective will be solved in a short period of time, with everyone contributing in a positive way.
- (4) A better communication between managers will improve organizational performance; I agree with the statement above on the basis that communication is the most important thing when it comes to working in unison. Over time, the top levels of management tend to become isolated from the rest of the organization. A chasm develops those results in a gap in communication, mutual understanding, and/or acceptance of new ideas and knowledge. Without proper communication from managers, the organization will lose focus and their effectiveness will decrease.

- (5) A manager doesn't have to understand how his information system works, only needs to know how to use it.

I totally disagree with this assumption. No matter what field a manager works in, he/she has to know and fully understand how everything works. If he only knows how to use it, it means that the manager is totally limited to that specific task. At any given time, any sort of problem can arise and cause a problem and cause a malformation, and without any understanding, the manager will sit there waiting for someone to come and help him out. If in the first place, he knew and understood, he would not lose valuable time. Management information systems represent only one aspect of the whole area of management computing. Other components of what one might call management computing or computer support for managers are on the one hand office automation for managers, such as communication facilities (electronic mail) and modeling support (spreadsheet applications), while on the other hand it can involve using and building expert systems for managers (Ackoff, 1967).

Reviewed five assumptions underlying the alleged usefulness and success of MIS. An assumption was that managers suffer from a lack of relevant information, and MIS should provide them with the solutions only. Then, the managers suffered from an overabundance of irrelevant information with too much unsolicited information reaching the realm of information, while filtering and condensing information to be presented to the manager directly, leaving the working people below the manager out in the cold. Another assumption of MIS design and development Ackoff dealt with referred to information contributed to the overabundance of irrelevant information.

How does an Information System work?

Information systems perform three major activities. First, the sources of information within the organization or outside the organization receives as input. The work done on the received information allows the system to produce the desired information. Finally, the user-generated information intended for a manager or an employee puts.

For example : A computerized information system, that is doing savings accounts In bank. Bank clerks enter data and then processing and storage, shall be printed and delivered to the customer. The customer can also receive reports from the operating account. (Mentzas, 1995)

Why the Information systems are used?

Usually, there are two approaches in the use of information systems. These two approaches are both originated from the use of computers and IT in the organization's activities. Proponents of these approaches seek to exploit ways of using information systems, computer and communication technology.

First Approach: This approach is focused exclusively on the inherent capabilities of computer and communication technology and how it can be used to improve efficiency. So there is emphasis on improving system performance through process efficiency and reliability of performance, not the specific use of the capabilities of computer and communications technology.

Second approach: This approach focuses on the organization's strengths and opportunities and assessing how the use of information technology fits the situation. This approach takes into account the enabling technology. In other words, Instead of having a technology-driven approach, Followed by the development of information technology systems. This approach is better because the computer and communications technology is important but how the computer can assist the organization to be important.

There are generally three types of systems:

- 1 - Operating Systems
- 2 - Information Systems
- 3 - Systems Management

Information systems that In this section, we will describe them, Interface between operating systems and management who actually made it through the operation of the organization's managers can be notified.

Information system means the collection, storage, processing, dissemination and use of information. (Mentzas, 1995)

Types of Information Systems:

- Transaction Processing Systems (TPS)
- Management Information System (MIS)
- Decision Support System (DSS)
- Executive Support Systems (ESS)
- Strategic Information System (SIS)
- Accounting Information System (AIS)

The following brief description of each of the systems we mentioned.

Transaction Processing Systems (TPS)

Processing system has the task of the organization's events that are recorded. The MIS, records and stores information about the queue and Chiefs organization collects, processes and provides them in the form of documents, reports, or information systems and decision support information.

Management Information System (MIS)

MIS is the most popular information systems.

MIS receives internal data from the operation processing system and summarized in the form of meaningful and useful as management reporting. To be used when performing administrative tasks such as controlling and decision making.

The aim of Management Information Systems is to enhance the presentation and reduce speculation in resolving problems at different organizational levels.

Decision Support System (DSS)

Decision Support System is defined as a computer-based system to be used by a manager or group of managers at any organizational level decision process for problem solving

DSS, helps decision makers with putting together human judgment and computerized information to solve .A DSS can help the decision maker, but they are never replaced.

Executive Support Systems (EIS)

Which is a special type of DSS can help the decision-making high levels .Accurate picture of the performance of the system and shows a summary of the activities of competitors. The system is easy to work with, because they provide information in a way that can be easily downloaded (as a graphic and charts).

In summary, the purpose of the EIS is to support the management of the information supplied in accordance with operational managers.

Accounting Information System (AIS)

AIS System describes the data that collect organization's activities and convert the data into information. Gives the available information to internal and external organization's users.

The AIS is a system that provides information for various units.

(SIS) Strategic Information System

SIS is one of the most important information systems applications, organization, management, politics, the military, business and strategic information is provided for supplying to achieve its strategic objectives. Mainly in terms of strategic information systems are complex, challenging, unpredictable, and chaotic critical applications.

The benefits of using information systems

Three kinds of information systems have the potential to provide benefits to the organization(Young, 1983)

- (1) Improve Productivity
- (2) Improve the Effectiveness
- (3) Competitive Advantage

Productivity improvement:

Productivity improvement occurs when the work can be done more or less the same source. In Organizations, improve productivity happen when improve work processes occur. For example, For example, when an employee may be replaced with new methods of processing 25 Orders to 50 Orders,His labor productivity is 2 fold. Information systems can be faster, easier and more effective to do things that are improving productivity in this way.

Effectiveness:

Effectiveness of ability of an individual or an organization to do things that should be done. Manager predicts the conditions that may be problematic terms before it causes problems arise; effective manager who joined the Badly problems that had prevented them. Information systems, which provide information to help managers evaluate the situation and choose the best options and thereby improve the effectiveness of that.

Competitive advantage:

The organization that has improved the efficiency and effectiveness of the use of information systems to be able to have the potential to transform the way organizations compete.(Young, 1983)

Success factors in the implementation of top level manager's information systems :

high manager's information systems is management information systems, which makes information easy to management decision-making at the highest levels. These systems are designed based software that provides easy access to large amounts of complex data. Through its software ,analysis data in a quick manner and then display. With quick access to internal and external information systems, senior managers are prepared to make strategic decisions.

Key factors for success

The factors that are considered as key success factors in implementing an information system are as follows:

- 1- Manager who is familiar with the information system
- 2- Project Manager
- 3- Enterprise Information Systems IS appropriate box
- 4- The right technology
- 5- Data Management
- 6- Communicate clearly with business goals
- 7- Management of organizational strength
- 8- Manage the development and expansion of the system
- 9- Evolutionary development
- 10- Definition of informational needs of users(Wagner,2001& Eshelman& AshieySkat,1998&Ainer& Watson1995)

Conclusion

In an era that its main feature is rapid change and complex, Information is crucial in solving organizational problems and non enterprise, Management Information Systems remain as consultants interacted with the users and administrators are not inevitable. This systems cause

toanalysis, processing information accurate and as fast as possible (Levitt and Kunz, 2003). It can also formulate certain problems quickly. They are adopted to have identified possible solutions and evaluate their results for optimal decisions in different situations (Levitt and kunz,2003).

A Management Information Systems supports various levels of management (individual and group), from top managers to lower managers and also supports all decision process level and various styles of deciding.

With the development and application of top managers information systems and determine the benefits and capabilities of these systems are given to managers, the success or failure of the implementation and deployment of these systems is more specific, decision support all stages of the decision-making process with different styles. Also, due to the high costs of using these systems for enterprises and institutions, In order to increasing the success rate of these systems and prevent losses , It is important that before any move to implement and maintain these systems know about the costs, In order to increasing the success rate of these systems and prevent losses .

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