

MANAGEMENT INFORMATION SYSTEM: DECISION SUPPORT SYSTEM (DSS)

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ABSTRACT

Today's decision making is important to manage organizations which is clear as management decisions are not dependent upon anyone's personal opinion but rather the team would rely upon proven scientific data .Decision making is one of the key role of any manager and timely, exact information gathered through decision support system help him to achieve his goal of taking key decisions that too in critical conditions . These systems by using data resources correctly create better understanding on work area and develop communication procedure. Due to this we could express decision support systems as they are very flexible and interactive computer systems that use to support all decision making process in conditions where problem is arising. Decision support system works as a therapist beside a decision maker and provides this possibility that could run with vast information gathering and use them arbitrarily and in suitable models frame to improve decision making process.

KEYWORDS: MIS, Decision Support System, Decision Making Process, Semi-structured Problems.

Introduction

Objectives

- To understand the meaning and concept of Management information system(MIS)
- To understand the actual mechanism of Management information system(MIS)
- To briefly look into the components of Management information system(MIS)
- Benefits of Management information system(MIS) within and outside the organization
- How is Management information system(MIS) different from Decision support system
- To understand different categories of Decision support system
- Role of Decision support system in taking important organizational decisions

Management Information System

Management Information System is a tool of great importance when it comes to taking decisions in organizations. As per Kumar (2006), MIS comprises Management, Information, and System. This is a process which helps the manager to take effective decisions and plan and initiate the operations within the businesses. According to Murdick and Ross (1971), "One of the imp pillar is Information for any successful organization. As the time passes, the pressure of scale, complexity also increases which is directly proportional to the organizational growth, With an increased rate in change, adequate information processing capacity becomes inevitable, if effective control, consequent upon coordination of individual activities is to be achieved."

Information Systems are divided into basic 3 categories - Transactional Processing Systems (TPS), Management Information Systems (MIS), and Expert Systems. MIS has different subsets like Decision Support System and Executive Information Systems. We can make efficient business decisions through DSS by analyzing the business data. Within an organization, DSS is used by everyone including executives to senior managers in order to take any strategic to operational decisions.

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MIS is basically use of information technology, which is more people friendly which in turn help, to record, store and process data in order to produce information that decision makers can utilize in their daily routine. MIS is the acronym for **Management Information Systems**. In short, MIS is a collection of systems, hardware, procedures and people that all work together to process, store, and produce information that is useful to any organization.

The Requirement for MIS

There is some requirement for MIS in an organization.

- **All Decision makers need important information to make effective and appropriate decisions.** Management Information Systems play a important role to make this possible.
- **MIS is a better tool for communication within and outside the organization:** employees within the organization are able to easily access the required information for their routine activities. They are uses all facilitates such as Short Message Service & Email make communicate with customers and suppliers from within the MIS system that an organization is using.
- **Record Keeping:** management information systems helps to record all business transactions as a TPS of an organization and provide a common reference point and good record keeping facilities.

Components of MIS

The main components of a management information system are;

- **People:** people play a crucial role for the effective operation of all the information system.
- **Data:** Data resources are organized, stored and accessed by data resources.
- **Business Procedures:** Procedures describe how data and record are, store and analyze.
- **Hardware:** Hardware resources refer to all physical components that are used in processing of information.
- **Software:** The collection of programs is known as software. Programs are used in data processing.



Decision Support Systems (DSSs)

A system which supports the process of decision making is known as DSS. This helps in supporting only and not automating the process of decision making. With the help of DSS, decision maker can receive the information and find the alternate solutions in the process of problem solving. A decision support system is an information system that collects and analyzes computerized data and other information which help any organization to take important decisions about different operations, planning, and even organizational management. The DSS can be used by different management levels and other planning levels in an organization to compile information and data and to convert it into analytical model. This allows the end user to make an informed decision quickly. Decision support systems (DSS) are interactive computer based application software systems. Main key point is to help managers in decision-making by accessing large volumes of information generated from various related information systems involved in organizational business processes, such as office automation system, transaction processing system, etc.

Comparison between the Management Information System and the Decision Support System

S.No.	MIS	DSS
1.	The major thrust is on the structured tasks and the routine decisions.	Here it is on the semi / un-structured tasks, which demand the managerial judgment.
2.	Helps in selection of the information required	Create tools for using in the decision process.
3.	Key help comes from Data storage	The main emphasis is on the data – manipulation.
4.	Requirements are frozen when deliver the system	Current and past data can be used in the Decision Support System.
5.	MIS helps to support the working of an organization.	The system can be used by individuals, group or even by entire organization.
6.	MIS system depends on information only.	This system depends on the real decisions and the style of decision making.
7.	MIS is indirect system hence used daily report.	The system displays interactive report on computer screen as DSS is direct support to the system.
8.	MIS take long time to respond.	This system can be implemented easily by the users so it is flexible. The implementation of DSS can be done quickly.
9.	Main focus is improving efficiency.	Main focus is improving effectiveness and play a supporting role in decision making

Characteristics of a DSS

- It Support for decision-makers in semi-structured and unstructured problems in an organization.
- Support for managers at various managerial levels, start from executive to top managers.
- Act as a supporting role between individuals and groups in various departments and organization level.
- Support for interdependent or line structure decisions.
- Support for variety of decision processes, styles and model selection.
- DSS are very adaptive and flexible for all type of organization.
- Managers get access to different kind of reports in formats that fit to their requirement.

DSS provide the summarize information, exceptions, patterns, and current trends for making analytical models. A decision support system play important role in decision-making but does not necessarily give a decision by its own. The decision makers analyze useful information from raw data, documents, personal knowledge, and/or prepare business models to identify and solve problems and make decisions.

Types of Decision Support System

There are a number of Decision Support Systems. These can be categorized into five types:

- **File Drawer System:** These are actually mechanized version of manual filing systems which allows immediate access to data. Enquires and reservation request are some example of such system.
- **Data Analysis System:** This refers to the manipulation of data by means of analysis operations, which is customized for a particular tasks or general analysis operations. This is specially used by non-managerial personnel to analyse files which contain both current and historical data. Budget analysis system is the example of this type of system.
- **Analysis Information System:** These give access to a series of database and small models. A marketing decision support system that contains internal sales data, promotion and pricing data and also external database access is the example of analysis information system.
- **Accounting Models:** In this type of model, consequences of planned actions are calculated on the basis of accounting, definitions. A monthly budgeting system for operational decision making is the example of such system.
- **Optimisation Models:** Optimisation models generate optimal solutions that helps in providing guidelines for action with a sequence of limits. These models are represented in mathematical form and can be used for repetitive decisions, where minimizing the cost are the main purpose.

Basic Components of a DSS

Some components of Decision Support System are:

- **Database Management System DBMS**

Data management sub system comprises of database that contains appropriate data related to the situation and is managed by the DBMS software. The data is stored and access by database server. The elements of database system are:

- DSS database
- Database management system
- Data directory
- Query

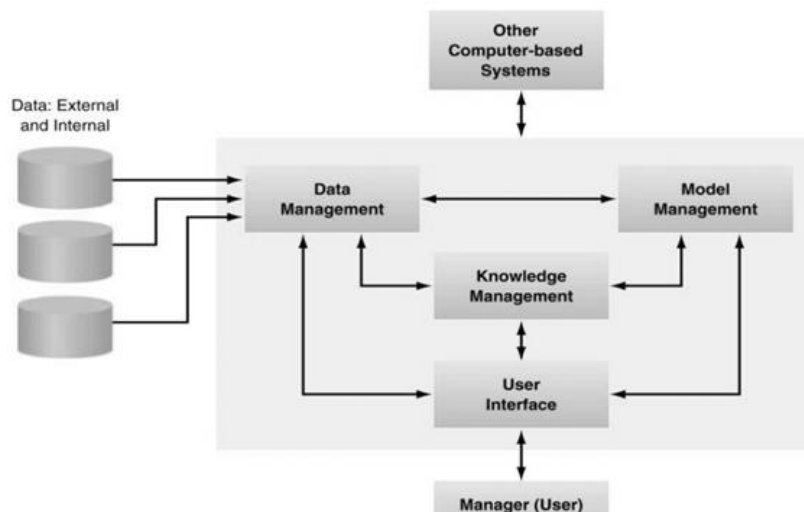
- **Model Management System**

Model Base management system refers to a software package that includes statistical, financial management science or other quantitative models that offer the analytical capabilities of system and suitable software management.

- **Support Tools**

This sub system helps the user to communicate with the DSS. The intensive interaction between the computer and the decision maker has led to unique contribution of DSS. A user friendly, reliable graphical userinterface structure offered by the web browser for most of the DSS.

COMPONENTS AND STRUCTURE OF DSS



Conclusion

Decision support systems process and mass related data help managers to take a decision. DSS use different complex statistical, mathematical models, data analyzes and supporting tools to take a decision. This paper compares decision support systems and other information processing systems that help an organization to take decisions and provide a better reliable information and having quick change and use by managers in user friendly and easy access to related information. Decision support system has important tools to support that these tools groups into software and hardware parts that these tools combining together help managers to decide in certain realistic fields. Decision support system should help decision maker in all levels in MIS, supports decision makers in all management levels individually and group and in semi-structured decisions, provide simulating and analyzes method for decision maker to relate into general data station and has adequate flexibility to coordinate different management method in different level of management. MIS as renowned model, having good decision choices guarantees practical decisions in our businesses. From the above conversation we can say that decision support system focus on decision making where as

management information system (MIS) focus on information. Management information system works on online system but in decision support system it works on real time system. The management support system supports on middle level of data hierarchy in management but in decision support system it supports huge volume of data in organization.

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