MANAGERIAL DECISION MAKING PROCESS

Decision making can be defined as the selection of a course of action from among alternatives. Decision making is an important part of an organization and success of any organization depends on its strategic decision. However, the managerial decision making process consists of some steps which are the followings:

1. *Developing premises:* Manager develops premises for the decision making process by identifying problems and opportunities.
2. *Identifying alternatives*: On the basis of the developing premises, decision maker develops available alternatives for making effective decision.
3. *Evaluating alternatives and choosing best alternatives*: Once appropriate alternatives have been found, the next step in planning is to evaluate them and select the one that will be the best contribution to the goal. There are various approaches available e.g. cost effectiveness analysis, marginal analysis etc.
4. *Decision implementation:* Lastly, the best alternative which is selected among the alternatives will be implemented by the organization.

COMPONENTS OF AN INFORMATION SYSTEM

Information systems can be defined as an arrangement of people, data, process, information presentation and information technology that interact together to support day to day operations of business as well as support the problem solving and decision making needs of a management (Whitten, 2002). From this definition, it is clear that an information system has the following components:

- People
- Data
- Process
- Information presentation
- Information technology

So, information system is a set of interrelated components that retrieve, process, store, and distribute information to support operations, management and decision making activities of an organization.

Information systems develop for the purpose of solving business problems and helping to the people of business community (users). These people are important part of an information system.

Data are raw facts about the organization and its business transactions. Most data items have little meaning and use by themselves. Data are the observations, measurement and recording from the source where source are consisting of the physical activities and objects, which are relevant to the business. On the other hand *information* is data that has been refined and organized by processing and purposeful intelligence. Information systems present the information according to the needs of the decision maker. *Information technology* is a contemporary term that describes the combination of computer technology (hardware and software) with telecommunication technology (data, image, and voice networks).

KINDS OF INFORMATION SYSTEM APPLICATIONS

In today's practical business world, different classes of information systems applications are available. Each class serves the needs of different types users. Important systems applications are the followings:

- Transaction Processing Systems
- Management Information Systems
- Decision Support Systems
- Expert Systems
- Office automation and work group.

TRANSACTION PROCESSING SYSTEMS (TPS)

A transaction processing systems are information systems applications that capture and process data about business transaction (Whitten et al., 2002).

Transaction processing systems process transactions in two basic ways: (i) Batch processing, where transaction data are accumulated over a period of time and processed periodically, and (ii) Real time processing also known as online processing, where data are processed immediately after a transaction occurred (O'Brien, 2003).

TPS takes transactions and events as input and produces detailed reports and summaries as output for operational level manager. The database of transactions stored in TPS is used to support management information systems. Individual TPS supports individual functional area.

DECISION SUPPORT SYSTEMS (DSS)

It is an information system application that provides its users with decision-oriented information whenever decision-making situation arises. When it used by executive managers, is called executive information systems. DSS designed actually for unstructured decisions that can't be predicted. Decision support systems also help managers react quickly to changing needs (Alter S, 1980).

EXPERT SYSTEMS (ES)

Expert systems are programmed decision making information systems that capture and reproduce the knowledge and expertise of an expert problem solver or decision maker. It is implemented with artificial intelligence that captures, stores, and provides access to the reasoning of the experts like human being.

MANAGEMENT INFORMATION SYSTEMS (MIS)

MIS is an information system application that provides for management oriented reporting. These reports are usually generated on a predetermined schedule and appreciate pre-arranged format. It serves the management level of the organization with online access to the organization's current performance and historical records. MIS primarily serves the functions of planning, controlling, and decision making at the management level.

BASIC CHARACTERISTICS OF MIS

MIS has some basic characteristics that are as follows:

- MIS supports structured and semi-structured decisions at the operational level and management control level i.e. mid level of management.
- MIS takes processed transaction data such as bills, orders, pay checks, and internal data as input from TPS and produce output as structured reports, materials requirements planning, production scheduling, sales forecasting etc.
- MIS generally aids in decision making using past and present internal data rather than external.
- MIS draws from different departments or functional area like production, marketing, finance, research and development.

CATEGORIES OR LEVELS OF MIS

Management Information system has four categories or levels. There is a basic difference between the "Information System" and "Decision Making System" i.e. where the information system leaves off and the decision maker begins. The process of decision making consists of five activities (Mason and Swason, 1981).

1. Source – consisting of the physical activities and objects, which are relevant to the business.
2. Data – observation, measurement and recording of data from source.
3. Inference and prediction drawn from data
4. Values and choice – evaluation of inferences with regard to the values (objectives or goals) of the organization and choosing a course of action.
5. Action – taking of a course of action.

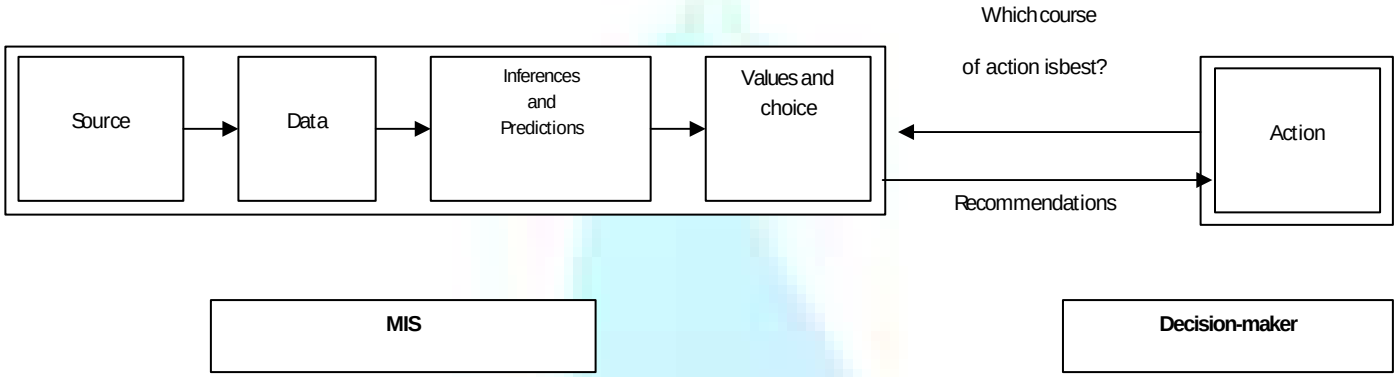
Again, MIS is of four categories (Mason, 1981). These are as follows:

- Databank information system.
- Predictive information system.
- Decision – making information system.
- Decision taking information system.

DECISION MAKING MANAGEMENT INFORMATION SYSTEM

In the global business world, MIS plays very important role as it helps the decision maker to take an effective decision. Decision making management information system includes those in which the organization's value system and the criteria for choice are incorporated into the MIS itself. Thus it provides structured decision to the mid level managers and based on these information managers take action. (Masons, 1981).

FIGURE 1: MASON'S DECISION MAKING PROCESS THROUGH MIS



LEVELS OF MANAGEMENT

Levels of management means the managerial hierarchy in an organization, typically three distinct levels: executive, middle and first line; usually portrayed as pyramid (Skinner and Ivancevich, 2004).

TOP MANAGEMENT

Top management is responsible for the overall management of an organization. These people are called executives. They establish operating and guide the organization's interactions with its environment. They actually take the decisions on non-programmer facts and those are strategic. Non-programmed decisions are used for unstructured, novel, and ill-defined situations of a nonrecurring nature. DSS and ESS help to the top level manager to take effective decisions.

MID-LEVEL MANAGEMENT

The middle level of the management hierarchy includes supervisors, college deans, project director, and regional sales coordinator. These managers receive the broad overall strategies, missions and objectives from executive level managers and translate them into specific action program. The middle level manager implements semi-structured decisions. They have taken routine decisions and taken strategic decisions collaboration with top executives. MIS directly provides semi-structure decisions and they aid to the mid level manager.

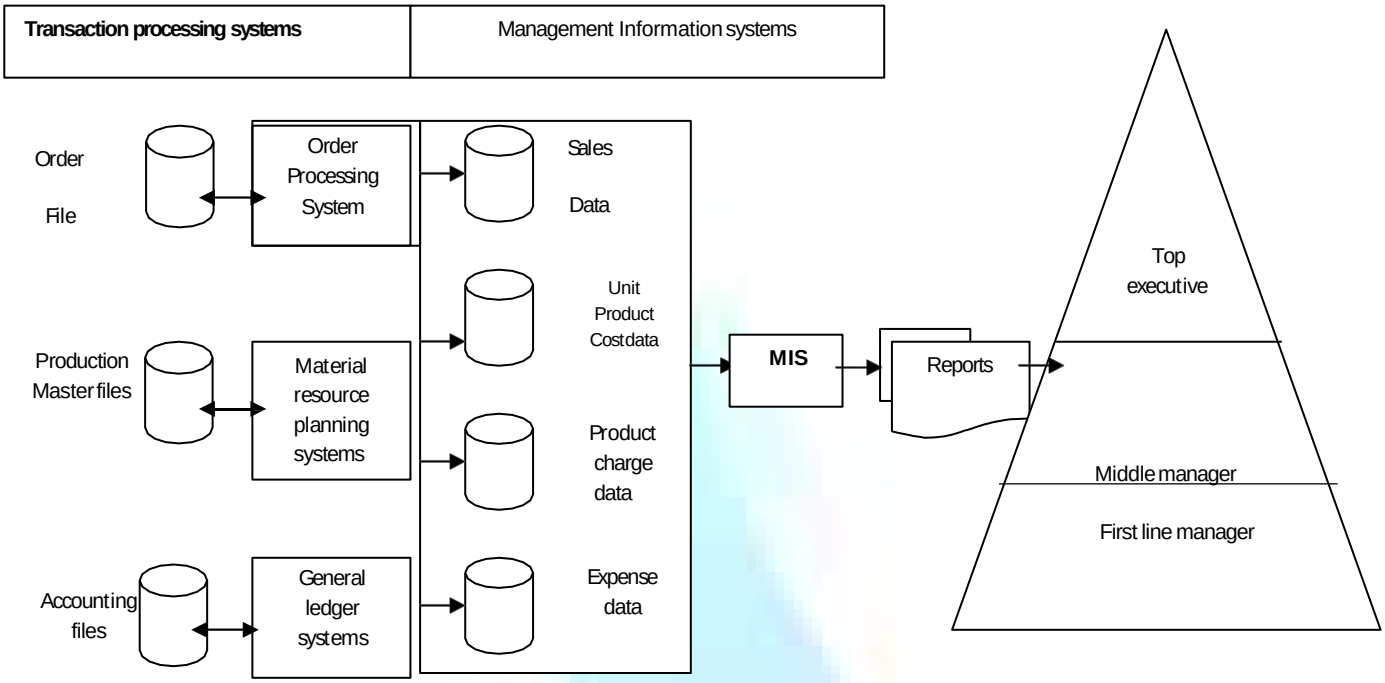
LOWER-LEVEL OR FIRST LINE MANAGEMENT

First line manager supervises employees and resources at the lowest levels of the organizational hierarchy. Most of their concerns with seeing that specific work assignments are carried out on time. They have taken structured decisions and taken help from their top. TPS aids to the first line manager by providing routine decisions.

RELATIONSHIP BETWEEN MIS AND MANAGEMENT LEVELS

MIS is an information system application that serves 'Decision Making'- one of the important functions of management at the management levels of the organization by providing routine summery and exception reports. MIS actually provides routine information and exception reports to the mid level manager and mid level manager takes decision on the basis of those reports. Strategic decisions are made by top executives and DSS and ESS help to the executive level for making strategic decisions.

FIGURE 2: RELATIONSHIP BETWEEN MIS AND MANAGEMENT LEVELS

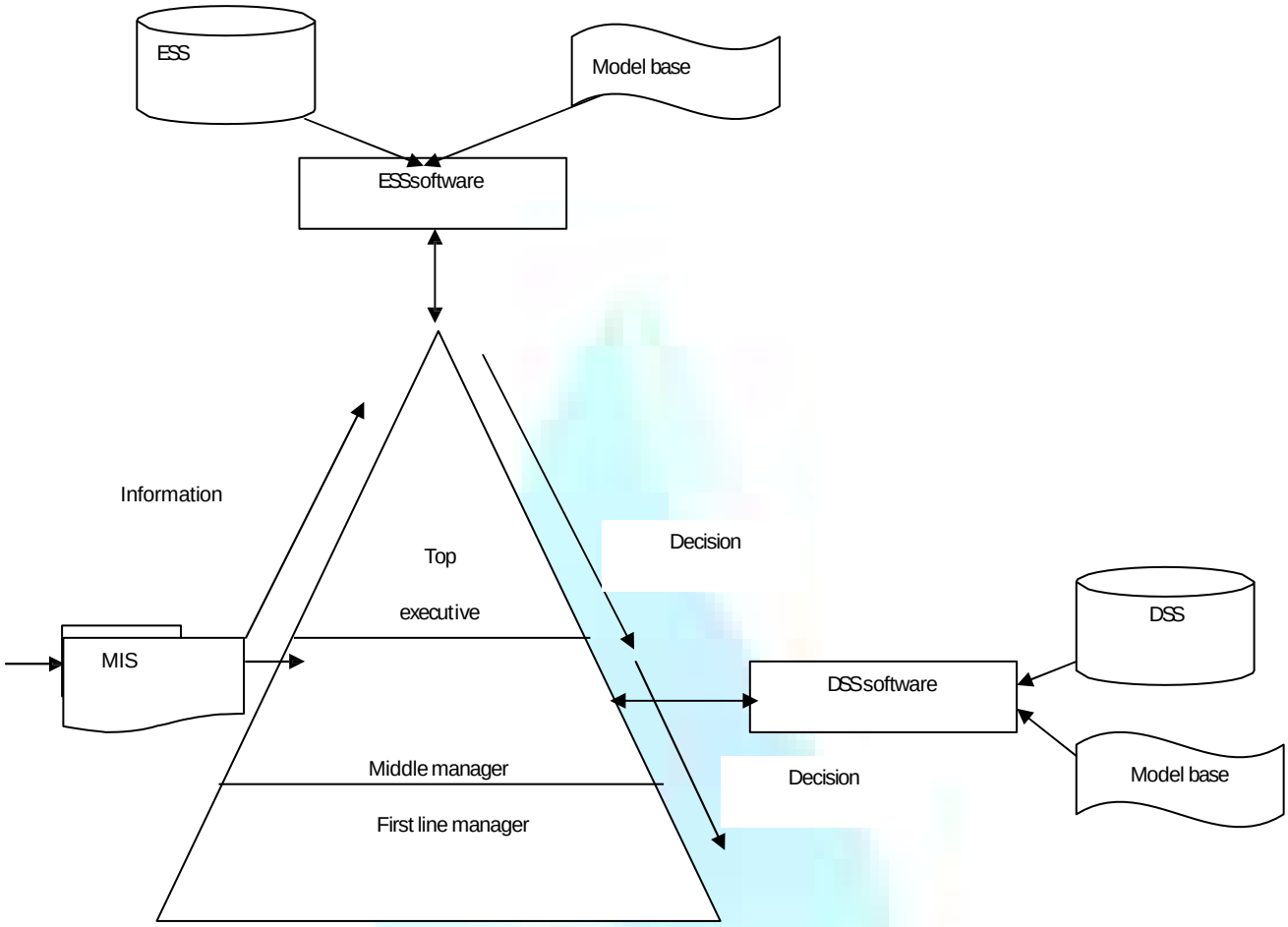


DECISION MAKING PROCESS OF MANAGEMENT USING MIS

In today's business, decision-making is very important. Wherever the level, management of the organization make decisions on the basis of information, information may be manual or may be computerized. MIS is one of the important information system applications that help the different level managers to take effective decisions. MIS directly helps the mid level manager by providing routine reports on the basis of TPS information that are collected from organizations' operational activities. DSS also facilitate the decision making process of semi-structured tasks. These systems are designed not to replace managerial judgment but to support it and to make the decision process more effective (Weihrich and Koontz, 2000). ESS also helps the senior manager by providing critical information from a wide variety of internal and external sources (O'Brien, 2003).

On the basis of information transferring process i.e. bottom–up and decision-transferring process i.e. top–down, middle level manager makes decision based on MIS reports and transfer information to the top executives that are strategic. Mid level manager gets strategic decisions from top executives for proper implementation.

FIGURE 3: DECISION MAKING PROCESS OF MANAGEMENT THROUGH MIS



CONCLUSION

Efficient managers are those whose decisions are effective. To do this, managers have to have insights and foresights on today's global information systems. Management Information System is an important weapon for the global world business managers to see the success of their organizations in a nearest day. MIS plays a vital role in the organization for taking right decision in a short time on the basis of gathered information from operation level of the organizations. Not only that but also it helps the strategic manager to take strategic decisions with the assistance of DSS and ESS. But, an important fact is that they must maintain to make balance between objective of the organization and the technological capabilities of the organization. So, MIS is a vital component of decision making task of managements in the organization in global business and information world.

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