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5.   **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.

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      INTRODUCTION

      REVIEW OF LITERATURE

      NEED/IMPORTANCE OF THE STUDY

      STATEMENT OF THE PROBLEM

      OBJECTIVES

      HYPOTHESES

      RESEARCH METHODOLOGY

      RESULTS & DISCUSSION

      FINDINGS

      RECOMMENDATIONS/SUGGESTIONS

      CONCLUSIONS

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- Use (**ed.**) for one editor, and (**ed.s**) for multiple editors.
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CONTRIBUTIONS TO BOOKS
- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

JOURNAL AND OTHER ARTICLES
- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

CONFERENCE PAPERS
- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19–22 June.

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MIS VS. DSS IN DECISION MAKING

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ABSTRACT
MIS means MANAGEMENT INFORAMTION SYSTEM. The Primary purpose of MIS is to help an organization achieve its goals by providing managers with insight into the regular operations of the organization so that they can control, organize, and plan more effectively. One important role of MIS is to provide the right information to the right person in the right format at the right time. In short, an MIS provides managers with information, typically in reports, that supports effective decision making and provides and provides feedback on daily operations.

KEYWORDS
Raw data, Quality information, Decision making, Intelligence phase, Design phase, Choice phase, Effectiveness, Efficiency, Profitability.

INTRODUCTION
The Management Information System is a collection of men, tools, procedures and software to perform various business tasks at various levels in the organization. Many organizations have separate MIS departments which are involved in maintaining records, performing transactions, report generations and consolidation of the important information which will be supplied to the various levels of the management. MIS has three basic levels: operational, middle management and top management where the information is passed from bottom to top. This paper is an attempt to design and develop the model of MIS for Birla Corporation Limited, which involves Attendance Capturing & Recording System which will be used in monitoring the staff, control over the irregularities and reporting to the top management and show how it is useful in decision making at top level.

FEATURES OF MIS
1. In any organization managers will have varieties of task to manage. MIS is mainly designed to take care of the needs of the managers in the organization.
2. Organizations will have different departments like marketing, production, sales, inventory, maintenance etc. Each of these departments function individually and also in relationship with other departments. Information is available in abundance. MIS aids in integrating the information generated by various departments of the organizations.
3. MIS also helps in establishing mechanism to eliminate redundancies in data.
4. MIS as a system can be broken down into sub system; each sub system may be programmed. This results in easy access of data, accuracy of data and information. It helps in maintaining the consistency of data.

NECESSITY OF MIS
Managers play a key role in any organization. They are responsible for taking decisions appropriate to the need of the market. Information systems have become the main tool used by managers in decision making. Mangers perceive information as the driving force to achieve success in any business. Hence there is a need of MIS. The impact of MIS on the functions is in its management. With a good support, the management of **marketing, finance, production and personnel become more efficient**. A well designed system with a focus on the manager makes an impact on the managerial efficiency. The impact is on the managerial ability to perform. It improves the decision making ability considerably.

CLASSIFICATION OF MIS
There are various types of management information systems. Mason and Swanson (1981) describe four categories of management information systems: (1) Databank information system, (2) Predictive information system, (3) Decision-making information system, and (4) Decision-taking information system. The classification is based on the level of support that the information system provides in the process of decision making. Sachdeva (1990) comprehensively presents these four types of systems:

Databank Information System: The responsibility of this information system is to observe, classify, and store any item of data which might be potentially useful to the decision maker. Each of these databases can be summarized and converted to single tabular presentations of information of interest to management. When information from two or more time periods is compared, trends can be observed.

Predictive Information System: This system moves beyond pure data collection and the determination of trends over time. Predictive information systems provide for the itself keeps the plane on course and at the proper speed and altitude (according to parameters determined by the pilot). Another example of decision-taking information systems is found in modem factory production. In automobile production, continuous inventories of parts are maintained by computer as cars move down an assembly line. Orders are placed automatically by the computer when additional parts are needed. This is done without the intervention of a manager.

DECISION MAKING PROCESS
In the 1950s, Herbert Simon and James March for the first time introduced a different decision making framework for understanding organizational behavior. Although they labored on the bureaucratic model by emphasizing on individual work in rational organizations and thus behaving rationally, their model added a new dimension: The idea that a human being's rationality is limited. By offering a more realistic alternative to classical assumption of rational in decision-making, this model supported the behavioral view of individual and organizational functioning. The model suggested that when an individual makes decision, he examines a limited set of possible alternatives rather than all available options. "He accepts satisfactory or good enough" choices, rather than insist on optimal choices. He makes choices that are good enough because he does not search until he finds perfect solution to a problem (Gordon, 1993). Simon divided kinds of decisions into two basic types: programmed and non programmed decisions.

a) Programmed decisions are routine and repetitive decisions, and the organization typically develops specific ways to handle them. For this kind of routine repetitive decisions, standard arrangement decisions are typically made according to established management guidelines.

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FIGURE 1: STEPS IN SIMON'S MODEL
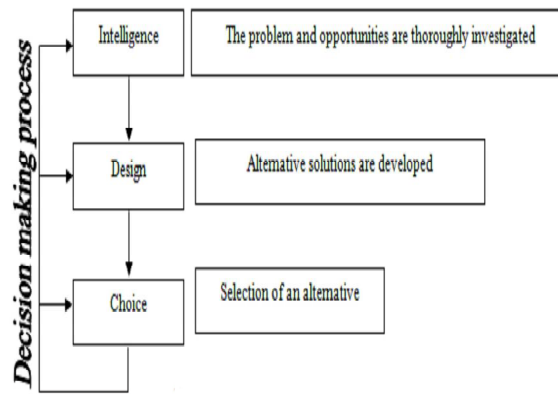
Source: Simon, 1997

b) Non-programmed decisions, in contrast, are typically one-shot decisions that are usually less structured than programmed decisions (Certo, 1997). Simon's model of decision-making has three steps (Figure 1). www.ccsenet.org/ijbm International Journal of Business and Management

After Simon, Huber (1980) expanded the model for decision making process and added two steps into Simon's model.

FIGURE 2: STEPS IN HUBER'S MODEL
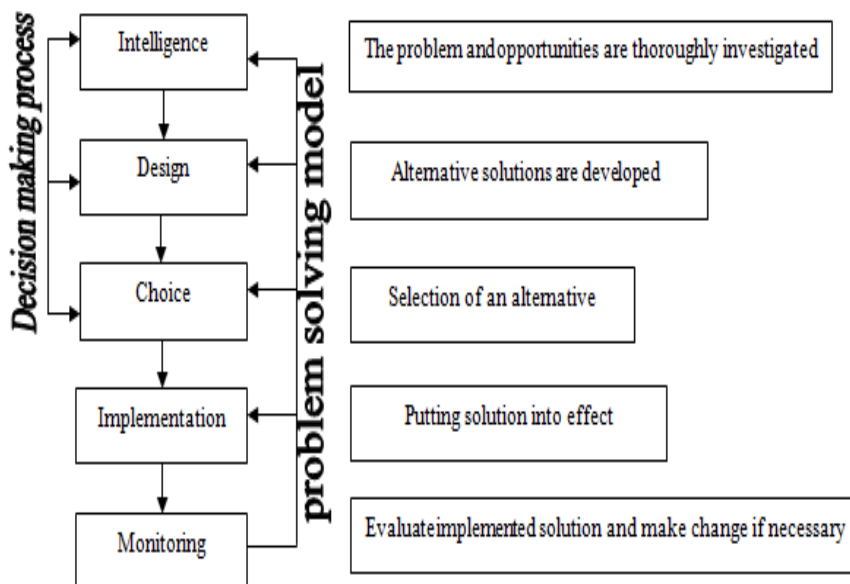
Source: Huber, 1980

After them, Gorry and Morton (1971) classified decisions by its structure into three levels; **structured decision,** in which the ingredients, or variables, that comprise a decision are known and they can be measured quantitatively.

Unstructured decision is one that the ingredients, or variables, that comprise a decision cannot be measured quantitatively.

Semi structured decision is in between structured and unstructured decisions. Usually most business decisions are semi structured. Then Gory and Morton continued on computer applications in terms of the degree of structure in the decision they are intended to make and the management level that they support (Gorry, Michael, 1971). Figure 3 shows the Gory and Morton grid.

FIGURE 3: THE GORY AND MORTON GRID

Source: Gorry & Michael, 1971

A review of decision making literature reveals that the core process of decision making process consists of mainly six steps which are shown in Figure 4 and Figure 5.

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FIGURE 4: THE SIX-STEP DECISION MAKING PROCESS
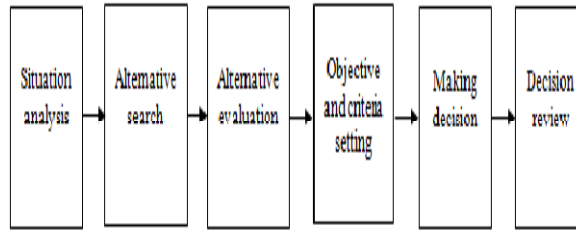
Source: Simon, 1997

Figure 5: The six-step decision making process in details
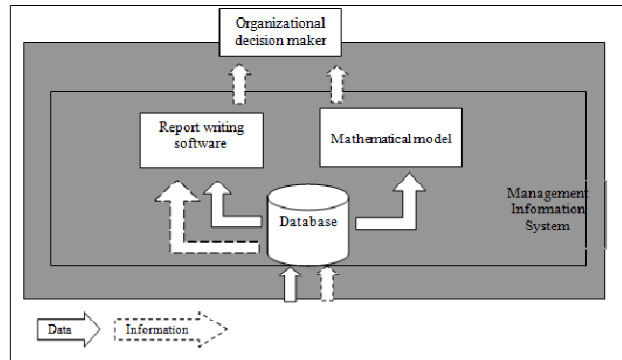
Source: Simon, 1997

The six-step decision making process increases the likelihood that a high quality, accepted decision will result.

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FIGURE 6: AN MIS MODEL

Questions	Stage
Do participate recognizing that the process has switched to evaluation? Are different of option include in the education? Are some alternative pilot-test?	**I Evaluation of Alternative**
Are group member clear that section is occurring? Are they awarding if they are satisfying or optimizing? Are group member committed to the decision?	**II Making The Decision**
Are responsibilities for data collection, analysis and reporting clearly assigned? Does a comprehensive evaluation plan exist? Does an evaluation schedule exist?	**III Decision Review**
Do participate recognizing that the process has switched to evaluation? Are different of option include in the education? Are some alternative pilot-test?	**IV Evaluation of Alternative**
Are group member clear that section is occurring? Are they awarding if they are satisfying or optimizing? Are group member committed to the decision?	**V Making The Decision**
Are responsibilities for data collection, analysis and reporting clearly assigned? Does a comprehensive evaluation plan exist? Does an evaluation schedule exist?	**VI Decision Review**

(Raymond, 1990)

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MANAGEMENT INFORMATION SYSTEM (MIS)

Management information system (MIS) is one of the major computer based information systems. Its purpose is to meet the general information need of all the managers in the firm or in some organizational subunit of the firm. Subunit can be based on functional areas on management levels. There are many definitions for MIS, but one of the most appropriate definitions describes management information system (MIS) as "an organizational method of providing past, present and projected information related to internal operations and external intelligence. It supports the planning, control and operation functions of an organization by furnishing uniform information in the proper time frame to assist the decision makers" (Waston,1987). The information in MIS describes the firm or one of its major systems in terms of what has happened in the past, what is happening now and what is likely to happen in the future. The information is made is available in form of periodic reports, special reports and output of mathematical simulations. All managers use the information output as they make decisions to solve the firm's problems (Raymond, 1990).

AN MIS MODEL

An MIS model is illustrated in Figure 6. The database contains the data provided by accounting information system. In addition, both data and information are entered from the environment. The data based content is used by software that produces periodic and special report, as well as mathematical model that simulate various aspects of the firm operations. The software output is used by people who are responsible for solving the firm's problems. Note that some of the decision maker might exist in the firm's environment. The environment will involve once the firm bonds together with other organizations such as suppliers to form an Inter Organizational Information System (IOS). In such case, the MIS supplies information to the other member of the IOS (Raymond, 1990).

MIS CHARACTERISTICS

In general, management information systems have a number of characteristic, which include the following:

➤ **Report with fixed and standard formation.** For example scheduled reports for inventory control may contain the same type of information placed in the same location on the reports.

➤ **Have report developed and implemented using information system personnel, including systems analysts and computer programmer.** Typically analysts and programmers are involved in developing and implementing MIS reports. User is normally involved in the design of the reports, but they are not typically involved in writing the computer programs to produce them.

➤ **Require formal request from user.** Because information systems personnel typically develop and implement MIS reports, a formal request to the information systems department for report is usually required.

➤ **Produce scheduled and demand reports.** The major type of reports produced by an MIS is scheduled; demand reports (Stair, 1992).

➤ **External data is not captured by the organization but is used by the MIS.** (i.e., customer, supplier and competitor information).www.ccsenet.org/ijbm International Journal of Business and Management.

THE ROLE OF MIS IN DECISION MAKING PROCESS

The MIS and its organizational subsystems contribute to decision making process in many basic ways. Nowadays, some of the organizations use MIS to assist managers for decision making. For example, to assist decision-makers in extracting synthesized information from a massive database such as the Current Public Transport Record (CPTR) of Durban (CPTR), the Durban Unicity Council decided to make use of a Public Transport Management Information System (PTMIS) developed by Stewart Scott. This system is for use by transport planners and managers (Louw et al, 2001). Power (2002) has stated that making decisions is an important part of working in business environment. Companies often make decisions regarding operational improvements or selecting new business opportunities for maximizing the company's profit. Companies develop a decision-making process based on individuals responsible for making decisions and the scope of the company's business operations. A useful tool for making business decisions is a management information system (MIS). Historically, the MIS was a manual process used to gather information and funnel it to individuals responsible for making decisions.

1 Organization–wide information resource: The MIS is an organization – wide effort to provide decision making process information. The system is a formal commitment by executive to make the computer available to all managers. The MIS sets the stage for accomplishments in the other area, which is DSS, the virtual office and knowledge based systems.

2 Situation analysis, problem identification and understanding: The main idea behind the MIS is to keep a continuous supply of information flowing to the management. Afterward by data and information gathered from MIS system, make decisions.

DECISION SUPPORT SYSTEM (DSS)

A decision support system or DSS is a computer based system intended for use by a particular manager or usually a group of managers at any organizational level in making a decision in the process of solving a semi structured decision (Figure 7). The DSS produces output in the form of periodic or special report or the results of mathematical simulations (Raymond, 1990). It is difficult to pinpoint that are completely structured or unstructured. The vast majorities are semi structured. This means that the DSS is aimed at the area where most semi structured decision is needed to be made.

FIGURE 7: THE DSS FOCUSES ON SEMI STRUCTURED PROBLEMS

Source: Raymond, 1990

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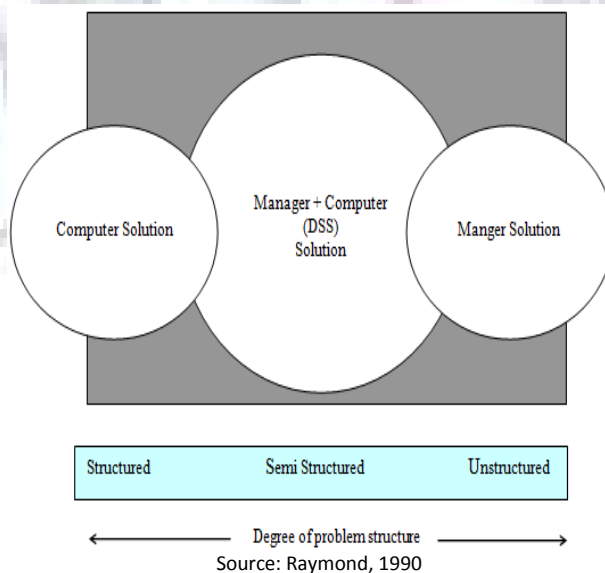
A DSS MODEL

A DSS model includes four parts as follows (Figure 8) (Raymond, 1998).

FIGURE 8: A DSS MODEL
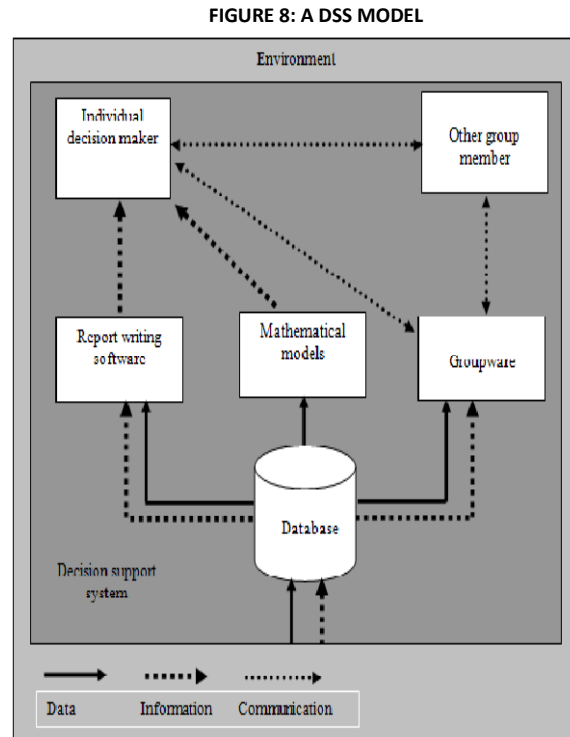
(Raymond, 1998)

- ➢ **Data base** produces both internal and environmental data, which are stored in the database.
- ➢ **Report writing software** produces both periodic and special reports. Periodical reports are prepared according to a schedule and typically they are produced by software, which is coded in a procedural language such as COBOL or PL/I. The special report is prepared in response to unanticipated information need and takes form of database by users who use the query language of a DBMS or fourth generation language.
- ➢ **Mathematical model** produces information as a result of either simulation that involves one or more components of the physical system of the firm or facts of its operations. Mathematical models can be written in any procedural programming language. However, special model languages make this task easier and have the potential of doing a better job.
- ➢ **Groupware** enables multiple decision makers, working together as a group, to reach solutions. In this particular situation, the term GDSS, or a group decision support system is used. Perhaps the decision makers represent a committee or a project team. The group members communicate with one another both, directly and by means of the group ware. The reports writing software and mathematical model have always been regarded as necessary DSS ingredients. As the DSS concept was broadened to provide support to two or more decision maker working together as a team or committee, the idea of special group oriented software or groupware, became a reality.

DSS CHARACTERISTICS

Decision support system has a number of characteristics, which include following:
- ➢ **DSS provide support for decision maker mainly in semi structured and unstructured situations** by bringing together human judgment and computerized information. Such problem can not be solved (can not be solved conveniently) by other computerized systems, such as MIS.
- ➢ **DSS attempts to improve the effectiveness of decision-making** (accuracy, timeliness, quality) rather than its efficiency (cost of making the decision, including the charges for computer time) (Davis & Olson, 1985). www.ccsenet.org/ijbm International Journal of Business and Management.
  DSS provides support to individuals as well as to groups. Many organizational problems involve group decision-making. The less structured problem frequently requires the involvement of several individuals from different departments and organizational levels.
- ➢ **Advanced DSS are equipped by a knowledge component**, which enables the efficient and effective solution of very difficult problems (Turban & Aronson, 1998).
- ➢ **A DSS can handle large amount of data** for instance advanced database management package have allowed decision makers, to search database for information. A DSS can also solve problems where a small amount of data is required.
- ➢ **A DSS can be developed using a modular approach.** With this approach, separate functions of the DSS are placed in separate modules - program or subroutines-allowing efficient testing and implement of systems. It also allows various modules to be used for multiple purposes in different systems.
- ➢ **A DSS has a graphical orientation**. It has often been said that a picture is worth a thousand words. Today's decision support systems can help managers make attractive, informative graphical presentations on computer screens and on printed documents. Many of today's software packages can produce line drawing, pie chart, trend line and more. This graphical orientation can help decision makers a better understanding of the true situation in a given market place.
- ➢ **A DSS support optimization and heuristic approach**. For smaller problems, DSS has the ability to find the best (optimal) situation. For more complex problems, heuristics are used. With heuristic, the computer system can determine a very good-but not necessarily the best- solution. This approach gives the decision maker a great deal of flexibility in getting computer support for decision making activities.
- ➢ **A DSS can perform "what – if" and goal – seeking analysis.** "What – if "analysis is the process of making hypothetical change to problem data and observing impact of the results. In with" what – if "analysis, a manager can make changes to problem data (the number of automobiles for next month) and immediately see the impact on the requirement for subassemblies (engines, windows, etc.) (Stair, 1992).

THE ROLE OF THE DSS IN THE PROCESS OF DECISION MAKING

Previously it was mentioned that the MIS is best suited in identifying problems and helping managers understanding them to make suitable and correct decisions, but the main weakness of MIS is that it is not aimed at the specific need of the individual and group decision makers. Very often the MIS does not

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provide exactly the information that is needed to solve problems for individual and group decision making. DSS is tailored to the specific need of the individual and group managers. Therefore, the DSS can extend this support through the remaining steps (in objective and criteria setting, alternative search, alternative evaluation, making the decision and decision review) of the decision making. Finally DSS has more roles in decision-making and problem solving than MIS (Raymond, 1998). The other researches such as the following confirm this idea: Uma (2009) has stated that a Decision Support System is an integrated set of computer tools allowing a decision maker to interact directly with computer to retrieve information useful in making semi structured and unstructured decisions. Example of this decisions include such things as merger and acquisition decisions, plant expansion, new product decisions portfolio management and marketing decisions. Nokhbatolfoghahaayee et al (2010) have introduced a fuzzy decision support system (FDSS) with a new decision making structure, which can be applied to manage the crisis conditions in any large scale systems with many parameters. After receiving both functional variables of the system and fault signals, the FDSS makes proper decisions to make up and repair the distorted situation and the affected elements of the network according to its data base established through experience gathered from expert managers and decision models properly developed. These decisions are expressed in the form of some scenarios with different desirability degrees, which are determined by some properly developed fuzzy multi-criteria decision making methods, helping the manager choose the best one according to his discretion. Alonso et al (2010) have presented an implemented web based consensus support system that is able to help, or even replace, the moderator in a consensus process where experts are allowed to provide their preferences using one of many types (fuzzy, linguistic and multi-granular linguistic) of incomplete preference relations. These studies show the important and role of MIS during managers' decision making process.

DISCUSSION

Managers in all levels of organization hierarchy need precise and suitable data and information to make decisions that increase organizational performance. Such concept suggests an informational need of supervisory level is different from top level. At the same time the type of information also at each level is different. At lower level, supervisors need defined, clear, precise, quantifiable and internal organizational information but at the top level a manager needs undefined, future oriented, infrequent, summarized, relatively, non quantifiable and mostly external information. Such concept is illustrated in Figure 9. Quantifiable information could be gathered from external environment if suitable. Management Information Systems are placed in organizational information system such as CSCWS, GDSS and ESS. And some of organization environment elements such as www.ccsenet.org/ijbm International Journal of Business and Management socio-cultural factors like birth rate, population rate, competitor's share of market and so on could be quantifiable data and be considered and used it the process of top level management decision making process.

FIGURE 9: INFORMATION AND DECISION-MAKING
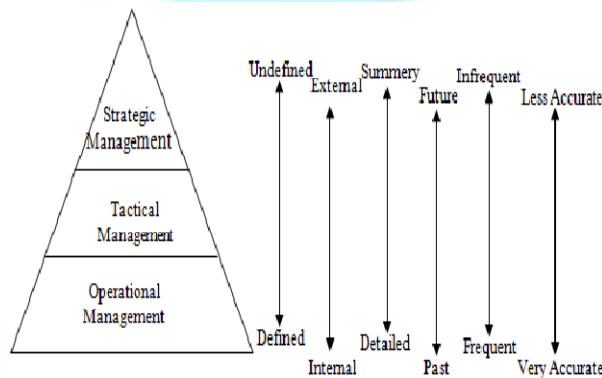

Source: Certo, 1997

In general, different kinds of data and information are suitable for decision-making in different levels of organizational hierarchy and require different information system to be placed. Such system could have explicit effect on each step of decision process in solving problems. At the same time each information system can not fulfill complete information needs of each level, but rather different information systems if integrated in different levels could satisfy information needs of a level and at the same time fulfill part of information needs of other levels. For example TPS fulfills the lower level needs of an organization but MIS furnishes data and information for lower and middle level management needs. On the other hand, DSS furnishes information for middle level and higher level of organizational hierarchy and ES fulfills only higher level managerial needs. Clearly by segregating each IS, its particular function could be recognized and it's overlapping distinguished. The role of different information systems is depicted in Figure 10.

FIGURE 10: ORGANIZATION AND INFORMATION SYSTEM

Source: Davis & Olson, 1985

The perceived concepts, which are based on the role of MIS and DSS in the decision making process, especially with emphasize on MIS and DSS which provide information services for middle and higher level managers in the process of decision making are integrated in Figure 11.

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FIGURE 11: TRANSFERRING DATA FROM EDP SYSTEM TO DBMS AND MANAGERS' DECISION MAKING PROCESS
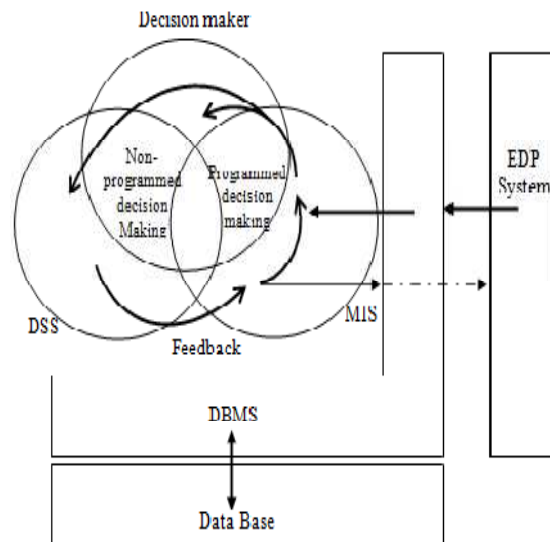
In Figure 11 it could be noted that data from EDP system transfers to DBMS and helps managers to make programmed and non-programmed decisions (Note 2). The flow of data after moving from EDP system to DBMS will move from MIS level to DSS and at the same time part of processed data will be restored in EDP system.

CONCLUSION

The paper entitled 'MIS is an Effective Tool to Decision Making' gives an impact on the important function of top management. It is also used to generate the reports with the help of advanced technology having maximum characteristics of good information by which the decisions are to be taken related with the functionality of management decisions. The MIS model developed specifically helps HR managers to keep the control on working of the staff at various levels. The system has been tested for above module in Birla Corporation Ltd. The Reports generated are as per the format by which it will help top management to take decision concerned with human resource in attendance recording and capturing which is one of the basic needs of any organization.

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