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Information Systems and Administrative Decision Support

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Abstract – Information has become a key resource to manage modern businesses. This is because the business world of today is fluid, dynamic, turbulent and demands for accurate, relevant, timely, complete and inexpensive information to drive the decision making process to enhance organization's capacity to manage opportunities and threats. MIS works with a medium processing speed in online mode. In general, low-level administration is utilized. The decision-making support system provides a significant instrument for companies, managers and other top authorities to decide the problem. Management Information Systems is a valuable tool which allows managers to make accurate decisions and give structured and summarized information to decision makers in a timely manner. In the study, the idea, features, MIS kinds and MIS model are discussed, and the influence and function of MIS in decision-making are highlighted in especially. There are several IT systems such as TPS, DAS, KWS, MIS, DSS, ES, CSCWS, GDSS and ESS in today's corporate sector. In organizational structure and decision-making, each has a distinctive role. Two key information systems were picked by the authors in this paper, MIS and DSS. After the discussion on each idea of the decision-making process, the features, relationships and linkages of each idea to the decision-making process were established. At the same time, the discussions will be enhanced and the position of each MIS and DSS information system in the corporate decision making will be clearly illustrated by various model and figures.

Keywords – Administrative, Decision, Information, Systems, Support etc.

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INTRODUCTION

The decision-making role of the information system, Kostetsky was one of the first authors to write in 1966 on a linkage between information systems. The information management system offers knowledge about the organization's relative situation and basic working forces. It gives the proper information in decision-making and helps enterprises to successfully control, plan and perform operational tasks (Leonard, 2008). Furthermore, Ajayi, I. A. and Omirin, Fadekem investigated the use of management information systems in decision-making on long-term planning, short-term planning and budgeting in the South-West Nigerian Universities. The data was collected by a stratified random sample methodology and concluded that there were substantial differences in the usage of MIS for budgetary decisions between federal and national universities for federal institutions. In order to ensure a free flow of information and proper use of MIS in short-term and long-term decision making the authors advocate effectively financing MIS units The two major information systems, MIS and DSS, examined their features, links and links to the decision making process for each idea, and Asefeh Asemi discussed the two primary information systems. The link between MIS and decision making is the same in Srinivas Nowduri's consumption. The process of making decisions and their effects on top-level management in a company was discussed with a focus on automated decision-making.

INFORMATION SYSTEM

As technology continues to expand, information system is continuously changing and growing. We basically have a wide variety of information systems such as information system management, decision support system, transaction processing system, expert system. However, we are discussing information and decision support systems for management. This method helps to reduce management in issue solving and decision-making in the management information system (Manian,2011). They also use the outcome of the transaction processing. There are a number of functions in information processing. It should deal with inquiries as they come. Database is an important component of the information management system. They help superior management make long-term judgments in

the decision support system. Such systems deal with non-structured decisions or half-structured decisions.

Transaction Processing System (TPS)

This is also known as a system for data processing. It plays a crucial function in the collection and management of the organization's everyday transactions. They are used at the organization's operational level. For example, buy payroll, booking, invoicing, payment, shipping, registration, orders and sales transactions.

Expert System (Specialist) (ES)

The decision assistance system is extended. It is a scheduled information system which gathers and reproduces expert knowledge and expertise, and then replicates that expert's thoughts and actions to benefit users with fewer skills. These applications are carried using the technology of Artificial Intelligence (AI). The computer-based technology artificial intelligence is capable of behaving like people, learning languages, and imitating human skills and decision-making.

Office Automation System (OAS)

A variety of commercial operations are supported by this system. Office systems are software that enhance workflows and connect with employees irrespective of their locations. The typical bureau system maintains documents (through word processing, desk publishing, image of documents and digital files), planning and communication (via electronic calendars) (through electronic mail, voice mail and video conferencing). A large range of businesses is supported in this system. Office systems are apps that aim to optimize workflow and connect with employees irrespective of physical locations. A standard bureau system organizes and organizes documents (through word processing, desktop publishing, imaging and digital document filing), scheduling and communication (via electronic calendars) (through electronic mail, voice mail and video conferencing).

DECISION SUPPORT SYSTEM (DSS)

Decisions are a fundamental part of corporate life. Decision makers receive and analyse data on a wide range of media including conventional printing, group and interpersonal exchange information and computer technologies. Decision Support Systems (DSS) provides information systems that enable analytical modeling and enhance group productivity.

MANAGEMENT INFORMATION SYSTEM (MIS)

A notion of the last ten or two years is the Management Information System (MIS). In several ways it was understood and described. The information system, the information and decision system and the computer based information system are also known (Davis & Geist, 2004). Definition of Information Systems Management: The MIS is characterised as a system for providing information assistance for organizational decision-making (Barton & Parolin, 2005). The MIS is characterized as an integrated human and machinery system which provides information to assist organizational operations, management and decision making (Bendoly, 2008). The MIS is described as a system based on the organization's database designed to inform the organization's people. The MIS is described as an information system based on computer (Bresfelean, 2009) and semi-structured and unstructured decision making information in support of organizations. Common DSS features include:

- Problem structure, used in semi structured and unstructured decision context
- Intended to support and augment decision makers not replace them
- Supports most phases of decision-making process
- Uses underlying data and model
- Interactive: DSS is designed to be an interactive decision aid

Types of Decision Support System

There are a lot of assistance systems for decision making. They may be divided into five types: DSS-driven communications, DSS-driven data, DSS-driven document, DSS-driven knowledge and DSS-driven model. DSS-driven communication structured and unstructured decisions Ezine, James, 1998. (Power, 2002). The support scheme for decisions can assist groups in deciding the matter. It should not be accountable for the decision-making process. It is straightforward to utilize the decision support system. A user must not be a computer operator for report generation. DSS should be used easily by the user (Singh & Sharma, 2012). It provides a shared job for more than one individual. Many employees work together to decide if a solution or plan should be put into action. The majority of DSSs driven by communication are aimed towards internal teams, including partners. A web server or customer server is the most typical technology for deploying DSS. The most important tools to promote communication-driven decision-making are groupware, newsletter boards, audio and video conferences. The DSS approach, with data driven, emphasizes data acquired and then modified in order to meet the demands of the decision maker. This data might be indoors, outside and in a number of forms. This paradigm stresses the access to and handling of a series and occasionally external and in real time data from within companies. The basic level of functionality is provided by simple file systems accessible via query and retrieval tools. Managers,

employees, and also product/service providers are targeting most data driven DSSs.

Difference of MIS and DSS

Two acronyms in the realm of business management are regularly encountered in the MIS and DSS area. In a few ways, they vary. We need to realize that MIS is Management Information Systems, whereas DSS is Decision Support Systems. Interestingly, MIS is a kind of connection that helps to communicate in businesses or organizations amongst managers of different disciplines. In general, it has a very essential function to play in developing communication between companies. On the other side, the DSS represents an upgrade in the MIS notion. It is true that the focus of both of them differs. DSS concentrates more on management. All it means in a company with an innovative perspective. Senior management. On the other hand, the MIS concentrates more on the information collected from various quarters and the information it has spewed forth. Management experts claim that DSS is more concerned with decision-making.

On the other hand, MIS concentrates more on developing a report on different organizational issues that would help the managers to make crucial choices about the organization's operation. MIS focuses on operational efficiency whereas DSS is more focused on making efficient decisions or helping the firm do the right things, is one of the best contrasts between MIS and DSS. In the case of MIS, there is information flow from both sides. Only in the case of DSS is the other data flow upwards. The report may be customizable for DSS, while the report is often not adaptable for MIS. MIS is defined by big data intake, a summary report output and a straightforward model method. On the other hand DSS is featured by an input of low volume of data, an output of decision analysis and a process characterized by interactive model. Experts would also say that MIS is a primary level of decision making whereas DSS is the ultimate and the main part of the decision. This is one of the most frequently spoken about.

Types of Decisions

It is a dilemma of choosing between various of the decision-making processes Decision - the process by which organizational members take precise action to deal with dangers and opportunities (George and Jones, 1996: 428). Good judgment leads to activities which aid an individual, group or organization, the contrary is the case. Every organization will develop, flourish or collapse as a result of its membership decisions, and Daft decisions (2001: 399) can without success be dangerous and unpredictable. Simon (1984), a renowned decision-making expert, thinks decision-making to have four main phases:

- Intelligence- searching the environment for conditions calling for decision making.
- Design- inventing, developing and analyzing possible courses of actions. This involves processes to understand the problem, to generate solutions and testing of solutions for feasibility.
- Choice- selecting an alternative or course of action from those variables.
- Review - assessing past choices. This model was later incorporated by George Huber into an expanded model of the entire problem-solving process.

LITERATURE REVIEW

Agwu C, C. Adeola, R. O. Etefia, C.F. Ogwn, J.N. (2010), Study evaluated the effects of information systems on organizational decision-making indicated that MIS is a systemic database procedure for providing information to managers in companies to do this duty efficiently and effectively. The ideal push to create new database entries will be the information accessible in due time and with proper and full material form. Accurate decision is based on the functional department information and MIS has developed a method to offer managers a successful decision in the business process to further analyze it and with the appropriate form of intelligence manager. Information system for support of strategic decision-making, organizational planning and organizational goals is a vital component of commercial organizations.

Al-Nakib Noofal Ahmed Mohsen Mohammed, Wang Hu (2005), The study has indicated that MIS is significant to the business sector and its validity depends on the degree of structural genuine information and procedure to operate in an accurate and effective manner amongst stakeholders. MIS may deliver intelligent information to all the key departments that will affect the decision of the personnel and its decision-making activities of the organization. Higher information system quality leads to a high degree of global market strategic activity.

Brynjolfsson, Erik (2002), Determined consumer welfare information technology Information technology increases customer value by offering its user and even the consumer a high-quality service and quick solution to meet their products or services needs. In business process organization, IT arose with the huge competition. Different approaches design different tools to deliver a solution and find the required solution simply over the network. All the organization's stakeholders are connected by the software programme and play with one click to learn the status of the specific order, task or pending tests.

David, Julie Smith, David Schuff, and Robert St. Louis (2002), The management of IT as total ownership costs was described. The problems of IT infrastructure management and management

systems must be equity investment and account for effectively implementing the process in accordance with the needs of the company. Infrastructure investment is one of the major problems. Guidelines include adopting a model of competitive strength to decide how much IT infrastructure must be spent, where strategic infrastructure expenditures are to be made, and the overall cost of IT assets being owned.

Hickey, Ann M. and Alan M. Davis. (2004), A unified paradigm of requirement generation has been explained. MIS is based on the ICT concept for information and communication technology management information system. ICT concept. In order to manage day-to-day business and help in the strategic plan, ICT is the notion on which MIS examines its major business process. Key areas in which management must ensure that optimal use of the information management system through information and communication technology is achieved as part of the performance. It is up to top management to develop awareness and guide personnel through technical workshop training and incentive to make the greatest use of hi-tech for business transactions to build greater understanding of the new technology and applications included in the business situation.

Jawdekar (2006), Clarified The decision-making role of MIS, There are various functional departments and hierarchical level inside a certain company. Study. All such information systems integrated by MIS for the establishment of an integrated database include a production system, manufacturing system, monetary system, marketing system, logistical system, asset management and inventory control system. It guides management to make suitable decisions to satisfy customers and achieve business success.

Li Bin, (2005), Analyzed the analysis and applications of a DSS aided decision-making system, the information system has shown that structural bases and effective decision-making is an appropriate and systematic process and helps solving the crucial problem and obtaining information which is useful for the completion of business processes operations. MIS has a defined manner to utilize it, and allows the employee to access it according to the functional area. Critical analyses and evaluations carried out by the many techniques of debate and stimulation are the consequence of an effective conclusion.

Philip G. (2007), Explained Information System Operational efficiencies Strategic Planning, mentioned that the prescribed data collection system was designed to achieve and improve the performance of employees in a specific way in order to achieve their business goals and determine certain business criteria to process as an organization value added service through MIS.

Power D.J. (2002), The development of the decision-making support system, the concept, and management resources have defined the maximum expansion in the world of information, technological progress and unified communication. It facilitates the acquisition of reliable and quick information on any business transaction difficulty. The controlled information system provides the correct information to resolve the problem. Through the ability of MIS to assess the database of the information system and to process communication power inside the company, the internal and external environment collaborated in reports created by MIS.

Scott, Judy E. and Iris Vessey (2002), Risk review and management in the installation of enterprise systems. In the enterprise system, the risk element is always there but management needs to identify and enhance the SAP R/3 deployment process. The association between the risk factor is articulated at the first level. Evaluating the optimal use of technology in the framework of growth strategies is a hallmark of current technological acceptance. The information system is a process of an objective system, which must be updated for quick use by new company application and communication techniques to make it more alive in the users' organization.

Vittal A. and Shivraj K. (2008) Explained the significance of IT and KM in enhancing project management performance, MIS collects data from several sources. The centralized database is complex in scope and critical of retail studies, sales and manufacturing reports and decisions based on those databases. Any of the company stakeholders are updated by means of knowledge databases via the secure organization network on all modifications and new regulations and regulations. The information system of management has had a substantial impact on the organization's strategic and economic success.

OBJECTIVES OF THE STUDY

- To identify elements of MIS process in decision making.
- To determine MIS applications are support to corporate goal.
- To determine MIS process of internal control are ethical and generous.
- To evaluate IS of MIS need expert and skillful managers to its service.

RESEARCH METHODOLOGY

Research Design and Sample Size

The study will serve as an assessment of the crucial function of the information system in decision-making for the district organization Thane. The studied populations are the organizational managers

from the district of Thane. Details of its turnover and production standards for business organizations will be obtained by selecting 50 organizations, 25 organizations from the public sector and 25 organizations from private organizations. Survey aimed to represent the situation through effective database analysis due to its adequacy and strength. I got 500 respondents from 50 institutions and dispersed the question among 10 respondents from the selected organizations on the basis of probabilistic sampling approach. The primary data source acquired by means of the questionnaire and received back in the same way as the respondent was dispersed, i.e. via a questionnaire, personal observations and interviews. The acquired data will be taken together using frequency-based % approach and examined with the assistance of the data acquired from the respondent for two alternative hypotheses.

Research Method and Technique

Here is the way of survey utilized as a research process record using a questionnaire instrument. The collected data is tabled and using the Frequency-Based Percent approach to summaries the data for additional hypothesis statements tested using the Z procedure. It's the best way to understand the outcome. Hypothesis testing attempts to claim population percentage (p) for a certain population characteristic such as budgetary restriction hurdles that restrict MIS expansion and lack of managerial skills hinder MIS performance. The test has two hypotheses that do not overlap.

There few more features of z test for one population proportion:

- Z test can be two tailed left-right tailed depending upon in no effect situation.
- Test statistics is approximately normal through the sample distribution
- The p value is probability of obtaining sample result as extreme or more extreme than the sample result obtained, under the assumption that null hypothesis is true.
- The formula for z statistics:

$$Z = \frac{P - Po}{\sqrt{Po(1 - Po)/n}}$$

The test performed an interval of confidence of 95% and an important level of 0.05. The rule of decision will be that if Z is lower than the critical value (1.96), it will accept that if the hypothesis tested does not reject the following. Financial constraints do not constitute a major cause of combating good MIS management in other than a district. The questionnaire is the primary tool used to gather the data.

DATA INTERPRETATION AND DATA ANALYSIS

This study further assessed how MIS plays an essential function in the company in making it more productive and how intellectual performance of the management may enhance the MIS to make more profit. During the research, 500 questionnaires were sent to assess a Thane District management information system's function in decision making. The data are collected from public and private sector organizations, while 490 questionnaires have been returned, 480 of which are legitimate and helpful. This is 96%, excellent enough as it is trustworthy for the exam.

CONCLUSION

In addition to the range of corporate information systems, the key concerns in this piece were MIS and DSS. MIS was determined to be the greatest way to detect and understand problems and manage them in making appropriate decisions. At the same time, the MIS is not intended to address unique needs of decision-making by individuals and groups. In contrast, DSS is adapted to individual and group managers' unique needs. It might thus be inferred that DSS may extend its help to the same decision-making phases and has more function in decision-making and the resolution of problems than MIS. Because of various practical restrictions, certain steps can be taken and others deleted in the decision-making process. The one that is preferable to the others is crucial to consider. Other information systems can be analyzed for decision-making by management in future activities and compared to the DSS and MIS.

No emphasis may be placed on the function of information in decision-making. Appropriate, timely and relevant information is required to make effective decisions. MIS delivers precise and timely information needed to aid decision-making and to enable businesses to efficiently perform their operational, control and planning duties. MIS is also vital in presenting the decision-makers with a broad variety of simplified alternatives from which to decide, ensuring that the results are more likely than not beneficial, regardless of whether the decision makers make decisions. This, in fact, is why many policymakers prefer to use MIS tools when making critical business choices. As a known idea, MIS ensures good decision making in our enterprises. In this debate, the focus of the decision support system is on decision-making whereas the focus is on information in the management information system (MIS).

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