

Creating Awareness of Management Information System and Its Advantages in Business Performance: A Review of Literature

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Abstract: Management Information System (MIS) is a very important tool for business organizations due to the value of information that is provided for effective decision making. This paper explores four literature reviews that attempt to demonstrate the management information system concept and its impact on business performance. The following reviews, however give a good insight into the MIS understanding. Mosud(2013) has given an explanation of the impact of information system and decision making in the insurance sector. Administrator of National Bank (1990) in Comptroller's Handbook has described the importance of implementing MIS for risk assessment. The difference between MIS and DSS has been selected by Safari and Zavareh(2011) for their study and the MIS book by Waman S Jawadekar(2012) has detailed the MIS from a digital firm perspective.

Keywords: MIS, DSS, Decision Making, Information, EMS, Digital Firm

I. Introduction

Information is a vital resource for any organization and it needs to be managed in an effective way. Management Information System (MIS) focuses on information organizing and evaluating and makes it useful for completing tasks and activities in an organization. The MIS is adding value to business organizations and providing a competitive advantage in different aspects. Saving time, reducing cost, simplifying the nature of work inside organizations are some benefits of MIS. Management information system provides information for all management activities in an organization and that can assist in decision making, problem solving, risk assessment and strategic planning.

The MIS is basically concerned with processing data into useful information and providing it to all departments in an organization. This data is processed by a computer system that includes input, processing, output and controlling.

Management information system has the potential for business development by increasing the customer satisfaction, improving the quality of information and improving the quality of communication. MIS positively creates an impact on all business functions such as finance, production, human resources, marketing and others through developing management system for each function individually and integrates them for better accessing.

The MIS is defined as components of people, procedure, hardware and software interacting with each other to provide information for decision making. An effective decision cannot be taken without appropriate information and for that reason the MIS has the ability to provide the right information to decision makers at the right time and right place.

The main purpose of MIS is to present and organize the information on the past, present, future or any relevant events and then make it available to all levels of management for taking effective and efficient decisions. In MIS regular and routine reports are generated for monitoring an organization as a whole by top managements and providing feedback about managers' performance.

II. Literature Review

A research paper by Mosud (2013) has given insight into the impact of information systems and decision making in Insurance Sector (Nigeria). This study field survey Reponses from senior management staff in five insurance companies to test how information systems use for decision making. The aim of information system in organizations is to provide information to the management for more accurate planning, monitoring and controlling of business .Information systems are classified into transaction processing systems, management information system, decision support system and executive support system. Statement of the problem has identified as the growing need for information for managers and the main research question is what are the effects of information systems on management decision making in the insurance sector? The hypotheses have been tested whether there is a significant relationship between information system and management decision and if information systems provide relevant, timely and accurate information for effective decision making. From the result and discussion it is clear that the number of respondents is 140 and it appears that the majority

of the respondents strongly agree that there is a significant relation between information systems and management decision making. It was also exposed that 62.14% strongly agree that the Information system produces relevant timely and accurate information for effective decision making. In findings the study revealed the information systems produces meaningful information for insurance companies, support the problem solving and decision making and helps the industry to perform calculations and process their works fast.

In Comptroller's Handbook of Management information systems by Administrator of national banks (1995) MIS has defined as a system or process that provides the information necessary to manage an organization effectively. Risk reflects the expectation of events that could adversely affect earnings or capital. In any organization management implement MIS for assessment of risk and MIS may increase risk in some areas. A flawed MIS causes operational risk and can extend to all levels of operations when poor programmed or non-secure systems are used. To effectively provide feedback tool for management and staff MIS must use the elements of usability: timeliness, accuracy, consistency, completeness and relevance and to achieve sound MIS organizations should take into consideration MIS at both the tactical and strategic levels. Management needs to ensure that MIS systems are developed according to a sound methodology obtaining the phases of system analysis, designing, programming, development of user instructions, training and testing of system, system installation and maintenance. It was also indicated that examiners should base MIS reviews on an evaluation of whether the systems provide management with information necessary to guide operation, support timely decision making, help management monitor progress toward reaching institutional goals and objectives. Rolls of a subject matter expert (SME) should be identified especially in large companies where MIS is fully implemented. SME must have a thorough and complete understanding the business supported by the MIS under review.

The role of management information system and decision support system for managers decision making process is a research paper done by Safari and Zavareh(2011). The variety of information systems have been explained and authors have selected two information systems, namely MIS and DSS , studied their characteristics , relations and connection of each concept to decision making process. The different types of information systems are transaction processing system (TPS) , office automation system(OAS), knowledge work system(KWS),management information system(MIS), decision support system(DSS),expert system(ES),executive support system(ESS) and group decision support system(GDSS). The decision making process has discussed and Simon divided decisions into two basic types: Programmed decisions and Non – programmed decisions. There are six-steps for decision making process: situation analysis, alternative search, alternative evaluation, objectives and criteria setting, making decision and decision review. All those process increase the quality of decision. The purpose of the MIS is to provide information to all managers in a particular organization and that can lead to an effective decision. In MIS model, database contains the data provided by accounting information system and both data and information are entered from the environment. Decision support system (DSS) is also selected for this study. It is a computer based system intended for use by a particular or usually a group of mangers at any organizational level in making a decision in the process of solving a semi structured decision. A DSS model includes four parts; data, paper writing software, mathematical model and groupware. To summarize the role of MIS and DSS according to the authors in this study, MIS is a best suited in identifying problems and helping managers understanding them to make suitable and correct decision and DDS is aimed at the specific need of the individual and group decision maker.

It was suggested that an informational need of operational or middle levels are different to top level, thus, different types of data and information are suitable for decision making in different levels of organizational hierarchy and require different information system to be placed. The MIS furnishes information for lower and middle level needs. On the other hand the DSS furnishes information for middle and higher level of organizational hierarchy.

In Management Information System book by Waman S Jawadekar(2012) with the sub title "A Digital-Firm Perspective" with the text and case studies included for the reader to understand the concept and get the perspective to apply at job level. This book highlights on the information needs of digital firm for running the business in an efficient and effective way. Customer satisfaction, the emphasis on business and strategic performances are important aspects to understand the real benefit of MIS currently. The e-business enterprises have become completely digital and hence known as Digital Firms. Thus the focus of MIS in these digital firms is shifted from 'just in time information 'to just in time information where action is eminent'. The highlights that make this edition different to the previous once are: Introduction to digital firm – real time enterprise, traditional report oriented design of MIS replaced by strategic design of MIS. MIS design in a digital firm focusing on strategy and performance and information security in a digital firm.

The MIS has defined as an integrated system of man and machine for providing the information to support the operations, the management and the decision making in the organization. Management information system plays very important role in organizations by ensuring that an appropriate data is collected from various resources, processed and provide it to all levels of management in the form of information. It creates an impact

on the organization's functions, performance and productivity. Management information system also have impact on society, quality life and impact on privacy, ethical issues, intellectual property, copy right and patents.

As mentioned above The MIS design for a digital firm has to focus on business strategy. Focusing on the strategy, Management Information Systems along with E-business enterprises aims at paradigm shift to e-enterprise. The difference between Conventional organization and e-enterprise and strategic Management of Business helps to understand the corporate planning, business analysis for strategy Development and various business strategies. The information Security Challenges in E-enterprises give insight about the factors affecting the security of information, scope and objective, security threats, utility of Firewall, Encryption and Authorization. In Strategic management of business performance, aspects such as corporate planning, strategic planning, business analysis and types of business strategies should be clear for any organization to perform the business in an effective way. To manage information systems efficiently Information security challenges in E-Enterprises should be defined for avoiding risks.

Managers need to understand some aspects when developing the MIS in organization, those aspects are: System analysis and design are the basic things in The MIS development, understanding of decision making processes, quality of information and its support to decision making and understanding of MIS development methodology is important for using structured system analysis and design (SSAD) and objected system analysis and design (OOSAD). A rational decision making is the one which effectively and efficiently ensures the achievement of the goal for which the decision is made. Herbert Simon describes decision making processes as intelligence, design and choice, the MIS follows those processes in its developing. There are important factors on the relevance on the concepts of decision making and MIS. The MIS takes into consideration those factors to turn out the best design that can make the decision making more effective. In MIS information is valuable for taking the decision because it creates an intelligent human response in mind and gathering useful information can build the knowledge and this knowledge has to be managed in proper way by knowledge management system. In Organizations information is considered as one of the major resources and it has to be managed well. The advancement of computer technology makes the information precious and from that point the MIS is needed.

Any system has three parts, input, process and output, concepts like OOA, OOSAD, UML and its diagrams lead to an effective system analysis and design. To develop MIS for better business, organizations must associate the business goals and MIS goals to make the relationship between those goals and business strategy. Strategic management process is very complex and needs strong information to enable organization to achieve its long term goal and objectives and to fulfill that, implementing and designing of MIS is highly required and that is called a strategic design of MIS.

Business and industry is divided into two sectors, manufacturing and services, MIS can support both with different applications and decision support system (DSS) plays very important role in both sectors. Personal, financial, production and raw materials managements are the areas where we can find MIS application in manufacturing sectors. Query, analysis, decision making and controls are the applications needed under those managements. The data processing applications like payroll, accounting and inventory are required in both sector but they may not be all necessary to the service industry. DSS helps in making a decision as well as in its performance evaluation. It provides additional information to support complex decision making.

Computer, electronic, communication, video and audio technologies have brought a new aspect of business performance, all technology tools support all needs of the business. Integrated solution and the systems offering an enterprise wide management support, this integrated solution is called as the enterprise management system (EMS).

MIS managers should understand technologies tools for selection to drive the information system in the right way. Technologies such as database and client, server architecture, communication network, E-business data warehouse and business intelligence are very important for managing the information system in organizations. The choice of information technology is a backbone of MIS and reaching the degree of success in the MIS depends on how information technology is implemented. The E-business uses networking, communication, internet and computing technologies to change the business scenario, it has moved from regional to global level and getting more knowledge.

The nature of management information system has completely changed, reporting has become more online and real time is linked to business at point in time. Currently the MIS is customer and performance focused and MIS in E-business talks more in trends analysis, causes and effects.

III. Conclusion And Suggestion

According to the literature reviewed in this paper, it is clear that information is a very important resource in organizations and MIS provides this information for decision making, which means there is a significant relation between MIS and decision making.

The MIS also helps in risk assessment at all levels of operations in companies. The Decision support system provides additional information for analyzing complex decisions and that makes it different to management information system. The E-business enterprises have become completely digital and the role of MIS in the digital firms is to focus on strategies, performances, and customer satisfaction and information security.

For future study, it is suggested that the impact of information systems on levels of management, their differences, similarities and internal controls should be studied in details. Problems and risk that MIS may solve and assist in firms must be identified clearly for increasing knowledge. Current trends in MIS have brought a new concept and understanding and shifting to that level requires more focusing and realizing the actual work in E-business enterprises and delivering the ideas from authentic work.

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