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**ROLE OF MANAGEMENT INFORMATION  
SYSTEMS IN DECISION MAKING FOR  
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# Role of Management Information Systems in Decision Making For Organizations

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**Abstract – Network security is by far the greatest concern for many companies and they rely on their IT staff to prevent or stop these system breaches. Read more about the basics of computer security here. Data overload is becoming an increasingly important issue since many businesses are processing large amounts of data on a daily basis; with many of them not have the processing power to do so. Last, but not least, two of the most essential skills needed from IT professionals are teamwork and communication skills. Systems are complex and people are needed to help translate that task. Therefore, IT professionals are the ones responsible for helping others get their work done efficiently without the complex jargon of the technology world. It encompassed transistors and integrated computing capability advanced while device cost and energy consumption fell lower, a cycle that continues today when new technologies emerge.**

**Keyword: Information, Technology, Management**

## 1. INTRODUCTION

When information was first transposed from study, the available technology was restrictive in the amount and type of information that could be stored. Using and making sense of the technology required the specialized skills of programmers who managed and explained the internal workings of this structured data to the rest of the organization. For 30 years these newly formed IT departments used rigid hierarchical batch systems to manage the small subset of information that was stored in their databases. These systems were brittle in the sense that making a change to them took time, money and required specialized skills. In the 1980's a fundamental shift took place, the older batch and brittle systems gave way to a new model of real-time flexible systems motivated by the structured information model's change from "hierarchical" to "relational." This change was not driven out of performance but from the self-describing nature of the relational model (albeit within the constraints of a SQL schema.) Self-description allowed business users to query data without needing programmer's skills, systems were able to connect to other systems and provide straight through processing and business users became good at analyzing the self-describing information using business intelligence tools. The profound effect of self-description led to the \$40 billion per year market we now call the "data processing" market. So to the present day, where we find that structured data systems still contain only a

subset of the information universe found in every organization – 20% by most leading analysts accounts. What's happened to the 80% originally study based information that did not become structured information? To start with it's called "unstructured information" and initially it remained in filing cabinets. Over time it migrated into image management systems, shared folders, and finally content management systems. IT departments indexed the unstructured information and created search engines for retrieval. Unfortunately, the unstructured information still resides in a batch and brittle world where change requires specialized technical skills, the information is housed in silos and cannot be processed by other systems and being content-bound, the information is hard to unlock and analyze in the way that a structured data resource allows. So the simple answer to the question "How is information management developing?" is to compare what we do today with the good definition that Gartner provides and expect business demand to close the gap. Ideally we see that information needs to be unconstrained by organizational and technological boundaries and yet today it is still separated as structured or unstructured, internal or external – hardly unified information set. Business is increasingly demanding a complete view of information that is trustworthy and easy to process and analyses in an unconstrained way. In order to take this step and enable unified information, the unstructured information needs to break out of its

batch and brittle environment and become "self-describing." This requires a technology that solves a different set of challenges than those associated with structured data. Yet this is what needs to happen if the whole information set is to become – process-able, analyses and addressable as a whole Content Intelligence is the technology and approach that makes unstructured information self-describing. Such self-description means that content-based information can be described in the same way as structured information. Once in this form, the structured and unstructured can be unified.

## 2. REVIEW OF LITERATURES:

Management information systems encompass a broad and complex topic. To make this topic more manageable, boundaries will be defined. First, because of the vast number of activities relating to management information systems, a total review is not possible. Those discussed here is only a partial sampling of activities, reflecting the author's viewpoint of the more common and interesting developments. Likewise where there were multiple effects in a similar area of development, only selected ones will be used to illustrate concepts. This is not to imply one effort is more important than another. Also, the main focus of this study will be on information systems for use at the farm level and to some lesser extent systems used to support researchers addressing farm level problems (e.g., simulation or optimization models, geographic information systems, etc.) and those used to support agribusiness firms that supply goods and services to agricultural producers and the supply chain beyond the production phase. Secondly, there are several frameworks that can be used to define and describe management information systems. More than one will be used to discuss important concepts. Because more than one is used, it indicates the difficulty of capturing the key concepts of what is a management information system. Indeed, what is viewed, as an effective and useful management information system is one environment may not be of use or value in another. Lastly, the historical perspective of management information systems cannot be ignored. This perspective gives a sense of how these systems have evolved, been refined and adapted as new technologies have emerged, and how changing economic conditions and other factors have influenced the use of information systems. Before discussing management information systems, some time-tested concepts should be reviewed. Davis offers a commonly used concept in his distinction between data and information. Davis defines data as raw facts, figures, objects, etc. Information is used to make decisions. To transform data into information, processing is needed and it must be done while considering the context of a decision. We are often awash in data but lacking good information. However, the success achieved in supplying information to decision makers is highly variable. Barabba, expands this concept by also adding inference, knowledge and wisdom in his modification of Haechel's hierarchy

which places wisdom at the highest level and data at the lowest. As one move up the hierarchy, the value is increased and volume decreased. Thus, as one acquires knowledge and wisdom the decision making process is refined. Management information systems attempt to address all levels of Haechel's hierarchy as well as converting data into information for the decision maker. As both Barabba and Haechel argue, however, just supplying more data and information may actually be making the decision making process more difficult. Emphasis should be placed on increasing the value of information by moving up Haechel's hierarchy. Another important concept from Davis and Olsen is the value of information. They note, "in general, the value of information is the value of the change in decision behavior caused by the information, less the cost of the information." This statement implies that information is normally not a free good. Furthermore, if it does not change decisions to the better, it may have no value. Many assume that investing in a "better" management information system is a sound economic decision. Since it is possible that the better system may not change decisions or the cost of implementing the better system is high to the actual realized benefits, it could be a bad investment. Also, since before the investment is made, it is hard to predict the benefits and costs of the better system, the investment should be viewed as one with risk associated with it. Another approach for describing information systems is that proposed by Harsh and colleagues. They define information as one of four types and all these types are important component of a management information system. Furthermore, the various types build upon and interact with each other. A common starting level is Descriptive information. This information portrays the "what is" condition of a business, and it describes the state of the business at a specified point in time.

## 3. ROLE OF INFORMATION SYSTEM IN IMPROVING DECISION MAKING:

Management Information Systems is a highly complex and delicate arena that calls for a lot of caution to be taken by its managers. It is for this reason that it is recommendable for organizations to ensure that they carefully select the individuals who are placed to control the systems. The more cautious and professional a person is, the better the person gets an assurance of positive prospects of in MIS with regards to decision making and other related areas of business (Lingham, 2006). Having clearly delineated that, what then are some of the scholarly arguments, facts, opinions and observations made by various macroeconomists with regards to the roles of Management Information System in improving decision-making? To begin with, MIS provides a fitting platform for good decision-making (Kumar, 2006). Essentially, without the established systems of getting information in MIS, it would be extremely difficult for organizations to make their decisions. This is because they would be forced to

making baseless information due to the lack of confirmed information. Moreover, MIS normally lays a firm foundation for the establishment of concrete decisions through its systematic tools, timely information and adequate managerial policies and regulations. Furthermore, Management information Systems statutes regarding businesses act as guidelines to business owners when making critical decisions about their businesses. As a result, managers and key decision makers are bridled from overstepping their boundaries or exceeding their business mandate. This is very crucial as it helps in keeping businesses checked and balanced thus ensuring that only proven decisions are considered while the untried ones are thwarted. More importantly, the capacity to guide decision-making facilitates progress and improvement of the operations in a company (Lingham, 2006; Chambers, 1964, pp. 15-20). In addition, most MIS programs are endowed with the capacity to give real-time updates of the occurrences in company or system. By real-time, scholars simply refer to immediate updates of occurrences in a system. These immediate updates help managers to take necessary actions as soon as is deemed appropriate especially during the discovery and management of crises. This augments progress and improvement in company operations through timely decision-making. This is important for companies in the modern-day generation where any slight lapse in decision making can lead to very huge losses (Allen, et al., 2010) Still, Management information systems are very elemental improving company securities (Davenport & Short, 1990). For example, in many instances, most management information systems can be easily programmed by the owner to conduct certain actions at certain times. In effect, managers can program the system to perform certain routine checks, which can help in improving efficiency of a company through easy discovery of bugs or problems. Furthermore, the programmability of most MIS saves a lot of priceless time and resources for owners. In other words, through programmability, business managers can program the systems to automatically discover certain deficiencies and even solve them.

#### **4. MANAGEMENT INFORMATION SYSTEMS AND BUSINESS DECISION MAKING**

Descriptive information is very important to the business manager, because without it, many problems would not be identified. Descriptive information includes a variety of types of information including financial results, production records, test results, product marketing, and maintenance records. Descriptive information can also be used as inputs to secure other needed types of information. For example, "what is" information is needed for supplying restraints in analyzing farm adjustment alternatives. It can also be used to identify problems other than the

"what is" condition. Descriptive information is necessary but not completely sufficient in identifying and addressing farm management problems. The second type of information is *diagnostic* information, this information portrays this "what is wrong" condition, where "what is wrong" is measured as the disparity between "what is" and "what ought to be." This assessment of how things are versus how they should be (a fact-value conflict) is probably our most common management problem. Diagnostic information has two major uses. It can first be used to define problems that develop in the business. Are production levels too low? Is the rate earned on investment too low? These types of question cannot be answered with descriptive information alone (such as with financial and production records). A manager may often be well supplied with facts about his business, yet be unable to recognize this type of problem. The manager must provide norms or standards which, when compared with the facts for a particular business, will reveal an area of concern. Once a problem has been identified, a manager may choose an appropriate course of action for dealing with the problem (including doing nothing). Corrective measures may be taken so as to better achieve the manager's goals. Several pitfalls are involved for managers in obtaining diagnostic information. Adequate, reliable, descriptive information must be available along with appropriate norms or standards for particular business situations. Information is inadequate for problem solving if it does not fully describe both "what is" and "what ought to be." As description is concerned with "what is" and diagnostics with "what is wrong," *prediction* is concerned with "what if...?" Predictive information is generated from an analysis of possible future events and is exceedingly valuable with "desirable" outcomes. With predictive information, one either defines problems or avoids problems in advance. Prediction also assists in analysis, when a problem is recognized, a manager can analyze the situation and specify at least one alternative (including doing nothing) to deal with it. Predictive information is needed by managers to reduce the risk and uncertainty concerning technology, prices, climate, institutions, and human relationships affecting the business. Such information is vital in formulating production plans and examining related financial impacts. Predictive information takes many forms. What are the expected prices next year? What yields are anticipated? How much capital will be required to upgrade production technologies? What would be the difference in expected returns in switching from a livestock farm to a cropping farm? Management has long used various budgeting techniques, simulation models, and other tools to evaluate expected changes in the business.

#### **CONCLUSION:**

The need for high quality information has never been greater. Information managers and executives have

the task of knowing what information the business needs and having the means to make it readily available. Companies predictably mature in their use of information, though decisions made early on in building an information framework can affect the pace of that maturity. These decisions can either help a company's progress along the Information Evolution continuum or hinder it. The company can face a costly retooling effort if products selected to solve problems at one stage of maturity cannot adapt to a new paradigm.

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