Application of Management Information Systems for Business Decision Making: Review, Study and Suggestions

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Abstract
The part of Management Information Systems is defined and scrutinized in light of its competency for decision making. Decision making process and its bearing on top brass in a business organization is described with prominence on automated decision making. Confining and challenges of Management Information Systems are discoursed and a set of six endorsements proposed for swellings the effectiveness of MIS in the decision making process.

Keywords

I. Introduction
Information Systems can be theorized in terms of three sorts of systems: Transactional Processing Systems (TPS), Management Information Systems (MIS) and Expert Systems. MIS has numerous subsets such as Executive Information Systems and Decision Support Systems. The part of MIS in decision support is best debated in the context of the subset denoted to as Decision Support System (DSS). A DSS is a computer based system (an application program) proficient of scrutinizing an organizational (or business) data and then presents it in a way that aids the user to make business decisions more competently and meritoriously. It is chiefly an informational application which depends on the information already input while responding to a given query. For example, a decision support system could render:
• Consequences of different decision alternatives, given past experience.
• Projected revenue figures built on new product sales suppositions.
• Comparative sales figures for one week/month and the next.

At times there is an overlay between the extensive categories of IS and a DSS could be gifted with presenting information graphically through an expert system or artificial intelligence (AI). Frequently the DSS is put into action by all levels of people within a business outfit. Top level management uses DSS for strategic decisions, middle management uses for tactical decision while first line supervisors use it for day-to-day operational decisions. Therefore, the procedure of decision-making in any business is an intrinsically vital aspect not just for outfit but also for individuals who significantly bank on these decisions for their existence in the extremely competitive arena of entrepreneurship (Al-Zhrani, 2010, p.1249-1251) [1]. More notably, Management Information System has been a progressively used tool in the institutionalization and making of decisions. DSS are a subset of MIS, for intelligent decision making. However, despite the enormous profits that upshot from using MIS in decision making, some critics have, reportedly, been sluggish—but surely—proclaiming that MIS poses conquerable detrimental effects to outfit and should thus be used frugally or eluded if possible (Demetrius, 1996) [2]. According to Kumar (2006) [3], in order to express MIS, it must be predominantly alienated into the three facets that constitute it—which are: management, information and systems. In furthering his ideas, Kumar simply outlines management as the process through which managers plan, organize, initiate and evaluate operations within their businesses. Fundamentally, a management can only exist when there are subjects/ workers to be managed (Al-Zhrani, 2010, p.1248-1252; The Maniac, n.d.) [1, 12]. Kumar also states that information commonly refers to analyzed data. In other words, information (with regards to business) results from data that is evaluated using business statutes, principles and theories advanced by numerous macroeconomists. Lastly, system, according to Kumar, refers to “A set of elements united together for a common objective.” More often than not, business systems at large consist of smaller systems—deemed as subsystems—which all function towards ensuring efficacy of the huge systems. As a matter of fact, systems diverge from one organization to another depending on the nature of organizational operations, size of the businesses and organizational priorities among several other prominent factors. Based on the foregoing definitions, Management Information Systems denotes to a system that uses information so as to ensure apposite management of businesses. Profoundly, all the aspects of MIS run concurrently in order to ensure overall efficiency of the total system. Failure in one part means overall failure for the other parts since they are all devised to work interdependently (Davenport & Short, 1990) [4]. Consequently, a good management of information systems gives rise to good decision making in venture just in the same way poor management gives rise to poor decision making. It is grounded on this foundational notion that this paper is going to circumspectly scrutinize the functions of management systems in decision making. Remarkably, this study will be organized as follows. The study will commence by giving a concise outline into the decision making process in businesses while establishing the point in which it links with MIS. From here, an expansive investigation and analysis will be done on the functions of MIS in revamping decision making. This will then be trailed by a stating of the questionable areas allied with MIS and decision making. After that, endorsements will be given to crack the underlying issues that upshot from the paper. Lastly, a conclusion will be rendered to abridge the contents of the paper.

II. Main Discussion
Function of MIS in cultivating decision making preliminarily, it is inherent to state that decision making is a vital part of any business (The maniac, n.d.) [12]. This is because a majority of actions in an outfit rotate around decisions made by the management and other strategic stakeholders in the outfit. And in order for decision to be made passably, it is vigorous for there to be a good information system since decisions are constructed on information available. In relations to this, Jahangir (2005) [5] states that based on the noteworthy role that information plays in choice of decision to be
made, outfits must ensure that they have a virtuous management information system. As an outstanding general observation, a good MIS ensures good decision making just in the same way bad MIS propel the formation of bad decisions. UStudy.in (2010) backs the above thought by saying that “The worth of managerial decision-making depends unservingly on the quality of accessible information” and the managers should consequently cultivate an environment that boosts the evolution and viable budding of quality information.

Essentially, before deciding on which MIS strategy to use, it is vivacious to ensure that the choice made is wholly compatible with your existing system. This will not only aid in avoiding erratic choices but it will also save you the time and money that would have been otherwise misused by that person (Jahangir, 2005; Rhodes, 2010) [5] [6]. In addition to that, it is remarkable for the MIS strategy or tool used to be in line with the decisions that are to be made. In other words, there should be a joining point between the decision to be made and the MIS to be used by individual or corporate business owners (Jarboe, 2005) [7].

As a significant consideration, Management Information Systems is a greatly complex and delicate arena that calls for a lot of caution to be taken by its administrators. It is for this reason that it is recommendable for outfits to ensure that they cautiously select the individuals who are placed to control the systems. The more thoughtful and professional a person is, the better the person gets an assurance of positive prospects of in MIS with respect to decision making and other associated areas of business (Lingham, 2006) [8].

Having visibly explained that, what then are some of the erudite arguments, facts, views and observations made by countless macroeconomists with regards to the functions of Management Information System in revamping decision making? To commence with, MIS offers a suitable platform for upright decision making (Kumar, 2006) [3]. Basically, without the established systems of receiving information in MIS, it would be tremendously tough for outfits to make their decisions. This is because they would be forced to making groundless information due to the want of confirmed information. Besides, MIS generally lays a steady foundation for the establishment of solid decisions through its systematic tools, timely information and suitable managerial policies and protocols.

Besides, Management Information Systems’ statutes regarding businesses act as guidelines to business owners when making critical decisions about their trades. As an outcome, managers and important decision makers are curbed from overstepping their restrictions or exceeding their business mandate. This is very decisive as it aids in keeping businesses checked and well-adjusted thus ensuring that only proven decisions are well-thought-out while the untired ones are thwarted. More significantly, the capacity to guide decision-making facilitates progress and improvement of the operations in a company (Lingham, 2006; Chambers, 1964, p.15-20) [8].

In addition, most MIS programs are endowed with the capacity to give actual updates of the occurrences in company or system. By real-time, scholars purely denote to immediate updates of occurrences in a system. These instantaneous updates help managers to take essential actions as soon as is deemed appropriate—especially during the discovery and management of crises. This augments progress and improvement in company operations through well-timed decision making. This is significant for companies in the modern-day generation where any minor lapse in decision making can give rise to very huge losses (Allen, et al., 2010) [9].

Still, Management information systems are very fundamental refining company securities (Davenport & Short, 1990) [4]. 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 accomplish certain repetitive checks which can aid in improving efficiency of a company through easy discovery of bugs or problems. Besides, 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 robotically discover definite deficiencies and even crack them.

Therefore, the manager or system operator can put into action the time and resources he/she would have used in observing or fixing problems for other crucial uses. By routinely programming a Management Information System, the business is bound to make positive progress since time and resources can be simply directed into rightful business paths (Allen, et al., 2010) [9].

As a central point, a good number of MIS used nowadays can accomplish multiple tasks all at the same time. This potential to multitask surges efficiency in a company since several business operations can be directed concurrently. With special regards to decision making, the capacity to multitask confirms that decisions are made hastily when compared to those systems which can only grip one task at a time.

Closely related to the above point, Jahangir (2005) [5] states that some MIS allow multiple users to access the same content all at the same time deprived of any discrepancies. This potentiality increases accountability from the business operators since multiple people can access certain content and verify whether they are constant or whether they are not. As a matter of fact, most outfits tend to suffer due to poor answerability from those charged with the mandate to accomplish certain details. This safeguard action of some MIS is what macroeconomists denote to as the “gate-keeping” role of MIS in decision making and overall welfare of the organization.

On another level, a good number of MIS play the role of record keeping or institutionalization of data bases that can effortlessly keep confidential or invaluable information. In essence, decision making often calls for the reading of definite past work (Jahangir, 2005) [5]. This is where record-keeping comes in handy. On the flipside, databases generally function towards providing future places of information retrieval. Predominantly, the record keeping and data-basing instruments of MIS certainly ensures that decisions are made viably while businesses run effortlessly.

In contributing to the arguments concerning role of MIS in refining decision making, Rhodes (2010) [6] also adds that: Management information systems offer managers rapid access to information. This can embrace interaction with other decision support systems, information inquiries, cross referencing of outside information and potential data mining techniques. These systems can also compare strategic objectives with practical decisions, offering managers a sense of how their decisions fit organizational strategy.

In summary, Rhodes modestly considers that management information systems are a mammoth contributing factor in the getting of viable information from outfits. Sadly, very few organizations have been able to keenly take up on this role and even lead other outfits in the society in doing the same. It is for this cause that there has been a limited enhancement in decision making grounded on the tailoring of viable information. A straight
way of solving this challenge is given later in this paper under suggestions.

As a cautionary point, outfits should not wholly bank on automated systems—particularly when the decisions to be made have contrary implications to the organization. This is grounded on the supposed observation that auto systems may occasionally be defective and thus need frequent periodic monitoring (Demetrius, 1996) [2]. So in order not to fall a victim of over-relying on automated systems, Jahangir (2005) [5] advises managers and company owners to confirm that they trace out an equilibrium in utilizing the human element in functioning while assigning some tasks to the automate system. By amalgamation the duties of these two extremes, Jahangir states that, this will confirm that both ends of the organization carry on to actualize together while maximizing the potential for each side through check and balances of processes done by the management.

Again, MIS is well-known for vesting its operations on systematic methods of operations. Remarkably, this ensures that decisions made in a business are methodical and well-planned—which, in effect, inspires objectivity during decision making. As a result, businesses and the decision-making process are upgraded through its systematic and orderly formula of operating (Jawadekar, 2006, p.363-370) [10].

Jahangir (2005) [5] adds that the principles, strategies and modes of operation in MIS can be rationally used by macroeconomists to filter between good and bad decisions. Once the sieving is done, virtuous decisions are refreshed while the bad ones are suspended and greatly discouraged. Effectually, this ensures positivity in terms of decisions made by organizations—which, essentially, associates up directly to revamping the decision making process.

A good number of scholars amass that MIS inclines to be a more practical business tool with testable approaches of operations. Its proposition and arguments, therefore, deliver tangible information that can be used to make authenticated decisions (Jawadekar, 2006, p.350-355) [10]. This is in prodigious contrast with a majority of business tools, present today, which are mostly hypothetical. In effect, decisions instituted on MIS tend to be exact and feasible when compared to its counterparts—which, in turn, boost improvement of business decisions.

Lastly, Management Information Systems show the vital role of providing a wide range of rationalized options from which decision-makers are able to make their favorite choices Vittal & Shivraj (2008, p.359-361) [11]. Vitality, this confirms that whatever choices are made by decision makers, the aftermath, more often than not, becomes constructive. This, as a matter of fact, is the reason why many decision makers incline to prefer using MIS tools when making hard business choices. And as famous concept, having good decision choices promises viable decisions in our business ventures (Vittal & Shivraj, 2008, p.360-365; Jawadekar, 2006, p.356-359) [11] [10].

### III. Conclusion and Suggestions

1. In spite of the positives allied with the functions of MIS in decision making process, there are a few challenges that are supposed to limit the worth of MIS. These include:

2. MIS is more of a science-oriented arena while business is art-oriented. Accordingly, tracing out a middle ground where the two can be connected is quite perplexing to some people.

3. The institutionalization, programming, monitoring and assessing MIS necessitates a lot of expertise — something which several organizations lack.

4. The running of MIS programs inclines to be relatively overpriced for some organization—particularly small ones who are not well-endowed monetarily.

5. The dynamic nature of MIS makes it tough for some outfits to keep up with the principles, strategies, propositions or even ideas.

6. Different circumstances call for diverse decisions to be made. This positions challenges to MIS theorists since some MIS incline to not be flexible.

7. Most outfits do not have a well-defined decision making system. So even with the exact MIS tools, very little can be accomplished in terms of revamping decision-making.

Grounded on these confines the following suggestions are suggested:

8. Managers and business owners should trace out a way of tailoring information in a way that it fits several decision making processes in different businesses.

9. The management should boost the effectuation of a reciprocally codependent and balanced MIS where workers and automated systems are controlled with due respect.

10. A well-defined decision making system should be fledged in businesses so as to deliver a feasible working environment for MIS.

11. Business entities should trace out a way inculcating teachings about new MIS in order to diminish the inclination of businesses being left behind on new inceptions.

12. There should be an amplified monitoring of MIS so as to evade falling victims of unnoticed MIS which has dire consequences.

13. Business managers must confirm that they employ (or alternatively outsource) professional personnel who are able to fervently run both MIS and the decision making process. Principally, it is intrinsic to note that in spite of the fact that this paper is meaningfully analytical, more research needs to be done in order to bring more information into public know how. Besides, business owners must learn to cope up with the ever varying trends in MIS and decision making, without which it will be very perplexing to make positive growth in decision making. Lastly, it is vivacious to remember that improvement in decision making is primarily meant to ensure customer satisfaction while businesses last to flourish in success. All MIS strategies should consequently be tailored in a way that the above mentioned business goals are realized.

### References


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