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THE IMPACT OF MANAGEMENT INFORMATION SYSTEMS QUALITY ON THE EFFECTIVENESS OF STRATEGIC DECISION-MAKING PROCESS: AN EMPIRICAL STUDY ON THE SAUDI TELECOMMUNICATIONS COMPANIES

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Management Information Systems Quality (MISQ) expresses set of features and attributes that characterize the MISQ and lead to meet managers' needs at all managerial levels in order to reach an effective strategic decision. The administration becomes mere structures without MISQ because it serves as a core competence for any organization that seeks to expand and success. Due to this importance, the purpose of this research is to investigate whether the MISQ impact the effectiveness of strategic decisions in the Saudi telecommunications companies through determining the influence of MISQ dimensions (time dimension, content dimension, and form dimension) on strategic decision-making process. This could be achieved through a field study (questionnaire) and by using statistical analysis to illustrate this impact.

Keywords: Management Information systems, Quality Management, Information systems, Quality Dimension, Strategic Decision-Making Process

INTRODUCTION

Organizations are operating in an environment characterized by dynamic, fast changing and transformation features. This leads to the existence of a complex and overlapping problems, where organizations face a challenge characterized by severe competition, business globalization, trend towards creativity and innovation, in addition to change and diversity of the customers' needs (Dong, 2009). The awareness and understanding of the advantages and features of management information systems

and its role in the effectiveness of decision-making have clearly increased, this in turn force the organizations to abandon the traditional means in the ways of collecting, processing, organizing, storing, and retrieving information required for the formulation of a particular decision (Sayed, 2015).

Since information systems represents a core competence in the decision-making process, being a process by which a selection of the best alternative among a group of available alternatives, it is considered as a main access to

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the work of organizations in the modern era. It also represents one of the most important inputs to the decision making process for any organization, and an effective tool through which managers use in the decision making process; thus contributing to the achieving of the organization's goals (Alnagar, 2008). Therefore, all managers' at all organizational levels must assure the quality of information systems, especially those involved in strategic decision-making process, on the organization as a whole level. Most of the managerial decisions linked to the future, and so the information systems that serves these decisions usually takes a view of expectations. These expectations could not live up to the confirmed facts; thus, management information must enable the decision-maker to reduce the uncertainty associated with the decisions. To achieve this, management information systems must be characterized with both the quality and modernity. Moreover, the economic value of management information systems is determined in light of its ability to reduce uncertainty and the degree of its quality and modernity (Banihani, 2008).

Strategic decision-making process is considered from the basic functions of managers at all organizations. And since the telecommunications sector represents a fertile environment for decision-making at all managerial levels, the researcher believes that the strategic decision-making process is affected by a variety of factors that contribute to have an access to effective decision including informatics as one of the core competence upon which the decision making process depend. This is because information systems represents a fundamental and important entrance that managers depend on when formulating and taking many of their

decisions. Furthermore, to ensure the safety of this approach there was a clear necessity to verify the information systems quality which involved in the strategic decision-making process. This study has come to shed light on the MISQ, and the role that can be practiced in the production of strategic decisions reflected positively on the organizational performance.

METHODOLOGY

The problem of this study lies in the answering of following main question: to what extent is that management information systems quality have an impact on the effectiveness of strategic decision-making process from the managers' perspective in the Saudi telecommunications companies. This is done so through identifying management information systems quality dimensions, which managers relied on when formulating their strategic decisions, and through the identification of the role of management information quality in effectiveness of the strategic decision-making process from managers' perspective in the Saudi telecommunications companies.

This study depends on the following hypothesis: there is a statistically significant influence for management information systems quality dimensions (time dimension, content dimension, and form dimension) in the effectiveness of strategic decision-making process in the Saudi telecommunications companies. This study depends on a field survey to the sample of the study by using a questionnaire. The unit of analysis in this study is the senior manager, deputy directors, departments and branches managers, heads of departments and employees in the population of the study.

ORGANIZATION'S INFORMATION

Information is the interpretation and translation of data. The interpretation is fulfilled by the data processing. Treatment may include analyzing, classifying, and summarizing data in order to reach a certain meaning that could be of great benefit (Bhatt, 2010).

Managing information give it many characteristics, which includes: (1) the ability to combine and Storage. (2) The ability of processing effectively. (3) The ability to tab information in specialized consistent categories. (4) The possibility of concluding a correct information from incorrect or confusing one for the purposes of usage and benefit. (5) The possibility of verifying information (Besson, 2012). It is not possible to confine the benefits to be derived from the information, where the management information systems is considered as one of the key assets of the organization that contribute to its strength and continuity. The most prominent benefits that managing information contribute to achieve (Asfour, 2012):

1. Creating a knowledge base to solve technical and management problems which lead to the development of the organization and increase its administrative efficiency.
2. Keystone Correction: information is considered as a good control means because it saves many expenses that the organization may carry as a result of taking decisions based on incorrect information.
3. It eliminates barriers between departments and different regions by detecting the variables of surrounding environment that we deal with in the internal and external environment.

4. It helps to correct many decisions of various administrative levels, and contribute to the immediate responses to many issues.
5. It helps in building an effective strategy as a result of the ability to predict some of the future issues of management.
6. Information is considered as the basis of any decision taken by each official in his position which significantly contributes to the crisis management, especially if it is available in the right and accurate time.

MANAGEMENT INFORMATION SYSTEMS QUALITY (MISQ)

The American Society for Quality Supervision defined quality as "a set of required features in the item or service provided to achieve a specific need (Russell, 2011), definition of information quality is defined as the degree to which the data and information are a reliable source and can be relied upon by managers and / or users (McGilvray, 2008).

The researchers believe that the management information systems quality is a discretionary process depends on using the correct information to make a particular decision or certain procedure, and to what extent does the good information available to take an effective decision (Keeton, 2009; Popovic, 2009).

The abundance of information and ease of managing play a great role in the evolution of organizations, but this is not sufficient to provide the information as far as the ability to take its advantage and to deal with it in an integrated manner either through analyzing and controlling or selecting it for the purpose of providing a broad

base of information on a high degree of quality. Therefore, it is necessary to provide the following characteristics that control information quality, and can be addressed through three major dimensions: time dimension, content dimension, and form dimension (Alnagar, 2008).

Time Dimension

It expresses the time of information usage and answers the question of (when). It also describes the period of time that is relate to the information, and the level of frequency to the received, requested, or used information (Kahn, 2002; Matar, 2008). This dimension includes the following sub-aspects:

1. Timing: providing information at the right time to make the most possible benefit of them. It might be useful information at the present time, but may lose its importance after a few times.
2. Currency and Modernity: the information must be up to date when it is provided to take its advantage since the information' value is gradually decreases; therefore, it must be preserved safely and effectively to ensure its development

Content Dimension

It expresses the scope and content of information and answer the question of (why). It also includes the following sub-aspects (Forslund, 2007):

1. Accuracy: means that information should be free from errors whether in transferring or analyzing information because it helps in the information quality.
2. Validity and Reliability: means that the collected information must be valid, reliable and match the data.
3. Relevance: information should be related to

the information needs of a specific recipient for a specific situation.

4. Comprehensiveness: information should be able to provide a full image about the problem.
5. Objectivity: avoiding of bias in the data processing and presentation of the result for self-interest, psychological status of the user, the degree of his culture, morals knowledge, values trends, his behavior, his optimism and pessimism.

Form Dimension

This dimension relates to answer the question of (How): how to give any information to be present on request. It includes the following aspects (Asfour, 2012):

1. Clarity: information should be provided in a form that is clear and easy to understand.
2. Order: information can be arranged in a predetermined sequence under uniform criteria.
3. Flexibility: is the possibility of using the information from the one or more users for multiple purposes.
4. Presentation: means that the information can be presented in summary or detail, and in quantitative or qualitative forms. It also must provide information in an appropriate usable manner.
5. Details: mean that the information should contain appropriate details to meet the needs of managers, users, or whoever demands it.

STRATEGIC DECISION MAKING PROCESS

Decision making process is the focus in the managerial process, and the prior responsibility

of the manager which determines his failure or success. The decision is the perceived and conscious choice among the available alternatives at a particular situation which is based on the prediction of the goal to be achieved and the way that should be used (Citroen, 2011).

Decision-making process is an approach to act and choose among a number of alternatives to have an impact and to achieve a result. Decision-making process, which focused on evaluating alternatives, choosing and implementing the best choices, evaluating of the implementation process, is based on the defining and selecting of alternatives depending on the preferences and values of the decision-maker; thus, it reduces the incidence of uncertainty associated with alternatives (Aharoni, 2011).

There is no equation or specific formulation that describes the essence of a successful decision-making. That is, there is no sufficient means to evaluate in advance the effectiveness of the decision, but rather the decision-making process depends on logic and frequently on personal judgment, in addition to the initiative by the decision-maker (Frishammar, 2003). What should be done in this connection to guarantee the best measure of success in making wise decisions is to rationalize the decision as far as possible away from the judgment, perceptions, and personal interpretations? Therefore, many studies have sought to identify the factors that affect the decision-maker or the decision making process. Among these studies is the study of the British Arab Academy for Higher Education (Tuula, 2012). This study aimed to identify the factors affecting the management decision-making in health organizations and concluded that there are several factors divided into the following: (human

factors, organizational factors, environmental and cultural factors).

Matar (2008): This study aimed to identify the impact of organizational development of the effectiveness of management decisions on the private institutions. The study concluded that there is a statistically significant relationship between the organizational development and the effectiveness of management decisions. These areas have included (goals and strategies, organizational structure, methods and technological tools, staff development, regulations and administrative policies, and working collaboratively) (Matar, 2003).

Wadi and Gname (2007): This study aimed to search in the quality of information produced by the computerized management information systems. The results showed a positive correlation between the presence of computerized management information systems and the information' production needed for decision-making process (Wadi, 2007).

Muhanna (2006): This study aimed at recognizing the relationship between the delegation of authority and the effectiveness of decision-making in the academic departments. The study found a positive direct correlation between the degree of delegation of authority and the effectiveness of decision-making in the academic departments (Muhanna, 2006).

DISCUSSION AND ANALYSIS

The degree of adoption of the Saudi telecommunications companies on the quality of management information systems for decision-making.

The degree of adoption of the Saudi telecommunications companies on the time

dimension of management information systems for decision-making.

The statistical analysis results showed that telecommunications companies are highly interested in time dimension when making their decisions and based on: the continued supply of various information, providing information at the right time, modernity and renewed status of information to take its advantage. The arithmetic average values were between (4.41) and (3.26), the standard deviation values were between (0.66) and (0.89), while the overall coefficient of variation was between (0.17) and (0.20), which means that the answers were close significantly. This finding is attributed to the importance of the time factor in the provision and dissemination of information among employees in light of the massive and ongoing evolution in means of communication and information technology, which speeds up the process of receiving and disseminating information. Moreover, the statistical analysis results expressed the existence of a positive correlation between the level of interest in telecommunications companies in time dimension of management information systems and in the effectiveness of strategic decision-making process. This means that the greater the level of interest in telecommunications companies in time dimension of management information systems, the more interactive in strategic decision-making process will occur. The results also showed that the time dimension of the management information systems explains to around ($R^2 = 0.42$), from the discrepancy in the effectiveness of strategic decision-making process in Saudi telecommunications companies, and this in turn shows that the changing in one unit of the elements of time dimension will lead to changes within the effectiveness of decision-making process..

Through the value of "Beta" we find that the time dimension of the information has a direct positive impact on the effectiveness of the decision-making process, where the value of the "Beta" of time dimension information is (0.59) and at level of significance ($p < 0.01$).

The degree of adoption of the Saudi telecommunications companies on the content dimension of management information systems for strategic decision-making.

The statistical analysis results showed that the adoption of telecommunications companies on the requested management information systems content when making their decisions was very high, where the arithmetic average of this dimension was (4.12), this reflects the importance of the management information systems content for the study sample, since the increased attention to the required management information systems content in decision making depends on accuracy, validity, reliability, realism, relevance and comprehensiveness and the stability and health, realistic and appropriate and comprehensiveness of management information systems free of bias, and its relation to the subject of the decision will necessarily lead to the production of an effective strategic decision. The arithmetic average of the values was between (4.38) and (3.90), the standard deviation of the values were between (0.81) and (0.87), while the overall coefficient of variation was between (0.18) and (0.22), which means that the answers were relatively close. The statistical analysis results expressed the existence of a positive correlation between the level of interest in telecommunications companies in content dimension of management information systems and in the effectiveness of strategic decision-making process. This means that the greater the

level of interest in telecommunications companies in content dimension of management information systems, the more interactive in strategic decision-making process will occur. The results also showed that the content dimension of the management information systems, explains to around ($R^2 = 0.36$), from the discrepancy in the effectiveness of strategic decision-making process in Saudi telecommunications companies, and this in turn shows that the changing in one unit of the elements of content dimension will lead to changes within the effectiveness of strategic decision-making process through the value of "Beta", the researcher find that the required management information systems has a direct positive impact in the content of the effectiveness of decision-making process, where the value of "Beta" of the required management information systems content is (0:54) and at level of significance ($p < 0.01$)

The degree of adoption of the Saudi telecommunications companies on the form dimension of information for decision-making.

The statistical analysis results showed that the interest of the Saudi telecommunications companies on the form dimension of information in decision making was intermediate; in that the arithmetic average of this dimension was (3.23). This reflects the relatively medium attention in form dimension of information to the study sample. In addition, this finding is attributable to the companies that probably do not count too much the on the formal aspects perhaps because of reliance on the information systems of the company to undertake formal role in terms of providing, arranging, and presenting information clearly, in a consistent manner, and made

available for more than one user via the internal network that is fed by a specialized body within the company. The arithmetic average of values was between (4.01) and (3.21), the standard deviation values were between (0.89) and (0.95), while the overall coefficient of variation was between (0.27) and (0.21), which means that the answers were close to a certain degree. The statistical analysis results expressed the existence of a positive correlation between the level of interest in telecommunications companies in form dimension of information and in the effectiveness of decision-making process. This means that the greater the level of interest in telecommunications companies in form dimension of information, the more interactive in decision-making process will occur. The results also showed that the form dimension of the information explains to around ($R^2 = 0.24$), from the discrepancy in the effectiveness of decision-making process in Saudi telecommunications companies, and this in turn shows that the changing in one unit of the elements of content dimension will lead to changes within the effectiveness of decision-making process through the value of "Beta", we find that the form dimension of information has a direct positive impact in the effectiveness of decision-making process, where the value of "Beta" of the information form dimension is (0:60), and at level of significance ($p < 0.01$).

CONCLUSION

The results showed that telecommunications companies are very interested in the three dimensions of management information systems quality: (time, content, and form) and its impact ineffective strategic decision-making process. Based on the results of this study, the researcher

recommends that the Saudi telecommunications companies, should give a great attention in various managerial levels to the quality of management information systems in terms of providing the required information by appropriate time and manner which contributes to a large extent in reducing the error percentage in the strategic decision making process. They also should increase the staff awareness of the importance of management information systems and how to deal with it in a way that will increase its quality and effectiveness in decision-making. The researcher recommends the need for further prospective studies concerned with the quality of information on the one hand and the quality of decision on the other hand through the search for other dimensions of information quality.

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