

Role of management information system (MIS) in evaluating the performance of different firms in Jordan

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Abstract

Importance of using the management information system (MIS) in the business has gained much importance overtime and it has become a substantial portion of business in Jordan. Its use has been tremendously uplifted in last decade by the firms as well as the government organizations, and individuals as well. Technological advancements and breakouts have encouraged the increased use of ISs and the revolution in the telecommunication sector i.e., the internet, the increasing demand for information economy, the trending globalization which created an unlimited marketplace globally, and progression of competitive digital firms. These innovations revolutionized ISs from a mere data processing system towards decision support system, which acted as basis for new business environment. The current study discussed numerous challenges as well as perspective of MIS implementation in Jordan. The study was designed by selecting 30 different firms operating in Jordan by distributing a questionnaire as well as interview for collecting the relevant data.

Moreover, the current study attempted to reflect the impact of MIS in Jordan business organizations. It was aimed at to determine that how the ISs help an organization or business firm to operate at its optimum efficiency. Based on the outcomes of the current study, it was recommended that the business organization should permit resilience and flexibility in the pattern or nature as well as MIS structure. Furthermore, suitable consideration should be given to the communication via media agencies for favoring the company's control of the market as well as acquisitioning suitable computer software for meeting an ever-increasing expansion as well as growth in the market environment.

Keywords: Management information system, Jordan, Efficiency, Firms, business organization

1. Introduction

Management information system (MIS) uses broad series of information technologies for performing complicated tasks and counsel several actors in various social as well as operational environments such as software, computer, databases as well as mobile phones, internet (Boell & Cecez-Kecmanovic, 2015; Alawamleh et al., 2021). Its main aim is to supply relevant information to the management of bank for evaluating their performance and aid their decision-making, which is owing to the substantial role played by the banks in the national economy. In the modern times, management depends heavily on the availability of information for thriving. Nothing in this world progresses without the involvement of information which is very powerful and resides

with its owner (Gonfa, 2015). Moreover, MIS and general information technology (GIT) exert stronger impacts on competitive advantage, both in cost terms, which reflects regulating these operations at lower price in comparison with the competitors but also in terms of quality differentiation, which indicates correct and timely performance of all the operations in lieu of providing products better fitted with the requirements of the customers. In addition, several firms recently suffer from an overburden of information and, hence, there is a need for the information management, for meeting the anarchy of digital epoch, that has been bypassed by rapid revolutionary advancements at present and the extensive knowledge of propagation (Dias, 2001) and as a result, the information systems have been inevitable in recent times (Franco & Garcia, 2018). Hesam et al. (2015) assessed

the impact of MIS on the productivity of Esfahan Islamic Azad Universities. For the purpose, they sampled one hundred and eighty respondents by putting different explanatory variables such as work cost, work speed, improvement in the control system and planning status, supervision, and decision status whereas, the dependent variables used was productivity. For analyzing the data, path coefficient and confirmatory factor analyses were employed. The outcomes of the analyses revealed the significant effect of MIS on productivity in Esfahan Islamic Azad Universities.

As an evolving market, Jordan has progressively shifted towards a market-dependent economy from a controlled one with a simultaneous privatization of all market companies listed at Amman Stock Exchange (Al-Najjar, 2010). The economic situation, as well as capital market, are very weak in Jordan, as exhibited by World Bank (2014) that in the last few years, industrial-based companies experienced a decline in their GDP. Amin (2015) checked the effect of MIS on the Islamic bank's financial performance in Jordan. For the study, various independent variables i.e., simplification of procedures and information, speed of achievement, and security were used whereas, the financial presentation accompanied by financial liquidity profitability were utilized as dependent variables. Moreover, for analyzing the data, standard deviation, arithmetic mean, multiple regression analysis, and Pearson correlation were employed. The outcomes indicated that significant impact of information security, simplification of procedures, and speed of achievement on financial performance of Islamic banks in Jordan was pragmatic.

Keeping in view the existing literature, the study was planned with two-fold objectives: firstly, to identify the hurdles or challenges that affect the MIS implementation in Jordanian governmental institutions; and second, to explore the problems related to the adoption of MIS In different firms operating in Jordan.

2. Literature Review

2.1. Management Information Systems

The concept of management information system (MIS) has been comprehended and explained in several ways. It is also recognized as the computer-based information system, the information systems as well as the information and decision system. The earliest concept of MIS dealt with the information from the company and submitted them in report form at regular time intervals. The MIS performs differently for the people working in two different firms who performed the same operation and The MIS model fluctuates tremendously content-wise (Gupta, 2010). That is why the MIS is a flexible approach which can be modified over and over by shifting the work management. It continuously reacts with the external and internal work environment to change the requirement of those information effectively and accordingly (Amenta, 2017). Many researchers have tried to define the MIS (Amenta, 2017; Agu et al., 2017; Surwade et al., 2016; Mishra, Kendhe, & Bhalerao, 2015; Yadav & Kumar, 2015; Babaei & Beikzad, 2013; Al-Mamary, Shamsuddin, & Aziati, 2014; Almashaqba et al., 2014). The above-mentioned researchers have agreed upon that MIS is an administration system (database), which is designed particularly

for meeting the requirements of decision makers or administrators working in an enterprise (Adekeye, 1997). Dantes and Hasibuan (2011) stated that MIS is actually a generic term used for the computer systems in an organization providing information for its various business processes as it is utilized for referring to individuals who operate and manage these systems. Typically, the term "MIS" is employed by large-scale organizations for referring to a centrally coordinated system of computer management and experience, with a particular focus on the central computer systems, but at the same time, involve the plethora of computer-based networks existing in the company (Gikang, 2016).

2.2. Organizational Performance (OP)

Organizational performance (OP) is a major construct in management of research and is still "a never-ending research question having several studies assuming it as their dependent construct" (Cameron, 1986). Elevated researches into the OPs have resulted in various contradictory theories and definitions (Selden & Sowa, 2004). The OP is rather quite difficult to define as there are numerous varying perspectives and concepts in describing the performance. Moreover, the performance indicators are also very complicated (Swanson, 1995). Different researchers have variably defined the OP however, in general, OP measures the progress of any organization, which basically, analyzes the performance of any institution in comparison with their objectives (Otley, 1999). But, some of the scientists denote the OP as organization's index to calculate its achievement (Ho, 2008). Literally, the performance means 'the function or mood of organizational operation quality. Hence, OP refers to how the different organizations perform most of their functioning. Neely et al. (2002) reported the OP as "the elucidating the quality effectiveness as well as past efforts efficiency". Hence, the potential of an organization or firm to generate outcomes in a dimension referred to as a priority, in comparison to a defined target is termed as performance (Laitinen, 2002). Robbins and Coulter (2017) depicted that the productivity as well as efficiency as the commonly used measures for estimating the OP. Or it is the extent to which any company can meet the requirements of stakeholders as well as owners in order to survive (Griffin & Hesketh, 2003). In view of Kaplan & Norton (2004), OP is chiefly determined by ability of an enterprise to utilize its inputs for foreseeing its future. In the same way, OP can also be defined simply on the basis of the outcomes of the operations conducted by the company's executive members. Wahda (2017) defined OP as an acquisition of a firm as measured by particular standards in a particular time period.

2.3. Relation between the Organizational performance and MIP

A huge number of firms or organizations were not able to operate in the absence of implementation of MIS. The MIS makes it convenient for the firms or organizations to transfer the right information in right time to the right people in the right form by improving their interaction. IT plays a keen role in the working of organizations as it delivers the most suited information in right time as required for supporting the different managerial activities (Al-Mamary et al., 2014). Furthermore, the MIS permits the information to instantly pass among departments, thereby,

decreasing the need communicate face-to-face among employees, and hence, enhancing the organizational responsiveness. The MIS stands as one of the most vital tools in any firm or organization, whose objective is to provide complete, reliable, understandable and accessible information to the system user in a timely manner (Al-Mamary et al., 2014).

Al-Mamary et al. (2014) studied the relationship between the OP and the success-defining factors of MISs in the telecommunication industry in Yemen. Their hypotheses were involving that technological (service quality, information quality, and system quality), organizational (user training and top-management support) and anthropogenic factors (user experience and computer self-efficacy) were found to be positively related to the OP. During their work on IS' success factors and the OP of private and public organizations, Alshawaf and Khalil (2010) observed significant differences between private and public organizations in regard to top management, IS management, end-user support, and IS financial decisions in support of public firms. Moreover, they observed considerable differences regarding the IS resource availability, end-user involvement in IS development, top-management involvement in the IS strategy, and end-user training on IT in support of private organizations. The study exhibited no significant differences between public and private organizations in Kuwait in regard to the IS organizational levels, age of IS units or the perceived obviousness of the IS strategy.

3. Materials and Methods

3.1. Sample size and research design

We conducted a survey for evaluating the effect, MIS exerts on the performance of various firms operating inside Jordan. Sample consisted of 30 different organizations in Jordan and data of these firms was collected.

3.2. Research instrument

The basic research instrument employed in the current study was a questionnaire, designed in closed and open-ended patterns. Furthermore, for minimize chances of these questionnaires go missing during the transit, they were recovered in the same manner as they were managed prior to filling. The data was presented in tables and analyzed by implying non-parametric percentages, and t-test was applied for confirming the stated hypotheses.

3.3. Reliability of research instrument

The reliability of a research instrument is its potential to measure what it was intended to measure. The scales used in the current study were aimed at to assess them for construct and content validity. Upon completion of the survey, the reliability of each survey was assessed by checking their Crombach alpha (coefficient alpha). All the scales have passed a 0.7 threshold as recommended by Nunnally (1978).

3.4. Research findings and analysis

Total 200 questionnaires were disseminated to the various firms or organizations in Jordan for having a critical evaluation of the effect of MIS on the efforts of the government on the system development. Out of 200, 170 questionnaires returned out, and out of which, 165 were found to be useful for the study. This represent

almost more than 82% which was good enough to have a clear and reliable estimation of the data.

3.5. Hypothesis testing

The hypothesized statements were tested by following the Z test as earlier stated and the test was conducted at 95% confidence interval and at 0.005 level of significance. Based on the Z test, the decision rule stated that if the calculated Z value is greater than the tabulated value then the hypothesis will be accepted and rejected vice versa. Our **first hypothesis** stated that the financial limitation is a decisive factor influencing the efficient management of MIS in Jordan.

Data in Table 4.1 indicated that the calculated $Z = 4$ which was found to be greater than the critical Z value = 1.98. i.e. hence, the null hypothesis was rejected. Which explained the existence of other crucial hinderances or barriers in addition to the financing that suppress the effective adoption and development of MIS in Jordan.

Similarly, our **second hypothesis** stated that the absence of management skills in information technology does not interfere with the effective performance of MIS of various business firms operating in Jordan.

Data in Table 4.2 has nullified our stated second hypothesis by exhibiting that, the value of calculated $Z = 4.8$, which is more than the critical Z value = 1.98. Based on the results, we rejected the stated second hypothesis, which reflected that the lack of management skill on information technology considerably affected the performance of MIS in Jordan.

4. Discussion

Outcomes of the current study indicated the presence of numerous barriers in addition to financing against development for the past years of MIS in Jordan. Table 4.1 revealed that almost 60% of the individuals agreed that the poor technological equipment, as well as advancement, are the major hurdles suppressing the MIS growth in Jordan in addition to financing. Moreover, almost 12% of the hurdles were related to the defective government policies on information technology as another hurdles, similarly, 7% says absence of MIS software by different business firms also interfere with the MIS development in Jordan and almost 19% correlate it with the lack of invention and innovation in Jordan which prohibited most organization to contest positively and progress a challenging MIS system in Jordan. The MIS determines the firm's capacity to accomplish and contest in the international market but, the performance and efficiency of MIS process in Jordan has been radically low despite different organizational institutional policies on MIS on how to grow the process in improving the ability of business organization in Jordan.

Table 4.2 depicts that almost 62% agree that absence of sufficient information and talent on IT and the aptitude to regulate the MIS process by different firms is among the major factors that influence the effective performance of MIS in Jordan, whereas, the 14% correlated it to the defective and poor management of database in most firms as another factor affecting against the effective performance of MIS in Jordan. In addition, other factors such as

rigidity in MIS process, pattern and structure, which avert easy flow of information as well as convenience to all data end user and the incapability of most business in Jordan to progress suitable computer-based software and program to meet its ever-increasing growth and expansion. As a result, absence of management services on the MIS process by most firms in Jordan does not only influence the efficient performance of MIS, but also decrease their ability to participate favorably in the market with their large-scale industrialist equals, which has always been a major tentative block for the development of business firms in Jordan.

5. Recommendations

A company is needed to support a larger market for selling its products in order to attain its business goals and aims and for that purpose, the business markets are ought to pay hard attention to the progression of an effective MIS. The outcomes of the current study made us capable of indorsing that government should be directly involved in the MIS financing in different firms owing to considerable capacity of MIS to produce employment opportunities for the common people and for favoring the economic growth. Moreover, a central-data-base management system should be introduced and operated by which the generated information could be linked to various users with extreme ease within the organization. In addition, inside firms, there should be resilience in the structure as well as pattern of management so as to allow easy information flow towards the end-users. Similar to that, staff training and seminars in the firms for improving the organizational strength. Firms should also give further attention to using the media agencies for communication. Business firms in Jordan should also emphasize on developing and acquiring appropriate computer-based software and programs for meeting their ever-growing growth. Finally, sufficient time should be allotted for the information passage, so as to direct against errors as well as there should be operative communication at all levels as effective and operative communication is also vital for predicting the mutual understanding and reducing the conflicts between the employees and their management.

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