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Research Paper

THE IMPACT OF MANAGEMENT INFORMATION SYSTEMS ON THE PERFORMANCE OF GOVERNMENTAL ORGANIZATIONS- STUDY AT JORDANIAN MINISTRY OF PLANNING

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ABSTRACT

This study aimed to identify the impact of management information systems (MIS) on the performance of governmental organizations, Jordanian Ministry of Ministry of Planning – case study, a sample consisted of 77 employees in the ministry, the study found: there is no impact of hardware and software equipment on the performance of governmental organizations, there is a significant impact of networks, individuals and procedures, and management information system as a whole on the performance of governmental organizations. At the end researchers recommended the ministry updating MIS continuously, engaging employees in building systems, and train then on the system.

KEYWORDS :Management information system, performance management, governmental

INTRODUCTION

The scientific revaluation in the communication and information make a comprehensive change in the life and business, which affect the ways that the governments provided its services to populations. Which also affect the future of the nations?

The new technology helps to reduce managerial cost and human cost and make the work more accurate and faster; which make the governments go to the electronic governments. Form this point the role of (MIS) management information system is to manage the data, organizing, retrieving of the information which help the organization to provide services faster, and market more accurate and easier, which affect also the level of performance.

From this point the importance of this study the effect of MIS on the performance of governmental organizations comes.

1. Importance of study

The importance of the study comes from the importance of management information systems on the performance of the governmental organizations, and its role in providing the appropriate data and information both internally and externally in order to support management function, giving advanced solutions for managers, helping administrators to take correct decision in a large margin, improve the administrative level in governmental organizations.

2. Problem of the study

We can summarize the problem of the study in the main question: what is the impact of MIS on the performance of governmental organization? We can subdivide the main question into the following questions:

3. What are the impacts of Hardwar and software equipment on the performance of governmental organizations?
4. What is the impact of computers networks used at the Ministry on the performance of governmental organizations?
5. What are the impacts of human resources and procedures on the performance of governmental organizations?

3.Study objective

This study aimed to determine the role played by the MIS in governmental organizations and how they affect the performance of the employee. We can determine the following goals:

1. Determine the level of the information systems that used in governmental organizations.
2. Determine the level of performance in governmental organizations.
3. Determine the role of MIS on the performance of the employee in governmental organizations.

4. Hypothesis and study model

To answer the questions, the research depends on the following main hypothesis:

There is a significant effect at the level of MIS on the performance of governmental organizations. The main hypothesis subdivided into the following Assumptions:

Hypothesis1: there is a significant effect of equipment's and software on the performance of governmental organizations.

Hypothesis2: there is a significant effect of networks within the organization on the performance of governmental organizations.

Hypothesis 3: there is a significant effect of individuals and procedures on the performance of the governmental organizations**.**

5. Previous research

Robert, David and Lori (2007) in their study they tried to clarify the impact of information technology on individual and firm marketing performance, a theoretical model is presented linking organization and end user traits, information quality, system /service quality, industry traits and tasks performed using a system to perception of organizational performance impact through ease of system use, perceived individual performance impact, attitudes toward using the system, and system use.

The results indicate that measures of organizational traits, individual traits, information quality, system /service quality, industry traits and tasks performed using the system impact perceived performance of the marketing organization mediated individual performance impact, attitudes toward using the system, and system use.

Kasasbeh (2007) study "The role of information technology in improving corporate performance: A Case Study Jordanian Free Zones Corporation": This study aimed to determine the role of information technology in improving the efficiency of the performance of the Free Zones Corporation Jordan during the period 1996 - 2005, The study found the following results: Received an improvement in all elements of information technology, with the difference in the rates of improvement, No significant correlation between the size of the investment, hardware, software, and workers in the field of information technology with all the effectiveness of the institutional performance indicators except for the goal of return on cost. No impact for each of the size of the investment, hardware, software, and workers in the field of information technology at all effective institutional performance indicators except for the goal of return on cost.

Al Meetany (2004) study The impact of the management

information system to improve the efficiency and effectiveness of the Jordanian Commercial Banks: A Case Study of Arab Bank, This study aimed to identify the impact of management information system to improve the efficiency and effectiveness of the Arab Bank from the perspective of both the staff and the Arab Bank management and dealing with customers. Among the most important findings of the study, said that users of management information systems have a level technicians and highly skilled and qualifications and experience to enable them to perform their work to the fullest, and that an appropriate degree of information provided by the systems used very high and reflected thus on the effectiveness of decision-making that are meant to take, and that Arab Bank has efficiently by providing hardware and software required for operation of the system, as evidenced by The study on the existence of a positive relationship between the linear size of investment in management information systems and the bank's profits greater the volume of investment in management information systems increased the bank's profits.

Al Fawzan (2003) studies the modern information systems and their impact on the performance of employees - a survey on the General Customs Authority, Saudi Arabia. This study aimed know the sources of information flow in the Customs Department, and the identification and classification of internal and external information of interest, and find out the positive role of systems use modern information on the performance of employees, as well as knowledge of the negative role of the systems use modern information on the performance of employees, Among the most important findings of the study 61% of respondents do not know for specialized training programs in the field of modern information technology, and answered 24.2% of respondents said that it is not already present in the training programs, Lack of knowledge of staff interest in e-commerce, Endorsed by 91.5% of respondents believed that the use of modern information systems will contribute to the accuracy of the business, Approved by 87% of respondents believed that in the event of use slept interest information will improve the performance of modern interest, Approved by 87% of respondents believed that the use of modern information systems will facilitate the work of the staff, The majority of respondents agreed that there are administrative and financial constraints, operational and psychological facing the use of modern management information systems of interest.

6. Literature Review

6.1. Management information system

What is **MIS**? **MIS** stands for **management information system**, which we define as *the development and use of information system that help businesses achieve their goals and objective*. This definition has three key elements: development and use, information system, and business goals and objectives (kroenke, 2011).

A system is a group of component that interact to achieve some purpose, an **information system** (**IS**) is a group of component that interact to produce information. A model of the components of an information system: **computer hardware, software, data, procedures** and **people** (kroenke, 2011).

These five component are present in every information system, for example, when you use a computer to write a report, you are using hardware (the computer, storage disk, keyboard, and monitor), software (word, or other word-processing program), data (the words, sentences, and paragraphs), procedures (the methods you use to start the program to enter, save and back up), and people (you). What is **information**? Information is knowledge derived from data, whereas **data** is defined as recorded fact or figures (kroenke, 2011).

Turban mentions some characteristics of information quality (Turban and Volonino, 2010):

- **Accurate:** correct and complete data.
- **Timely:** produced in time for its intended use.
- **Relevant:** both to context and to subject.
- **Sufficient:** for the purpose for which it is generated.
- **Worth its cost:** an appropriate relationship must exist between the cost of the information and its value.

Information technology and information system

Information technology and information system are two closely terms, but they are different. **Information technology (IT)** refer to the products, methods, inventions, and standards that are used for the purpose of producing information, IT pertains to the hardware, software, and data components, Whereas information system (IS) is an assembly of hardware, software, data, procedures, and people that produces information (Laudon,2013).

6.2. Performance management

Performance management is a systematic process for improving organizational performance by developing the performance of individuals and teams. It is a means of getting better results by understanding and managing performance within an agreed framework of planned goals, standard and competency requirements. (Armstrong,2009)

Performance management is much more than appraising individuals. It contributes to the achievement of culture change and it is integrated with other key HR activities, especially human capital management, talent management, learning and development and reward management.

Performance management is a process for establishing shared understanding about what is to be achieved and how it is to be achieved, and an approach to managing and developing people that improves individual, team and organizational performance (Armstrong, 2009).

More specifically performance management is concerned with:

- aligning individual objectives to organizational objectives and encouraging individuals to uphold corporate core values;
- enabling expectations to be defined and agreed in terms of role responsibilities and accountabilities (expected to do), skills (expected to have) and behaviours (expected to be);
- providing opportunities for individuals to identify their own goals and develop their skills and competencies;
- Motivating people by providing them with recognition and the opportunity to use and develop their skills and abilities.

The overall objective of performance management is to develop and improve the performance of individuals and teams and therefore organizations. It is an instrument that can be used to achieve culture change in the shape of the creation of a high-performance culture. It aims to develop the capacity of people to meet and exceed expectations and to achieve their full potential to the benefit of themselves and the organization. (Armstrong,2009)

7. Methodology

7-1 Population and sample

The target population for this study is the governmental organizations in Jordan, the ministry of planning was chosen as a case study, 89 questionnaires were distributed; the response rate was 86.5% (77 usable responses).

7-2 Data Collection

- Secondary data was collected based on the finding of published papers, articles, books, previous, studies, and the World Wide Web.

- Primary data collection was carried out using a self- designed questionnaire , This adopted instrument comprises five sections, The first sections covers demographic information (Gender, education, period of working at ministry, Age, job name), The second section contains (7) items measuring the level of availability of computers equipment and software in the ministry , the third sections it contains (5) items measuring the availability of computers network inside the ministry, the fourth sections contains (5) items measuring the support and importance of MIS in the ministry and the level of training of employee to use the MIS systems, the fifth sections contains(14) items measuring the performance of employee and uses of MIS in ministry .

7-3 Instrument Validly and Reliability

To ensure the face validity of the instrument tool, it was given to seven expert referees from Jordanian Universities. The referees displayed their constructive comments and suggestions, which were taken into consideration. The reliability of data collected instrument was measured using Cronbach alpha coefficient; the reliability test was conducted to check for inter-item correlation in each of the variables in the questionnaire. The closer Cronbach alpha is to one, the higher the internal consistency reliability (Sekaran, 2003). The test results are as follows: Cronbach alpha for Independent Variable = 0.87, Cronbach alpha for dependent Variable = 0.85, Cronbach alpha for over all instruments = 0.89 which approached to the acceptable limit

7-4 Data Analysis Methods

Statistical package for social sciences (SPSS) was used to analyze the data. Descriptive techniques such as Frequencies, Percentages, Means, standard deviations , Coefficient of correlation, were used to describe variables and multiple regression analysis were used to test the hypothesis of the study.

8. Statistical Analysis and Hypothesis Testing

8.1. Analysis of personal and functional characteristics

We used several questions to find out the distribution of the study sample, according to personal and functional characteristics, Such as gender, education, period of working at ministry, age, and job name; Table (1) shows these properties.

Table (1) Personal and functional characteristics (n=77)

Variable	Level	Frequency	Percent
Gender	Male	42	54.5
	Female	35	45.5
	Total	77	100
Education	Pre bachelor	22	28.5
	Bachelor	29	37.7
	High Education	26	33.8
	Total	77	100
Period of at working at ministry	Less than5 years	13	16.9
	From 5 to 10 years	20	26
	From 11 to 15 years	24	31.1
	More than 15 years	20	26
	Total	77	100
Age	Less than 25 years old	3	3.9
	From 25 to 35 years	31	40.3
	More than 35 years old	43	55.8
	Total	77	100
Job description (title)	Employee	62	80.5
	Head of division	13	16.9
	Head of department	2	2.6
	Total	77	100

8-2 Study variables Description

To determine the availability of the study variables, we use the mean and standard deviation. First: the mean and standard deviation for the field of MIS

Table (2) Level of MIS at Ministry of planning

Field	Mean	Std.
Equipment and software.	4.26	0.57
Networks within governmental organizations	4.02	0.63
Individuals & procedures	4.12	0.25
General of MIS filed	4.15	0.51

As it clears from the table (2) that the mean is ranged from 4.02 to 4.26 which means that all field of MIS in Ministry is an available at high degree. The highest degree is equipment and software and the lowest degree is networks within government organizations. The total mean of general MIS filed is (4.15) which mean that they are available at a high degree.

Table (3) Arithmetic means and slandered deviations for the answers respondents for" equipment and Software"

No.	Paragraph	Mean	Std.
1	Provide appropriate devices & equipment to get the job done	4.52	0.60
2	The organization continuously up date devices	4.18	0.81
3	The hardware available in the organization has a high capacity to accomplish the work required	4.21	0.78
4	Available the necessary expertise to deal within the devices with in the organization	4.18	0.74
5	Suit the ability of devices with the volume of the work to be done	4.30	0.67
6	Organizations uses recent software and continuously up dated	4.26	0.73
7	The expertise needed to deal with soft ware within the organization are	4.19	0.71

available

Appears from table (3) that arithmetic mean of the answers of the respondents of paragraphs filed " equipment and software" ranged between (4.18- 4.52), The highest score is to the paragraph (1) " provide appropriate devices and equipment to get the job done" While the lowest score is to the paragraph (4) " available the necessary expertise to deal with the devices with in the organization"

Table (4) means and standard derivations f or the answers respondents for networks within governmental organizations.

Appears From table (4) that the arithmetic mean of the answers of the respondents of paragraphs area " networks" with in government organizations" ranged between (3.65- 4.27), the highest score is to the paragraph (2) " easily share information and file with in the same network", While the lowest score is to the paragraph (5) " there is a link in the decision- making process between the government departments.

Table (5) Arithmetic means and standard deviation for the answers respondents for'' Individuals and procedures''

NO	Paragraph	mean	Std.
1	Top management believes to the importance of information systems.	4.25	0.54
2	The worker in the organization involved in the analysis, design, build and developed of information systems	3 .79	0.83
3	The director of information systems unit has a advanced administrative site in the organization	4.31	0.59
4	The applied procedures and rules in the organization Facilitate the work of information systems.	4.19	0.73
5	Employees are trained on the use of information systems	4.04	0.85

Appears from table (5) that the arithmetic mean of the answer of the respondent for the paragraph area of “individuals and procedures" ranged between (3.79-4.31), the highest score is to the paragraph (3) " the director of information systems unit has advanced administrative site in the organization" While lowest score is to the paragraph (2) " the worker in the organization involved in the analysis, design, build, and develop of information systems".

NO.	Paragraph	Mean	Std.
1	The organization uses advanced communications net work.	4.12	0.76
2	Easily share information and file within the same network.	4.27	0.75
3	Internal network of the organization can communicate easily with other networks.	4.13	0.85
4	There is a high culture among network users in the ways of best use.	3.92	0.76
5	There is a link in the decision – making process between the government departments.	3.65	0.93

Table (6) Arithmetic means and standard deviation for the answers respondents for ''the performance of employees''

No	Paragraph	Man	Std.
1	The information available is appropriate to complete the work.	4.19	0.65
2	the information available used in a concise manner as needed	4.12	0.56
3	Information suitable with all managerial level.	4.06	0.61
4	Information systems help in support decision making activities with in the administrative system.	3.92	0.70
5	Information system help in improving the efficiency of employee in the administrative system	4.01	0.66
6	There is awareness among employees of the importance of measuring the job performance.	3.82	0.93
7	There is legislation and regulation written to measure the performance of employees.	4.00	0.69
8	There is a workshop for employee to disseminate the culture of performance measurement.	3.77	0.76
9	The organization is improving the administrative process based on performance measurement output.	3.81	0.85
10	There is an administrative unit specializing in measuring the performance of employee	3.74	0.85
11	Information system allows the use of electronic databases.	4.06	0.66
12	The information	3.55	0.99

13 14	Senior management can refer to the daily transactions to monitor performance. The system use rules and written procedures to guide the behaviour of employee.	3.86	0.88
"The performance of employee" as a whole	3.92	0.51	

Appears from table (6) that the arithmetic mean of the answer of the respondents for filed" performance of employee" ranged between (3.55-4.19), the highest score is to the paragraph (1) " the information available are appropriate to complete the work" While the lowest score is to the paragraph (12)" the information available to senior management can be easily obtained and the total field" performance of employee" as a whole is (3.92).

Second: the correlation coefficients between the independent variables "fields of management information systems " and the dependent variable (performance of governmental organizations):

Table (7) Correlation coefficients between the independent and dependent variables

Field		Performance of governmental organizations
Equipment and software	Correlation coefficient	0.57
Statistical significance	0.00	
Networks within governmental organizations	Correlation significance	0.62
Correlation significance	0.00	
Individuals and procedures	Correlation significance	0.73
Correlation significance	0.00	
Field/ management information system as whole	Correlation significance	0.71
Correlation significance	0.00	

Appears from table (7) that the correlation coefficients between the areas (equipment a software , networks with in governmental organizations , individuals& procedures , Management information system as a whole) and the filed (performance of governmental organizations) was (0.57, 0.62, 0.73, 0.71) , respectively , all the values are statistically significant at the significance level(α =0.05)and this indicates the presence of a significant relationship between areas (equipment& software, networks within governmental organizations, individuals& procedures, MIS as a whole, and the field of (performance of governmental organizations).

8-3 Hypothesis testing

Multiple regression analysis was conducted to test the hypotheses; multiple regressions identify how much of the variance in the dependent variable will explained when a set of variables is able to predict a particular outcome. Using multiple regression analysis is subject to normality of the data

Main Hypothesis: there a significant effect of MIS on the performance of governmental organizations

Subdivided into:

1. There is a significant effect of hardware & software equipment on the performance of governmental organizations.
2. There is significant effect of the networks within the organization on the performance of governmental organizations.
3. There is a significant effect of individuals & procedures on the procedures on the performance of governmental organizations.

To answer the validity of these assumptions have been applied multiple regression, table (8) shows that:

Table (8) Multiple Regressions

Field	β	T	Significant	R	R2	F	Significant
Equipment & soft wares	0.05	0.43	0.67	0.76	0.57	32.52	0.00
Networks within organizations	0.25	2.11	0.04				
Individuals & procedures	0.54	5.16	0.00				

Appears from the table (8) as follows:

1. .No effect statistically significant at the level for equipment & software to the performance of governmental organizations. Reaching values (**β**. T) (0.005, 0.43) respectively, a value that is not statistically significant, and therefore rejects the hypothesis number 1.
2. There is an effect statistically significant at the level of) for network within the governmental organizations to the performance of governmental organizations reaching values (β, T) (0.25, 2.11)respectively, which is a value statistically significant and thus accept the hypothesis number 2.significant, and thus accept the hypothesis number2
3. .There is an effect statistically significant at the level of for individuals & procedures to the performance of organizations reaching values (**β**, T) (0.54, 5.16) respectively, which is a value statistically

As shown by the table that the strength of the effect of independent variables combined to study in the dependent variable and whose value (R) (0.76) Which is a value statistically significant, as the value of (R2) (0.57) this indicates the presence of the ability of the Independent variables in the impact on the dependent variable, with a value of 57%.

The value of (F) (32.52) is statistically significant at the level of this indicates the presence of statistically significant relationship between the variables of MIS and the performance of governmental organizations and thus accept the main hypothesis of the study

.

CONCLUSION

After analyzing the data and testing the hypotheses, the following major conclusions were reached:

1. There are no statistically significant effect for the equipment & software on the performance of governmental organizations
2. There are statistical significant effects for the networks within governmental organizations on the performance of governmental organizations.
3. There are statistical significant effects for individuals & procedures on the performance of governmental organizations.
4. There are statistical significant effect for the variables of MIS as a whole and the performance of governmental organizations.
5. There is a strong relationship between networks within the organization and doing business well.
6. Individual & procedures have a large & active role in the government's performance in general.
7. There are strong relationships between MIS and improving performance within governmental organizations.

Recommendations

According to the finding of the study we can give some suggestions that might help managers in the governmental organizations to improve the performance of governmental organizations.

1. Updating information systems continuously and top management support to the role of MIS in improving governmental organizations performance.
2. Engaging employee of governmental organizations in the analysis, design, construction and development of information system.
3. Train employee on how to use information system to improve their performance.

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