

The impact of information technology to improve the level of performance of employees in the Ministry of Higher Education and Scientific Research of Jordan

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Abstract

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The purpose of this study was to investigate the effect of the use of information technology in the Ministry of Higher Education of Jordan to improve the administrative performance of the staff where, researcher has used the descriptive analytical method to achieve the objectives of the study, may be a study population consisted of a random sample of employees in the Ministry of Higher Education of Jordan of (45) individuals, as was the use of statistical package program SPSS for data analysis and hypothesis testing, and was the most important statistical methods used is to test one way anova, it was the most important results of the study that there is a significant effect for statistical information technology used in the ministry of higher education to improve the administrative performance of the employees. As they were the most important recommendations that the Ministry of Higher Education is working to develop Electronic systems and existing programs even have help in the development of employee performance.

Key words: information technology, development of employee performance, The Jordanian Ministry of Higher Education.

Introduction

We have the evolution of government action in the Hashemite Kingdom of Jordan since His Majesty King Abdullah II and his constitutional powers in 1999, the government has worked under the guidance of ownership to enhance the work system to become the work electronically in the same ministry or in its dealings with related parties so the e-government appearance made many features and benefits citizens in dealings with government departments.

In the Ministry of Higher Education, the website of the designer which is considered a good location contains many of the portals that concerned citizens and stakeholders, that electronically staff deal with transactions and respond to needs qualified staff in the light of the e-government and that this may enhance the level of performance of employees in the Jordanian Ministry of Higher Education.

Problem of the study: that through the presence of e-government in the Ministry of Higher Education of Jordan and the presence of a website developed, it needs to provide renewable and advanced information technology in order to help employees to improve their performance environment, therefore it must be modern electronic equipment and networks, the Internet and internal and external qualified staff available to work in the information technology environment and electronic command post of Business Administration electronically. Therefore, the problem of the study can be formulated the following questions:

- 1- What is the level of availability of infrastructure for information technology in the Jordanian Ministry of Higher Education and through the availability of (computers and other electronic devices, Intranet AND Extranet, administrative programs computerized, qualified to work with IT staff ?
- 2- Is there a statistically significant impact of information technology used in the Ministry of Higher Education to improve the performance level of their employees?

Objectives of the study: This study aims to include

- 1- clarify the level of the existence of infrastructure for information technology in the Jordanian Ministry of Higher Education
- 2- detect more abundant levels of information technology in the Ministry of Higher Education.
- 3- identify the impact of the availability of information technology to improve the performance of its staff level.

Importance of the study: The importance of the study in the degree of need for the Jordanian Ministry of Higher Education to technology modern and sophisticated information work to improve the level of its employees, which will result in high levels of job satisfaction, as well as access to high levels of satisfaction of

service recipients resulting from speed in completing their transactions accurately.

The study model:

Independent variables: The independent variables in this study in the information used in the Jordanian Ministry of Higher Education and Technology.

Dependent variables: This study is based on measuring the administrative performance affected by the Jordanian Ministry of Higher Education which used information technology.

Hypotheses of the study:

During the study of the problem, the researcher assumes the following hypotheses:

The first major assumption : There is no technology used in the Jordanian Ministry of Higher Education Information.

The second major assumption: Information technology used in the Jordanian Ministry of Higher Education does not affect the improvement of the level of performance of employees.

Previous studies:

1- Battah Naser (2015), " The impact of management information systems to improve management performance" An Empirical Study on Managing Directors in the Jordanian insurance companies".

This study aimed to identify the impact of management information systems (MIS) to improve the administrative performance of the staff of the administrative departments in the Jordanian insurance companies has been the study sample Managers administrators or Deputy Managing Director to identify, The researcher distributed (52) questionnaire by (2) a questionnaire to each company's number (26) Insurance Company, has been used as a researcher style simple to get to know the impact of management information systems to improve management performance in the Jordanian insurance companies decline, the study concluded that there is a positive impact of the resources of networks and communications and material resources to improve the administrative performance of the administrative staff in the insurance companies Jordan, was the most important recommendations that the insurance companies to make greater efforts in the infrastructure of management information systems development.

2- Al- Mansi, Ibraheem , Bani Saeed Amany (2015), entitled " The Impact of Networking and Communications Resources to Improve the Quality of Services Provided to Customers in the Jordanian Insurance Companies".

This study aims to identify the level of availability of networking and communications resources in the Jordan Insurance companies, and their impact on improving the quality of service provided to customers, The researcher has designed a questionnaire and distributed to a sample study in computer departments staff in the Jordanian insurance companies of (26) companies, was recovery (60) questionnaire are analyzed, was the most important findings of the study is that there is high for networking and communications resources in the Jordan Insurance companies level. The study also concluded that there is the effect of the resources of networks and communication to improve the quality of service provided to customers.

3- Awamleh khaled (2014), entitled " The Impact of Information Systems in the electronic services in Jordan outputs".

This study aimed at detecting This study aimed to uncover the impact of information systems in e-government services in Jordan outputs, in addition to the proposal model shows the relationship between the information the government of Jordan and e-services systems outputs, but the purpose of achieving the objectives of the study, the researcher used the descriptive approach, and the sample of the study sample class consisted of 350 individuals from various government ministries and official departments, as well as the researcher to design and implement a questionnaire after the confirmation of the validity and reliability, and after the collection of data through the main study tool, a questionnaire, has been the analysis of the data by the statistical program (SPSS) within the program Statistical Package for Social Sciences. Can summarize the key findings of the study in the following points: ranged averages for all fields of study between (4.59 - 4.39) and substantially estimate, which indicates the presence of the impact of the output of D information systems in the Jordanian government e-services.

4- Karasneh Hothefah (2014) Entitled Constraints Of The Development Of Accounting Information Systems In Financial Companies Listed On The Amman Stock Exchange.

This study aimed to identify the obstacles that limit the development of accounting information systems in financial companies Jordanian listed on the Amman Financial Market, as well as identify the most

important of these constraints, has been designed questionnaire contained 30 questions covering the problem of the study the main, been using the SPSS to analysis data and hypothesis testing, the questionnaire was distributed to accountants who work In financial companies of Jordan, has been distributed 90 questionnaire was recovered 75 questionnaire for the purposes of statistical analysis, and the study concluded that there are obstacles to the development of accounting information systems in financial companies was the most important obstacles to Material resources, has been the most important recommendations of the study are to discuss ways of reducing impediments to the development of accounting information systems in all financial sectors.

5- Bani Hani, Ahmad, and Al-Najjar ,(2009) entitled, The impact of management information systems on organizations performance: field study at Jordanians universities.

MIS effect on the performance of the organization: a field study in Jordanian universities), which aimed at studying the impact of management information systems on the performance of organizations and academic point of view in Jordanian universities that contain the Faculty of Business. The study included all business schools' deans and department heads in Jordanian universities public and private, have been withdrawn a simple random sample consisted of (15) University, as was the distribution of 120 questionnaire by (8 questionnaires each university), has been used statistical tools the following for the purposes of analysis : correlation coefficient and simple regression. The results showed indicated the presence of a significant positive correlation between management information systems and performance in organizations, the results also showed that the management of information systems have had a significant impact on the performance of organizations.

This study is distinct from previous studies in that they are looking at the Ministry of Higher Education and Scientific Research of Jordan and that the study sample is a random sample of employees, and the independent variables and the constituent elements of information technology does not exist in other previous studies.

The study methodology: Adopts this study descriptive analytical approach in data collection and statistical analysis to arrive at the results of the study and achieve their goals, has been to rely on sources of information gathering by the following:

-Secondary Sources: where were collected preliminary information from reference books and theses and publications related to the subject of the study.

Primary sources: the questionnaire was developed study addresses related to information technology as a variable level of independent and improve the administrative performance of the employees in the Ministry of Higher Education as the dependent variable variables.

The researcher used in the study tool measure consisted of five grades (1-5) of the answers, according to a Likert scale Quintet (Likert Scale), which is composed of five degrees to determine the degree of approval of the study sample on each paragraph of the study tool, and convert categorical scale to the amount of data that can be measured statistically, was given the relative weights shown in table (1).

Table (1)
 Degrees Likert scale Quintet (Likert Scale) used in the study tool

The degree of the scale	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
The degree of approval	5	4	3	2	1
The relative weight	%100-81	%80-61	%60-41	%40-21	%20-0

As it has been the use of the Statistical Package for the program for the humanities and social sciences SPSS, in order to analyze the data and test hypotheses.

The study population and appointed: The study consists of workers in the Jordanian Ministry of Higher Education and Society, The sample of the study consisted of a random sample representative (45) individuals were distributed to employees random sampling method.

Tool's study tests:

The study tool consists of (16) Question of them (12) Question measure the first area which the existence of information technology in the Ministry of Higher Education and Scientific Research, The second area is the area of improving the quality of the performance of employees in the Ministry and consists of (4) questions.

1- Cronbach's alpha test: give this test an explanation of the consistency of the questionnaire and thread paragraphs internally, and show the strength of the resolution and coherence of its clauses, so that, if returned, one of them answered the same questionnaire the same conditions gave the same results, and if the

ratio of Cronbach's alpha of 60% or more, this indicates thread resolution, stability and consistency internally well(molhatra,2004,p268).

The following table shows Cronbach's alpha coefficient for fields of study individually and for the tool fully.

Table (2)

Internal consistency coefficient Cronbach's alpha for fields of study and the tool as a whole.

Field title	Questions number	Reliability coefficient (Internal consistency)
Information technology used in the Jordanian Ministry of Higher Education.	12	7%8
Improve the administrative performance of the staff of the ministry.	6	80%
Total	18	86%

Is evident from the above table that there is a large internal consistency between the paragraphs of the questionnaire individually and between full-resolution where the percentage of 86% Cronbach's alpha tool for the study in general, and this confirms the strength and coherence of the questionnaire and internal coherence and stability.

- 2- Content Validity : intended to honesty over the expression of the paragraphs of each area of study for the area to which it belongs, it has focused attention on making sure that every area of study accurately representative of a group of paragraphs that concern them, and that these paragraphs already measure this area (Sekaran, 2003), was measured sincerity resolution content by measuring the relationship between each paragraph and the area to which it belongs by using the Pearson correlation coefficient (Pearson Coefficient of Correlation)), it has adopted the correlations in excess of (30%), and the significance statistical task at the significance level ($0.05 \geq \alpha$) table (3) of these relations.

Table (3)

Special measuring the content of the paragraphs of the areas of study sincerity Pearson correlation coefficients.

	FIELD	Questions Number	Paragraphs Correlation Coefficient	The Level Of Significance
First Field	Information technology used in the Jordanian Ministry of Higher Education.	12	<i>0.509</i>	<i>0.000</i>
Second Field	Improve the administrative performance of the staff of the ministry.	6	<i>0.603</i>	<i>0.000</i>
	Total	18	0.542	<i>0.000</i>

The previous table shows, the results of the Pearson correlation coefficient between the vertebrae and fields of study variables, and the review and the levels of significant correlation coefficients values prove the existence of a statistically significant relationship at the significance level ($0.05 \geq \alpha$) between field paragraphs, which indicates the presence of structural sincerity of these paragraphs.

Data analysis and hypothesis testing:

- Analysis and discussion of the main area which is the first information technology and the results of its components (computers and other electronic devices, Intranet, Extranet, computerized management programs, qualified staff to work with information technology:

-Discuss the results of a sample survey on trends in the level of presence of information technology in the Jordanian Ministry of Higher Education:

Table (4) shows the results of the statistical analysis of the arithmetic averages and standard deviations of the variable extent of the presence of information technology in the Jordanian Ministry of Higher Education:

TABLE (4)

	Paragraph	MEAN	S.D
The extent of the presence of computers and other electronics			
1-	There balancing theme of the company's management to promote the purchase of modern equipment needed to complete the work and equipment operations.	3.99	0.67
2-	There rewarding material rewards for employees who complete its work without major errors.	3.90	0.65
3-	The company is working to bring new and sophisticated devices instead of the old devices.	3.89	0.68
4-	The company's management bother to activate the Internet in all sections of the company and its subsidiaries.	3.84	0.61
	Total field	3.81	0.66
The level of the existence of internal and external networks			
1	There are contacts in the ministry internal Internet network for internal use among sections of the ministry and its departments	4.01	0.68
2	The Ministry is contacting the outside through the Extranet their existing network.	4.00	0.72
3	There is a process development and technical support continuous Internet networks in the ministry	3.89	0.57
4	The ministry is working to get the best deals provided to them from the field of communications in the Internet.	3.83	0.62
	Total filed	3.84	0.47
The availability of computerized management programs			
1-	There is the ministry management programs in key departments such as the Bureau of Personnel and helping to improve the quality of the performance of their employees.	3.88	0.88
2-	There computerized accounting software used by accountants to implement different your operations	3.86	0.76
3-	Computerized management systems associated with the Intranet so that all employees can access	3.82	0.65
4-	There is a continuous update on computerized management programs within the ministry	3.80	0.65
	Total filed	3.77	0.55
There is qualified to work with information technology staff			
1-	The Ministry has a train employees on the use of information technology is constantly	3.92	0.75

2-	There are specific technical skills it must be mastered staff in the ministry	3.90	0.76
3-	The appointment of new staff provided mastery of IT skills.	3.77	0.79
4-	The training of employees in the ministry on various administrative programs to enable them to work out.	3.64	0.46
	Total field	3.87	0.55
	Total questioner	3.91	0.64

- Seen from the above table that the sample study on the availability of means of information technology in the Ministry of Higher Education of Jordan trends came degree of acceptance is high where the arithmetic average of the tool in general (3.91), while there was a degree of acceptance elevated to the variables of information technology ranging averages have between (3.77 - 3.91), where they are discussing these results are as follows:

- The area of availability of computers and other electronics: clear from the table that the study sample agree highly that there are computers and other electronic devices in most departments of the Ministry and most of the staff, and there are also machines and electronic imaging, fax, scanner and other devices that improve the level of performance of employees in the ministry, this area has got the arithmetic average (3.81), and its standard deviation was (0.66).
- Field level and the presence of internal and external communication networks: seen from the above table that there is a high degree of approval by the sample of the study on the presence of sufficient level of intranet, extranet in the ministry and that these networks help to improve the quality of the performance of employees in the ministry, through contact and communication between the speed the ministry and related parties, and technical support located in the ministry gives the new features help in development work and development, was the arithmetic average of (3.84) this field, and standard deviation (0.47).
- The field and the availability of computerized management programs: seen from the above table that there is a computerized management programs exist in several administrative departments such as personnel and accounting department and Cabinet Affairs, said that these computerized management programs contribute to the strengthening of the administrative work and performance of employees in the ministry. It was the arithmetic average of (3.77) and a standard deviation (0.55).

Field presence able to work employees in light of the information technology environment: seen from the above table that the ministry is concerned with the development of existing staff skills so as to enable them to work using information technology, and that the ministry is interested to appoint staff can work under the IT environment and enjoy the skills of high tech, has this area got the arithmetic average (3.87) and a standard deviation (0.78).

Analysis and discussion of the results of the second main area of improving the quality of administrative performance of the workers in the Jordanian Ministry of Higher Education.

Table 5 shows the results of the statistical analysis of the arithmetic averages and standard deviations of the variable improve administrative performance in the Jordanian Ministry of Higher Education.

Table (5)

	Paragraph	MEAN	S.D
Improve management performance in the Jordanian Ministry of Higher Education			
1-	Administrative Officer works under necessary to complete the work properly technical skills.	4.12	0.77
2-	It uses administrative officer for the completion of the functions required to achieve the objectives of the ministry using information technology	4.11	0.68
3-	The administrative officer in the ministry has performed all the work assigned to it the right time because of the availability of internal and external networks	4.10	0.85
4-	All are available in the company's administrative and electronic equipment needed to complete the administrative work	4.08	0.68
	Total field	4.10	0.62

It is seen from the table above that there is a degree of acceptance is very high on the potential contribution of the ideas set out above in improving management performance in the ministry where this area got the arithmetic average year (4.10) and a standard deviation (0.62) by stimulating the workers and support them and provide them with all necessary to get the job done Facilities administrative, while the more paragraphs acceptance is the paragraph which states that "administrative employee works under the technical skills needed to complete the work properly," where the mean was her (4.12) and standard deviation (0.77) and indicate such a degree that the study sample see that it is necessary that the employee administrative enjoy a degree of technical and artistic skills that require him to complete the tasks required of it which helps in the completion of work and improve and achieve the desired goals.

Test hypotheses:

The main hypothese : that states that test, "there is no statistically significant impact of information technology used in the Ministry of Higher Education in Jordan to improve the administrative performance of the employees."

To test the hypothesis key is to rely on Innova test to reach the extent of the existence of the influence of the independent variable (IT) on the follower. (Improve the administrative performance of the employees in the ministry).

Table (6)

Variable	Mean	S.D	Df	F value	Statistical significance
Information technology used in the ministry.	3.90	0.44	44	11.16	*0.000

- Statistically significant at the level ($\alpha \leq 0.05$)

It is seen from the table above that there is a clear impact of information technology used in the Jordanian Ministry of Higher Education to improve the administrative performance of the employees, where the arithmetic average (3.90) and standard deviation (0.44) were significant F value of statistical ((0.000 which is statistically significant at the level of value confidence ($\alpha \leq 0.05$), which shows that the ministry concerned with information technology in all fields (providing computers, Internet networks, programs administrative computerized, staff technologists) to improve administrative performance levels for workers in the ministry. Accordingly, we reject the hypothesis nihilism and accept the correct premise that states that "no statistically significant effect of information technology used in the Ministry of Higher Education in Jordan to improve the administrative performance of the employees".

Results of the study and its recommendations:

First results of the study

Through data analysis and hypothesis testing, the study showed the following results:

- 1- .1that there is a high level of IT infrastructure information in the Jordanian Ministry of Higher Education, where it was found through statistical analysis that there are computers in all departments and sections and most of the staff in the ministry to have the computers and other technological aids in the completion of their work level.
- 2- that more areas of information technology and presence in the Jordanian Ministry of Higher Education is an area networks provide internal and external communication used by the company to complete its work.
- 3- show through statistical analysis of the views of a sample study that there is a desire above the administrative staff in the development of functional level and their performance through continuous training.
- 4- found through statistical analysis of the views of a sample study that there is a desire above the administrative staff in the development of functional level and their performance through continuous training.
- 5- show that there is a statistically significant effect of information technology used in the Ministry of Higher Education to improve the administrative performance of the employees.

Second: The recommendations of the study

Through the results of the study, the researcher recommends the following

1. The Ministry of Higher Education is working to develop Electronic systems and existing programs even have help in the development of employee performance.
2. increase the level of staff awareness of the importance of the availability of information technology staff during the performance of their duties.
3. Work on the development of staff skills through training courses, which constantly enhances their skills and help them get their work done.

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