The Role of Communication and Information Technology in the Development of University Management at Governmental Jordanian Universities from the Academic Leaders' Point of View

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Abstract

The current study aimed at identifying the role of communication and information technology in the development of governmental university management at Jordanian universities from the academic leaders' perspective. The sample of the study consisted of (180) individuals. The results showed that the role of information technology and communication in the development of university management at governmental Jordanian universities from the academic leaders' point of view was of a high level in all fields and paragraphs concerned. The study also showed that there was no statistically significant differences at the level of (α =0.05)   due to the   variables; job title, college, and years of experience.

Keywords: Information Technology, Communications, Development, University Management, the Governmental

Jordanian Universities, Academic Leaders.

1- Introduction

The communication and information technology is considered one of the most important aspects of the contemporary technological revolution, which can be used in the educational field. It supported, through computer technology and the Internet, the idea of education continuity, the introduction of a large number of alternatives and the communication channels of audio-visual and interactive communication and teaching, and holding many conferences concerned with what is new related to information   and communication   technology (Hamdi, 2004; Anderson and Lock, 2004)

What the world is witnessing today from the information revolution has led to increasing pressures on universities in order to deal with technological challenges. Universities management has developed plans to launch various and advanced programs to meet the different needs of students and   the community. The role of the modern university is not only to face modern challenges but also to predict the future challenges, take necessary actions and plans, and follow these steps needed to address these challenges before they take place. (Jaradat and Struck 2000; Yoginder 1990).

The introduction of information and communication technology in the field of university management has led to changes in the managerial processes. These changes include planning, organizing and implementing, directing and coordinating, evaluating and motivating employees at universities in order to develop and determine the educational process. So, the role of management is essential in identifying, developing and implementing these practices in order to continue working properly so as to achieve the objectives of the university (Abbas, 2004).

Management development is considered as a holistic and schematic effort lead to develop employees through altering their values, skills, and behavior,. In fact, information technology plays an important role in highlighting the administrative capacity subjected to development by individuals on the grounds that this technology will provide these individuals everything they need from means, tools, and capabilities necessary for development and change on the ground.

Because of the difference and contrast between the adoption policies of communication and information technology on the level of decision-makers at universities, this study showed the role of communication and

information technology on the development of university management at governmental Jordanian universities from the viewpoint of the deans, their vise, and assistants.

1.1 The Concept of Information and Communication Technology

Senn (2000) defines communication and information technology as the technology which represents a wide range of capabilities and components for the various elements used in the storage of information as well as its role in the generation of knowledge. On the other hand, Turpan et al (2002) define it as the technological aspect of the information system, since it covers hardware, databases, networks, software and other tools.

1.2 A Review of Related Literature

Pilgrim (2001) studied the applications of information and communication technology and their role in supporting the faculties of the University of Ontario and focused on the Web CT system. The study sample consists of 172 individuals. A questionnaire was prepared for the study purposes. The study found out that faculties need appropriate technical support and facilitate to access to educational hardware and software.

Hong et al (2003) aimd at identifying trends of students towards the use of internet in learning in Malaysia. The sample size was 88 students. The researchers used a questionnaire as a tool for their study. The results showed a strong relationship between knowledge and skills of students in using internet and their attitudes towards the use of the Internet in learning.

Hubain (2003) determined the most influential perceptions of the staff members on their use of technology at Purdue University in the United States of America. The study included a sample of 44 faculty members at the university. The results showd that the proportion of use of information technology was high.

Anderson & Dexter(2005) identified the patterns of technology in educational management and how to develop them in schools in the United States. The study sample consisted of 4100 teachers, 800 technologies supervisors, 867 directors and 1150 Schools. A questionnaire was used to achieve the objectives of the study. The findings showed that computer technology is used largely in the managerial works such as preparing inventory, writing reports, school schedules and so on.

Jones & Jones (2005) identified the degree of effective management of learning by using Web Ct at the University of Western California. The sample consisted of (971) students, and (44) teachers. The results show that the program helps students and managers increase communication in between, enrich the subject matter through the website, and contribute to the learning process.

Rabaa' (2006) aimed at determining the degree of use of the internet in the management practices of the academic leaders at the governmental Jordanian universities, and showing the obstacles in using them from their point of view. The study sample consisted of 226 subjects. The most important results indicated that the degree of use of internet was high and medium, and there are statistically significant differences for the variable of experience (6-10 years and more than 10 years).

Harahsheh (2009) determined the impact of information technology on the quality of services from the perspective of Jordanian university students in the north territory. A questionnaire was developed as a tool for the study purposes. The study sample consisted of (389) students. The results indicated that there was a positive impact for the use of information technology on all fields of study.

2-The Problem and Questions

This study is an attempt to identify the role of information and communication technology in the development of university management at governmental Jordanian universities from the viewpoint of the deans, vises, and

assistants in science and human faculties, through answering the following questions:

1. What is the role of communication and information technology in the development of university management at governmental Jordanian universities from the viewpoint of academic leaders?

2. Are there significant differences at the level of (0,05 α =) in the averages of estimates of members of the study sample, about the role of communication and information technology in the development of university management   at governmental Jordanian universities from the viewpoint of academic leaders due to the different variables; job title, and total years of experience?

3- Importance of the study

It is expected that this study contributes to:

A set of proposals and recommendations that contribute to the development of university management through communication and information technology at the governmental Jordanian universities.

Research and scientific studies in the field of using communication and information technology in the development of university management at Jordanian universities.

Explaining the role communication and information technology in the development of university management at governmental Jordanian universities from the viewpoint of academic leaders.

Determining the impact of demographic factors and personal careers on communication and information technology in the development of university management at governmental Jordanian universities.

4-The study community and sample

The study community consisted of (386) subjects as follows: (123) deans, (123) deputy deans, and (140) assistant deans, working at governmental Jordanian universities for the academic year (2010/2011). A stratified random sample, consisted of (200) individuals, was chosen. 180 questionnaires were retrieved with (46.6%)   .

5-The Tool of study

After reviewing the theoretical literature and previous studies on communication and information technology in the higher education, a tool composed of two parts was made. The first Part contains identifying data, including: job title, faculty, and years of experience. The second part of the study consists of (46) paragraphs distributed over (5) areas: hardware, software, databases, management information systems, and networks.

6- The stability of the tool

To ensure the stability of the tool, Cronbach alpha was used. The results show that the value of reliability coefficient of the tool is (0.91) for all, and this indicates that there is a high proportion in the stability and consistency between the items (paragraphs) of the study. Table (1) shows the stability of the overall instrument and the stability of the five fields concerned.

Table (1): reliability coefficient of the tool and for each area of study

No	Field	Items No	Reliability coefficient
1	Hardware	5	.79
2	Software	11	.87
3	Databases	8	.74
4	MIS	12	.74
5	Networks	10	.52
Tool as a whole		46	.91

7- Statistical treatment

Averages and standard deviations of the study areas and paragraphs were calculated.   One Sample T-test was used for fields of study. In addition, (3 Way-MANOVA) was used to find out   differences depending on variables of job title, faculty,   and years of experience.

The Results of the Study: Presentation and Discussion:

Results related to the first question: "What is the role of communication and information technology in the development of university management at governmental Jordanian universities from the viewpoint of academic leaders?

To answer this question, the grades were identified based on the following scale to determine the level of sample

responses: less than (2.50) level is weak, (3.50 -2.50) the level is medium, and more than (3.50) the level is high.

Concerning the first field, "hardware", averages and standard deviations of the sample responses were calculated.

Table (2) shows that.

Table (2): Averages and standard deviations calculated on the paragraphs of hardware, ordered descending.

No	Paragraph	Average	Standard deviation	Degree
4	The University provides, for the use of the application of information and communication technology, regulatory, environmental, supportive, and appropriate policies	3.82	0.65	High
5	the University updates the high-speed devices to ensure speed of achievement	3.80	0.63	High
3	The university works to broaden the base of the university infrastructure for information and communication technology to include all administrative branches	3.77	0.58	High
2	The university has technical components for the application of information and communication technology	3.77	0.53	High
1	Every employee has an own computer	3.76	0.47	High
Field of hardware as a whole		3.78	0.43	High

Table (3): Averages and standard deviations calculated on the paragraphs of software, ordered descending.

No	Paragraph	Average	Standard deviation	Degree
14	My use of software makes me feel untired when performing my administrative duties	4.07	0.75	High
9	Software helps me retrieve information quickly	4.04	0.60	High
7	Software updated due to my administrative needs	3.96	0.56	High
12	Software helps me bridge steps I do	3.93	0.64	High
11	Software keeps up with my administrative requirements	3.92	0.66	High
15	Software helps me file official documents	3.92	0.68	High
10	Software helps me deliver and discuss new ideas	3.92	0.65	High
6	Software is distinguished by security	3.90	0.66	High
16	Software helps me to prepare administrative and technical reports for faculty staff and then to president	3.88	0.71	High
8	Software provides me with explanatory information when a disorder happens	3.84	0.67	High
13	Software presents training programs, affected positively performance	3.83	0.75	High

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The field as a whole	3.93	0.43	high

The third filed "databases":   averages and standard deviations of the sample responses were calculated. Table (4) shows that.

Table 4: Averages and standard deviations calculated on the paragraphs of database, ordered descending.

No	Paragraph	Average	Standard deviation	Degree
18	databases contribute with saving the vast amount of data on my work	4.22	0.50	High
19	The data are continuously in a manner I can make use of it to improve my performance	4.17	0.60	High
22	databases help me analyze and sort my administrative duties.	4.17	0.56	High
21	Communication systems with local and international databases to meet my professional needs.	4.16	0.59	High
20	Advanced security systems are available to prevent illegal use of databases.	4.15	0.68	High
23	Databases of order and accuracy are available when needed	4.13	0.68	High
24	Databases provide me with backup copies of files and records, relating to emergency cases.	4.13	0.61	High

17	Databases contribute with providing information at lower cost and higher speed	3.85	0.51	High
The field a whole		4.12	0.35	High

The fourth Field "management information systems, MIS": averages and standard deviations of the sample responses were calculated. Table (5) shows that.

Table 5: Averages and standard deviations calculated on the paragraphs of MIS, ordered descending.

No	Paragraph	Average	Standard deviation	Degree
34	Available MIS contribute to improve relations between the department and the customers (students, staff, community).	4.63	0.52	High
35	corrective information can be introduced to MIS used in my work	4.40	0.54	High
36	MIS contribute to prepare meetings relted to my work	4.36	0.62	High
31	. MIS help me provide data and information in a timely manner.	4.27	0.79	High
32	Used MIS lead to reduce the cost of production than what they were in the past.	4.27	0.61	High

30	MIS contribute to increase the size of the administrative services provided.	4.23	0.52	High
25	MIS are easy and possible to be learnt and applied	4.11	0.66	High
26	MIS are quick and safe	4.11	0.67	High
29	MIS contribute to provide new information on an ongoing basis.	4.10	0.66	High
28	MIS provide me with electronic information to facilitate administrative practices (such as the registration system, electronic system of queries ..... etc)	4.10	0.59	High
33	MIS contribute to reduce the time needed to accomplish my work.	4.02	0.56	High
27	MIS provide me with accurate information free of errors, contributing taking appropriate decisions	3.99	0.54	High
The field as a whole		3.85	0.28	High

The fifth field "networks": averages and standard deviations of the sample responses were calculated. Table (6) shows that.

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Table 6: Averages and standard deviations calculated on the paragraphs of networks, ordered descending.

No	Paragraph	Average	Standard deviation	Degree
42	An e-mail contributes to contact other departments	4.47	0.53	High
41	Linking different administrative unites with one network contributes to takes decisions quickly	4.40	0.57	High
43	Internet helps me interpret results and notes that I conclude within my administrative work	4.40	0.52	High
46	Internet advises me in the provision of standards and criteria established to monitor the tasks and distractions	4.38	0.52	High
39	linking all colleges and administrative units with one network contributes to coordinate different administrative units.	4.36	0.54	High
44	Internet contributes to exchange experiences and cooperate with the local community	4.32	0.52	High
40	Internet provides me with the ability of search for methods , raising my performance due to modern technology	4.25	0.49	High

	related to my work.			
37	linking all colleges and administrative units with one network contributes to adjust the course of administrative processes	4.22	0.56	High
45	Internet provides me with a chance to search for sources of funding and supporting scientific research	3.98	0.66	High
38	linking all colleges and administrative units with one network contributes tp speed reporting any error which may occur at the site of my work.	3.71	0.62	High
The field as a whole		4.25	0.24	High

8- Conclusion and Recommendations:

- Conducting further studies in this area in the future.

- The need for the university management to provide a computer for each employee in various departments, provided that these computers are to be updated to ensure fast achievement.

- Providing training programs which affect positively the improvement of the performance of employees at the university.

- Databases contribute to provide information at lower cost and higher speed.

- MIS provide accurate information free of errors, which contribute to making the right decisions.

- Connecting all faculties and administrative units with a single network to provide rapid reporting of any error which may occur

-IT involved the determination of IT antecedents to IT impact on the decisions making.

The results also revealed a positive relationship between IT impact and firm performance.

-The role of ICT and it is effect on the corporate planning process in an organization to handful of decisions that they have to take in order to place their organization in a strong position to face the long-term future.

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