

## **Information Technology and Its Impact on the Performance of Governmental Institutions**

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**Abstract:** *Information technology has captured the attention of organizations in the private and public sectors. This study is to answer the question related to the impact of information technology on performance in Jordanian Institutions. The research proposes a model to evaluate the impact of information technology on the performance of Jordanian Institutions. The model was tested by using survey data collected from 66 managers and employees. Correlation and Regression analysis show the importance of information technology in improving the performance levels. The results show that there is a strong relationship and a positive impact of information technology on performance.*

**Keywords:** *Information technology, Hardware, Human Resources, Programs, Procedures, Networks, Database, Performance.*

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### **I. Introduction:**

Organizations have seen in the last decade of the twentieth century and the beginning of this century, there was a huge revolution in the field of information technology, where the evolution of computers and accessories, software, databases, human resources working in the field of information technology, networks, and procedures. The number and size of organizations have increased exponentially with the increasing number of beneficiaries that benefiting from these organizations in order to meet their needs. If the organizations wants to carry out its functions and duties of the direction of the beneficiaries better, the organizations must seek to acquire the technological means to assist in the provision of services to beneficiaries.

There are two assumptions to answer the research questions: First hypothesis: "There is no correlation at the level ( $\alpha = 0.05$ ) between information technology and the performance of organizations surveyed", in order to measure the correlation between information technology and performance. Second hypothesis: "There is no statistically significant impact of information technology on performance of organizations surveyed at the level ( $\alpha = 0.05$ )", in order to measure the impact of information technology on performance.

Al-Otaibi (2010) stated that the organizations must have an attention toward using information technology by human resources, and organization's management must support the process of transition to use of information technology through the provision of information technology's infrastructure.

Saleh (2003) stated that it is necessary to respond to the results of research in the field of technology development, and re-formulating the policies of human resources development that include the elements related to the interaction with the technological revolution.

Aljaddaah (2008) stated that there is a positive correlation between the level of using information and communication technology, and overall performance of the business.

Arabi (2012) stated that there is a statistical significant relationship between the use of information technology and functionality of the workers, as well as statistical significant relationship between the use of information technology and the volume of the performance, the quality of performance, efficiency, simplification of work, and the presence of statistical significant relationship between the use of information technology and the speed of achievement.

Jubouri (2009) stated that there is a significant correlation between hardware and equipments with the organizational Performance, the results indicated that the strength of this relationship, which confirms that the company is seeking and trying to invest their equipment in order to improve the company's performance, and the results showed that the skill and experience variables have negative result, so the company must activating these variables by raising skills workers by train them to acquire the expertise to be a harmonization between the equipment and how to use it optimally, in addition, the communication networks at workplace leads to a radical change in the organizational performance through what is stated by the results of the relationship and impact between it.

Allam et al (2012) stated that there are positive impact of information technology in improving the performance of the banks listed on Amman Stock Exchange.

Lami (2013) stated that the company has a trend to expand the use of modern communication networks and investing in improving the exchange of information between the chain partners, the speed, the ease of access

to resources as well as the delivery of its products, and to increase its commitment to having the same accurate databases and information that contribute to plan its resources efficiently, coordinate and meet its requests quickly.

Hussein (2010) stated that the level of using information technology in the hotel is low, the efficiency of its human resources skills are low, the weakness of relying on internal networks, and the lack of cooperation between the workers and the organization surveyed in building databases.

Baloh & Trakman (2003) stated the emergence of new work patterns due to the development of information and communication technology, and the use of information and communications technology to attract and selection of staff, training, development and motivate its staff, and also has been used to change the functions of individuals and work procedures.

Researcher observed that there are claims by the beneficiaries of the surveyed organizations regarding to the decreasing the level of quality of services provided by organizations surveyed.

The research aims to study the types and characteristics of information technology, identify the level of using and application of information technology in the surveyed institutions, and determine the relationship and the impact of information technology on performance in these institutions. This study has not been previously made in government institutions.

This study is a practical application in the Jordanian arena. Serving the Jordanian economy by directing organizations and institutions to activate the use of information technology and invest them better, which increases the organization's ability to provide services to the largest number of beneficiaries with high quality, less time and less cost.

## **II. Literature Review**

### **2.1 Information Technology:**

Organizations living in a constantly changing and evolving environment, one of these developments is the evolution of information technology, so it makes imperative for organizations to keep pace with this evolution. This is through possessing and developing information technology's tools. Moreover, the use of information technology leads to improve the functionality of the workers, and the success of any organization is linked to the level of performance and competence of its members, in order to assist itself in achieving its goals of growth, development, survival and prosperity, which in turn ensures organizations ability to provide products and services to the beneficiaries with the highest quality, faster time and least cost.

Jubouri (2009) stated that if the organizations want to be distinguished by the performance of its competitors, it must use information technology through the application of a number of procedures and training users on this technology to ensure its functioning properly in order to achieve the efficient performance criteria which organization seeks to achieve. It also highlights the role of information technology in achieving high levels of performance, Furthermore it enables senior management to improve and increase the effectiveness and efficiency of the organization through the provision of information to make rational decisions to support the vision and mission of the organization, which affects positively the strategic objectives of the organization with the need to provide the kind of flexibility in the use and apply of technology in accordance with the effective manner in which lead to the superior performance of the organization because the use of technology incorrectly could hamper the organization's work and lead to deterioration and failure, rather than to raise the competitive advantage of the organization through their performance.

Arabi (2012), Ghodah (2007), Jubouri (2009), Liod (1992) stated that the relationship between the use of information technology and performance are as follows:

1. Contributing greatly in the improvement of the performance by not doing much of the routine work. This will lead to the completion of the business quickly, efficiently, accuracy and at low cost.
2. Contributing in reducing the routine functional burdens placed on managers. This will allow them to take advantage of time and use it in strategic planning and policy-making for the organization, which has contributed raising the efficiency and effectiveness of senior management.
3. Influencing the moral side of the employees towards increasing their loyalty and belonging to the organization through providing opportunities for accessing to information easily thus contributing to enhance their participation in the decision-making process.
4. The interest of organizations towards competitive advantage pushes it toward the use of information technology, which highlights the increased attention to research, development and training, which contributes to the construction and development of individual capacities.
5. The organizational culture and administrative guidance in the upper levels in any organization, whatever the outputs of administrative operations, have an important role in the trend towards the use of information technology, which is reflected in the regulatory environment of working, building, activating, and developing the administrative process as whole.

6. Resulting in increase the effectiveness of the organization in achieving long-term objectives related to survival, growth, and continue, through the improvement of learning processes and knowledge transfer, use of local and global business networks, to improve the effectiveness of the decision-making process, increase its quality, improve its content, and increase the effectiveness of administrative communication process within and outside the organization and improving coordination and alliance between the various levels of administrative units and process to accomplish the organization's objectives.
7. contributing in increasing the efficiency of organization in the exploitation of its various resources to generate the required output at the lowest possible cost, by automating operations and activities depending on computer applications, thus contributing to the improvement of product quality and reducing disparities and inequalities in the performance level of these goods and services.
8. contributing in increasing the number of opportunities available to the organization in the internal and external markets, and activating the process of generating and applying new ideas to develop the necessary goods and services..

Lozi (2002) stated that the information technology has a key role in modernizing and developing the organizations performance. This role is represented by creating new types of jobs, work areas and a variety of activities in work environments. This also observed through the following:

1. Assisting in providing an effective work force within the organization.
2. leading to increase administrative communication channels between the various departments.
3. Achieving effective control in operational processes and reducing the size of the administrative regulations.
4. Assisting in saving time for senior management and full-time for more important work.

Sabri (2002) stated that the information technology plays an active role for organizations with the strategic direction that seeking to enhance competitiveness, through enhancing the efficiency and effectiveness of the performance, as distinctive and efficient organizations today. It must be characterized by possessing information technology in order to achieve the high level of performance through their advanced products and services, as well as improving production marketing processes, reducing costs, and improving quality in an environment where the global competition is increasing.

Kotler (2000) stated that the performance is the final result of any activity, it includes knowing what should be performed, and when should it performed? As well as how to evaluate it? When information technology used in achieving these results and how the employee's performs what is required by them through the use of such technology and programs will improve work performance to achieve the organizations and individual objectives in growth and excellence.

Turban(2002) stated that the need of information technology and the use of computers appear clearly to perform the work better. The technology in the world has not become just a substitute for the communications and create a method for infrastructure available to the workers, but it is extremely to achieve high levels of performance, which help and enable managers to bring about improvements in the organizations work through the provision of information to make effective decisions to support the achievement of effective organizational performance.

Turban(1990) stated that the information technology has gained importance because of its active role in improving the productivity and motivating employees and managers to make intense intellectual efforts to create new things that lead to increase performance's efficiency, as well as using it in supporting and strengthening the knowledge management activities necessary for making management decisions, discovery and analysis of knowledge through the use of search engines, databases and finding appropriate ways to set goals and develop the technology in the right place.

The information technology has become a catalyst for the main changes in structure, operations and management of the organization, that resulted in its ability to improve productivity, reduce costs, improve decision-making, as well as strengthen relationships with customers and develop applications of new strategies to raise organizational performance.

Liod (1992) stated that the relationship of information technology with organizational performance stands out through their influence on the moral aspect for employees towards increasing their loyalty and belonging to the organization through providing opportunities for observing information in an easy way thus contributing to enhance their participation in the decision-making process.

## **2.2 Performance:**

The importance of improving the performance level comes from being expressed in the organization's ability to create acceptable results in achieving the requirements of the group interested in the organization, And

considered a representative of the extent to which the organization can accomplish the task successfully or achieve the target superiorly.

Hussein (2010) stated that the importance of performance highlights from being expressed in the organization's ability to create outcomes that acceptable in achieving the requests of important groups in the organization, and considered as representatives of the extent to which the organization can accomplish the task successfully or achieve a goal of superiorly, and that the ultimate responsibility for any organization is to achieve the highest level of performance, and achieve objectives of the organization through its use of resources of various kinds in an efficient manner.

There are many levels of performance some of which will be at the level of the organization as a whole, the level of the administrative unit, and the individual level of the employee. Arabi (2012) found that the elements of performance are represented by the knowledge of the work's requirements, the amount of work done, the quality of work, perseverance and trust. Abdullah(1999) stated that the level of performance is determined as the result of the outcome of the interaction between individual motivation, the business climate and the ability of the individual to perform the work. Khatib (2008) stated that the performance is affected by group of internal and external factors, including: Technical factors: including technological progress, raw materials, organizational structure and ways and methods of work. Human factors: including the ability to perform the actual performance of the work, it includes knowledge, education and experience, in addition, the training, skill and personal ability. Shawabkeh (2008) stated that the it also includes a desire to work through identifying working conditions, social and physical needs and desires of individuals.

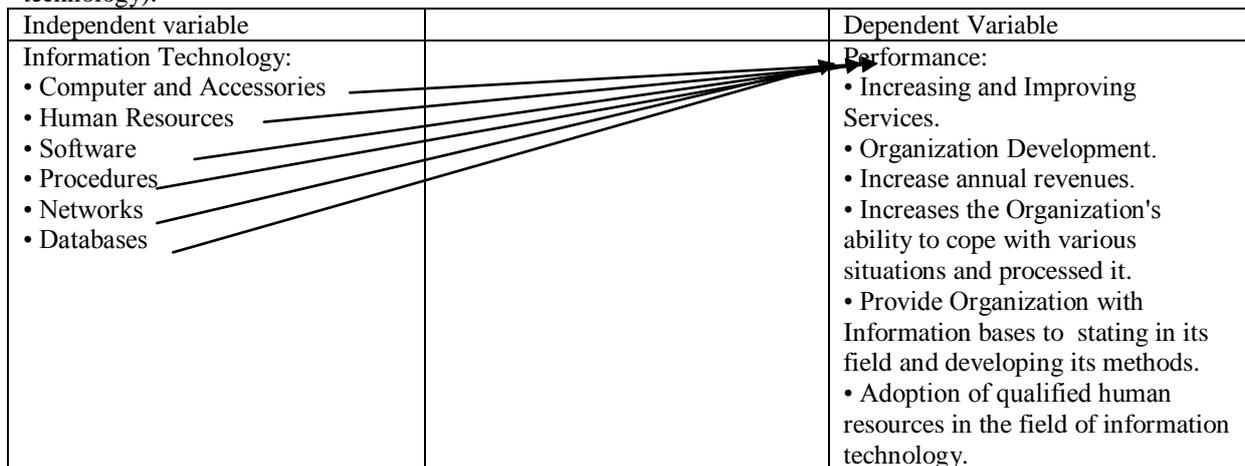
Mukhaimar (2011) stated that the there are other factors that affect job performance, namely: work characteristics, the actual control, system of wages and incentives, and demographic characteristics.

Shawabkeh(2008) stated that the performance is the basis for judging the effectiveness of individuals, administrative units and organizations, through group of indicators, including: productivity, morale of the personnel, rates of absence from work, the extent of the completion of the tasks and duties accurately, mastery, speed, the ability of creativity and innovation, degree of discipline and respect for the system and method of dealing with the staff, the level of cooperation with team work and flexibility and the ability to accomplish decisions.

Aldowailah(2007) stated that the indicators used to study the functional performance are: Effectiveness, that means achieving the goals of the organization in a timely and complete picture and in a good manner with the surrounding environment, according to this concept. The effectiveness is measured by the proportion of the goals that have been achieved effectively to the planned objectives in advance, at the individual level refers to the extent of an individual's ability to achieve the objectives required by the individual. Efficiency: that means an organization's ability to achieve the goals at the lowest cost or performs the work by the individual at the lowest cost of time, effort and money.

### III. Research model and hypotheses

In light of problem and objectives of the study, the researcher presents the following model, which reflects the independent variable information technology (computers and accessories, human resources, software, procedures, networks, and databases). It also reflects the dependent variable performance (improving and increasing services, organization development, increasing annual revenues, increasing the organization's ability to cope with various situations and process it, providing organization with Information bases to stat in its field and developing its methods, and adopting of qualified human resources in the field of information technology).



Research model: Prepared by Researcher.

### **3.1 Scale of the study model:**

Model's scale consists of (7) seven paragraphs to indicate the general characteristics of managers, and (14) paragraphs to indicate the general characteristics of the organizations surveyed, (36) paragraphs to indicate the components of information technology in organizations surveyed, in addition to (6) paragraphs to the indicators of performance in the organizations surveyed.

### **3.2 Study's Hypotheses:**

\* The first main hypothesis:

**Ho1:** There is no correlation at the level ( $\alpha = 0.05$ ) between information technology and the performance of organizations surveyed.

It is also divided into six sub hypotheses. The six sub hypotheses are:

**Ho1a:** There is no correlation at the level ( $\alpha = 0.05$ ) between Information technology used and improving services and increasing efficiency of organizations surveyed.

**Ho1b:** There is no significant at the level ( $\alpha = 0.05$ ) between the information technology and organization's development of organizations surveyed.

**Ho1c:** There is no significant at the level ( $\alpha = 0.05$ ) between the information technology and increasing the annual revenue of organizations surveyed.

**Ho1d:** There is no significant at the level ( $\alpha = 0.05$ ) between the information technology and increasing the organization's capacity to cope with various situations and process it in the organizations surveyed.

**Ho1e:** There is no significant at the level ( $\alpha = 0.05$ ) between the information technology and organization's benefit provided from its databases in developing its work and methods in the organizations surveyed.

**Ho1f:** There is no correlation at the level ( $\alpha = 0.05$ ) between the information technology and selection of the adoption of qualified human elements in the field of information technology of organizations surveyed.

\* The second main hypothesis Ho2: There is no statistically significant impact of information technology on performance of organizations surveyed at the level ( $\alpha = 0.05$ ).

It is also divided into six sub hypotheses. The six sub hypotheses are:

**Ho2a:** There is no impact of information technology on improving services and increasing efficiency of organizations surveyed at the level of significance ( $\alpha = 0.05$ ).

**Ho2b:** There is no impact of information technology on the organization's development of organizations surveyed at the level of significance ( $\alpha = 0.05$ ).

**Ho2c:** There is no impact of information technology on increasing the annual revenue of organizations surveyed at the level of significance ( $\alpha = 0.05$ ).

**Ho2d:** There is no impact of information technology on increasing the organization's capacity to cope with various situations and process it in the organizations surveyed at the level of significance ( $\alpha = 0.05$ ).

**Ho2e:** There is no impact of information technology on organization's benefit provided from its databases in developing its work and methods in the organizations surveyed at the level of significance ( $\alpha = 0.05$ ).

**Ho2f:** There is no impact of information technology on selection and adoption of qualified human elements in the field of information technology in the organizations surveyed at the level of significance ( $\alpha = 0.05$ ).

The study population consisted of governmental institutions in Zarqa Governorate in 2013, where numbered (16) departments. The study sample is a number of companies that responded to questionnaires which became (14) departments because two departments were apologized.

The questionnaires were conducted on managers and staff, limited interviews to whom filled the questionnaires. The total questionnaires had been retrieved (66) out of the (80) questionnaire was distributed, and so the number of individuals who have been surveyed in the surveyed companies is (66 individuals) this represented a approx percentage of (82.5%). Simple random sampling method was adopted to select the sample. The sample of this study was conducted on managers working in senior management and employees.

## **IV. Methods of Data Collection:**

The secondary data, reviewing all researches, articles, books, and literature relating to the study, both available in the university's libraries or through access to Web sites, in order to clarify the basic concepts and the various dimensions of the subject of this study. The primary data, where the study conducted on to clarify the phenomenon throughout the collection of data as follows: interviews: structured interviews with some of the managers, assistant managers and employees to complete and clarify the study's variables addressed by the study, and to enhance the information that can be accessed, as well as to find out the relationship between information technology and the level of performance in the institutions surveyed. Questionnaire was designed and contained general information about the workers and the institutions surveyed, it also includes an independent variable information technology, and the dependent variable is the performance, in order to collect the raw data from management of institutions surveyed.

**Table (1):** Internal consistency coefficient (Cranach’s Alpha) of the different paragraphs of the measurement tool

No.	Dimensions of the Study	Number of Paragraphs	Alpha Values
1	Hardware and Equipments	10	91.6%
2	Human Resources	4	79.1%
3	Software	6	87.6%
4	Procedures	4	84.8%
5	Networks	7	89.9%
6	Databases	5	88.9%
Independent Variable		36	95.8%
7	Performance	6	90.7%
Dependent Variable		6	90.7%
Total (Model)		42	96.6%

Likert Scale was used, and the weights assigned for approval are: (5) very high (4) High (3) Medium (2) Low (1) very low. Where the study relied on specific criteria in the interpretation of the degree of approval depending on the values of the arithmetic average. The measurement had been tested in two phases: First stage is testing the validity measurement tool: through presentation of the questionnaire to a group of specialists in the field of information technology and business administration, were made the necessary adjustments, and then were presented to a group of arbitrators of specialists from academics and professionals, in order to make sure of the questionnaire validity, where all the notes were introduced into consideration until the appearance of the questionnaire in its final form. The researcher has conducted a preliminary study on four of the surveyed institutions, so as to make sure that the paragraphs contained in the questionnaire is clear and understandable to measure the purpose of the study. Supplement No. (2). Second stage is testing the stability of the measurement tool: internal consistency coefficient though the use of (Cronbach's alpha), (SPSS Version 20.0) was used to extract the internal consistency coefficient of the different paragraphs of the measurement tool to find the total stability coefficient for the questionnaire, which is (96.5%) this percentage considered a strong indicator of the stability of the measurement tool, table (1).

**Statistical Methods Used:**

SPSS version 20.0 was used for the analysis of data collected through the questionnaire devoted to this study, descriptive statistics methods were used (frequency distribution, percentages, arithmetic mean and standard deviation).

**Table (2):** The verbal values of arithmetic mean

Value of the Arithmetic Mean	Verbal Explanation
0 - < 1.5	very weak
1.5 - < 2.5	weak
2.5 - < 3.5	Average
3.5 - < 4.5	High
4.5 - ≤ 5	very high

The criteria have been identified to explain the degree of approval, depending on the values of the arithmetic average, as is shown in the above table (2).

**Table (3):** Standard Strength Answer

Correlation Coefficient	Strength of Answer
0- < 0.3	Weak
0.3- < 0.7	Average
0.7- ≤ 1.0	Strong

The inference statistical techniques were used Nonparametric tests / Spearman's correlation coefficient to measure the strength and direction of relations between the independent and the dependent variables. The three criteria adopted for the classification of the relation's strength, are shown in the above table (3). A stepwise regression analysis was used to measure the level of the impact of independent variable on the dependent variable. Multiple regression analysis was used in order to reach the value of statistical test and the degree of confidence, as well as access to the coefficient of determination to demonstrate the impact of independent variables on the dependent variables.

**V. Analysis of Results**

**5.1 Improving Performance**

Study's results show that the surveyed institutions are improving their performance based on the elements of information technology available to it.

**Table (4): Arithmetic Means and Standard Deviations/ Answers on improving performance**

Number	Paragraph	Arithmetic Means	Standard Deviations
1	Information technology used in the organization is contribute in improving services and increasing efficiency	4,05	0,90
2	Information technology used in the organization resulted in the organization's development	4.03	0.91
3	Information technology used in the organization brought an increase in annual revenue	3.95	0.93
4	Information technology used in the organization contributed in raising its capacity to cope with various situations and processed it	4.14	0.87
5	Information technology used in the organization provided databases may be used to develop its work and methods	4,13	0,83
6	Information technology used in the organization contributed to adopt qualified human resources in the field of information technology	3.91	0.94

As shown in the above table (4). It was explained that the arithmetic means of performance paragraphs ranged from (3.91 to 4.14), it reflects a high degree of approval, the standard deviation of the different paragraphs demonstrates the severity of answers and that their agreement on the elements of information technology help to improve performance, it ranged between (0.85 - 1.09), which means that the most of answers were centered around the middle and not dispersion.

**5.2 Test Hypotheses:**

\* **H01:** There is no correlation at the level ( $\alpha = 0.05$ ) between information technology and the performance of organizations surveyed.

It is also divided into six sub hypotheses. The six sub hypotheses are:

**H01a:** There is no correlation at the level ( $\alpha = 0.05$ ) between Information technology used and improving services and increasing efficiency of organizations surveyed.

**Table (5): Spearman's Correlation Coefficients and the Values of (F) between the Elements of Information Technology and Performance**

Performance Indicators	Information Technology Tools The Value of the Correlation Coefficient (R)	Calculated Vvalue of (F)	Tabulated Value of (F)	Statistical Significant of (F)
Information technology used in the organization contribute in improving services and increasing efficiency	0.898**	3.11	1.71	Significant
Information technology used in the organization resulted in the organization's development	0.901**	3.23	2.04	Significant
Information technology used in the organization brought an increase in annual revenue	0.865*	2.23	1.87	Significant
Information technology used in the organization contributed in raising its capacity to cope with various situations and processed it	0.921**	4.17	2.04	Significant
Information technology used in the organization provided databases used to development its work and methods	0.847*	1.91	1.82	Significant
Information technology used in the organization contributed to adopt qualified human resources in the field of information technology	0.890**	2.86	1.87	Significant
<b>Total Performance Indicators</b>	<b>0.79*</b>	<b>2.78</b>	<b>1.6</b>	<b>Significant</b>

\*\*Correlation is significant at  $\alpha \leq 0.01$

\*Correlation is significant at  $\alpha \leq 0.05$

Table (5) shows the existence of a strong positive correlation of (0.898) are statistically significant at the level of importance ( $\alpha = 0.01$ ) between the information technology and improving services and increasing efficiency of organizations surveyed. The calculated value of (F) (3.11) at the level of significance ( $\alpha = 0.00$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (3.11) is greater than the tabulated value of (F) (1.71). Null hypothesis is rejected and the alternative hypothesis is accepted.

**H01b:** There is no correlation at the level ( $\alpha = 0.05$ ) between the information technology and organization's development of organizations surveyed.

Table (5) shows the existence of a strong positive correlation of (0.901) are statistically significant at the level of importance ( $\alpha = 0.01$ ) between the information technology and the organization's development. The calculated value of (F) (3.23) at the level of significance ( $\alpha = 0.00$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (3.23) is greater than the tabulated value of (F) (2.04). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho1c:** There is no correlation at the level ( $\alpha = 0.05$ ) between the information technology and increasing the annual revenue of organizations surveyed.

Table (5) shows the existence of a strong positive correlation of (0.865) are statistically significant at the level of importance ( $\alpha = 0.05$ ) between the information technology and the increasing the annual revenue. The calculated value of (F) (2.23) at the level of significance ( $\alpha = 0.00$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (2.23) is greater than the tabulated value of (F) (1.87). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho1d:** There is no correlation at the level ( $\alpha = 0.05$ ) between the information technology and increasing the organization's capacity to cope with various situations and process it in the organizations surveyed.

Table (5) shows the existence of a strong positive correlation of (0.921) are statistically significant at the level of importance ( $\alpha = 0.01$ ) between the information technology and increasing the organization's capacity to cope with various situations and processed it. The calculated value of (F) (4.17) at the level of significance ( $\alpha = 0.00$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (4.17) is greater than the tabulated value of (F) (2.04). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho1e:** There is no correlation at the level ( $\alpha = 0.05$ ) between the information technology and organization's benefit provided from its databases in developing its work and methods in the organizations surveyed.

Table (5) shows the existence of a strong positive correlation of (0.847) are statistically significant at the level of importance ( $\alpha = 0.05$ ) between the information technology and organization benefit from its databases in developing its work and methods. The value calculated of (F) (1.91) at the level of importance ( $\alpha = 0.05$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (1.91) is greater than the tabulated value of (F) (1.82). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho1f:** There is no correlation at the level ( $\alpha = 0.05$ ) between the information technology and adoption of qualified human elements in the field of information technology of organizations surveyed.

Table (5) shows the presence of a strong positive correlation of (0.890) are statistically significant at the level of importance ( $\alpha = 0.01$ ) between information technology and selection of the adoption of qualified human elements in the field of information technology, The value calculated of (F) (2.86) at the level of significance ( $\alpha = 0.01$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (2.86) is greater than the tabulated value of (F) (1.88). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Table (6):** Spearman's Correlation Coefficients between Information Technology and Performance.

Performance Indicators	Improving the Organization's Services and Increasing Efficiency	Organization's Development	Increasing the Annual Revenue of the Organization	Raising the Organization's Capacity to Cope with Various Situations and Processed it	Organization's Benefit from its Databases in Developing its Work and Methods	Organization's Selection of the Adoption of Qualified Human Elements in the Field of Information Technology	Total
Information Technology	0.898**	0.901**	0.865*	0.921**	0.847*	0.890**	*0.79

\*\*Correlation is significant at  $\alpha \leq 0.01$

\*Correlation is significant at  $\alpha \leq 0.05$

Table (6) shows the presence of a strong positive correlation of (0.79) are statistically significant at the level of importance ( $\alpha = 0.05$ ) between information technology and total performance indicator. The value calculated of (F) (2.78) at the level of significance ( $\alpha = 0.05$ ) and degrees of freedom (36 and 27), and as the calculated value of (F) (2.78) is greater than the tabulated value of (F) (1.6). First main null hypothesis is rejected and the first main alternative hypothesis is accepted.

Second main hypothesis Ho2: There is no impact at the level ( $\alpha = 0.05$ ) for the information technology on the performance.

It is also divided into six sub hypotheses. The six sub hypotheses are:

**Ho2a:** There is no impact at the ( $\alpha = 0.05$ ) for information technology on improving services and increasing efficiency of organizations surveyed.

**Table (7):** Regression Analysis of Information Technology on Performance.

Performance Indicators	Value of the Coefficient of Determination (R <sup>2</sup> )	Calculated Value of (F)	Tabulated Value of (F)	Significance (F)
Information technology used in the organization contribute in improving services and increasing efficiency	0.81	3.11	1.71	Significant
Information technology used in the organization resulted in the organization's development	0.81	3.23	2.04	Significant
Information technology used in the organization brought an increase in annual revenue	0.75	2.23	1.87	Significant
Information technology used in the organization contributed in raising its capacity to cope with various situations and processed it	0.85	4.17	2.04	Significant
Information technology used in the organization provided databases used to development its work and methods	0.72	1.91	1.82	Significant
Information technology used in the organization contributed to adopt qualified human resources in the field of information technology	0.79	2.86	1.87	Significant

DF = 36,27

Table (7) shows the results of regression analysis test in order to demonstrate the impact of information technology on improving services and increasing efficiency, the information technology has been interpreted (81%) of the variance in the improvement of services and increasing their efficiency, the calculated value of (F) (3.11) at the level of importance ( $\alpha \leq 0.01$ ) which is statistically significant, and this means that there is an impact of information technology on improving services and increasing efficiency. The calculated value of (F) (3.11) is greater than the tabulated value of (F) (1.71). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho2b:** There is no impact at the level ( $\alpha = 0.05$ ) for information technology on the organization's development of organizations surveyed.

Table (7) shows the results of regression analysis test in order to demonstrate the impact of information technology on the organization's development, the information technology has been interpreted (81%) of the variation in the organization's development, and the calculated value of (F) (3.23) at the level of importance ( $\alpha \leq 0.01$ ) which is statistically significant, and this means that there is an impact of information technology on the organization's development. The calculated value of (F) (3.23) is greater than the tabulated value of (F) (2.04). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho2c:** There is no impact at the level ( $\alpha = 0.05$ ) for information technology on increasing annual revenue of organizations surveyed.

Table (7) shows the results of regression analysis test in order to demonstrate the impact of information technology on increasing annual revenue, the information technology has been interpreted (75%) of the variance in increasing annual revenue, and the calculated value of (F) (2.23) at the level of importance ( $\alpha \leq 0.05$ ) which is statistically significant, and this means that there is an impact of information technology on increasing annual revenue. The calculated value of (F) (2.23) is greater than the tabulated value of (F) (1.87). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho2d:** There is no impact at the level ( $\alpha = 0.05$ ) for information technology on increasing the organization's capacity to cope with various situations and process it in the organizations surveyed.

Table (7) shows the results of regression analysis test in order to demonstrate the impact of information technology on increasing the organization's capacity to cope with various situations and process it. The information technology has been interpreted (85%) that increase the organization's capacity to cope with various situations and process it. The calculated value of (F) (4.17) at the level of importance ( $\alpha \leq 0.01$ ) which is statistically significant, and this means that there is an impact of information technology on increasing the organization's capacity to cope with various situations and processed it. The calculated value of (F) (4.17) is greater than the tabulated value of (F) (2.04). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho2e:** There is no impact at the level ( $\alpha = 0.05$ ) of the information technology on the organization's benefit provided from its databases in developing its work and methods in the organizations surveyed.

Table (7) shows the results of regression analysis test in order to demonstrate the impact of information technology on the organization's benefit provided from its databases in developing its work and methods. The information technology has been interpreted (72%) of the variance in the organization's benefit provided from its databases in developing its work and methods. The calculated value of (F) (1.91) at the level of importance ( $\alpha \leq 0.05$ ) which is statistically significant, and this means that there is an impact of information technology on the organization's benefit provided from its databases in developing its work and methods. The calculated value

of (F) (1.91) is greater than the tabulated value of (F) (1.82). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Ho2f:** There is no impact at the level ( $\alpha = 0.05$ ) of the information technology adoption on the adoption of qualified human elements in the field of information technology of organizations surveyed.

Table (7) shows the results of regression analysis test in order to demonstrate the impact of information technology on the adoption of qualified human elements in the field of information technology. The information technology has been interpreted (79%) of the variance in the adoption of qualified human elements in the field of information technology. The calculated value of (F) (2.86) at the level of importance ( $\alpha \leq 0.05$ ) which is statistically significant. This means that there is an impact of information technology on the adoption of qualified human elements in the field of information technology. The calculated value of (F) (2.86) is greater than the tabulated value of (F) (1.87). Null hypothesis is rejected and the alternative hypothesis is accepted.

**Table (8):** Regression Analysis of Information Technology on Combined Performance Indicators.

Variable	Coefficient of Determination (R <sup>2</sup> )	Calculated Value of (F)	Tabulated Value of (F)	significance level	Statistical Significance of (F)
Information Technology	0.79	2.78	1.6	0.000	Significant

DF = 36,27

Above Table (8) shows that the information technology has interpreted (79%) of the variance in performance improvement, calculated value of (F) (2.78) at the level of significance ( $\alpha = 0.000$ ). This means that there is an impact of information technology on improving performance. The calculated value of (F) (2.78) is greater than the tabulated value of (F) (1.6). Second main null hypothesis is rejected and the second main alternative hypothesis is accepted.

## VI. Discussion of results

As a result of the application of a study's model on the institutions surveyed, the study found the following results.

### 6.1 Information Technology:

The results show that information technology tools available in the institutions surveyed, where it owns the hardware, human resources, software, procedures, networks, and databases. Furthermore, there is special unit of information technology in each of these institutions to employ qualified personnel theoretically and practically .

The managers in the institutions surveyed reported that there are institutions that keep pace with technological developments that related with information technology tools. This confirms that the institutions surveyed are using information technology tools in order to improve their performance; leading to improve efficiency and effectiveness, to increase their ability to provide services to beneficiaries with minimal effort, at lowest time, lowest cost, and higher quality.

These institutions retain data and information about the beneficiaries in the databases of each institution. They are working continuously on updating and processing throughout using special software in each institution to access to information, so the institutions have the ability to provide services to the beneficiaries efficiently and effectively through communication networks in institutions according to the procedures described for the beneficiaries of its services.

This confirms that the institutions surveyed possess and use databases to store all data and information about beneficiaries, to build information and knowledge bases to supply the decision-making centers with the information required by the institutions surveyed in making decisions to improve their performance, achieve the goals and objectives of the institutions.

### 6.2 Performance:

It is found through the interviews with managers in the institutions surveyed that the institutions have the information technology which appropriate to its position and capabilities. This technology is used by these institutions to improve their performance.

Results of the study show that the institutions surveyed are improving services and increasing its efficiency. This leads to increase beneficiaries satisfaction relying on the elements of the information technology available.

The institutions surveyed are develop itself relying on the information technology available to it, which leads to the improvement of services provided to the beneficiaries, as well as the increase in annual revenue, depending on the information technology elements available to it, in addition to raising the ability of the institution to face various positions and process it, where they are depending on the information technology

elements available to it. It also possesses important information bases that benefit it in developing its work and methods, so all what is mentioned before is depend on the selected qualified and expert human resources in the field of information technology.

### **6.3 The impact of Information Technology on Performance:**

Model has been applied to study the surveyed institutions in order to determine the impact of information technology on the performance that depending on the statistical analysis, we have the following results:

1. There is a correlation at the level of significance ( $\alpha \leq 0.01$ ) between information technology and performance in the institutions surveyed.
2. There is a correlation at the level of significance ( $\alpha = 0.01$ ) between information technology and improving, increasing services and its efficiency in the institutions surveyed.
3. There is a correlation at the level of significance ( $\alpha = 0.01$ ) between information technology and the institution development.
4. There is a correlation at the level of significance ( $\alpha = 0.05$ ) between information technology and the increase of annual revenue.
5. There is a correlation at the level of significance ( $\alpha = 0.01$ ) between information technology and increasing the capacity of institutions to cope with various situations and process it.
6. There is a correlation at the level of significance ( $\alpha = 0.05$ ) between information technology and institutions that benefit from databases in its work and development of its methods.
7. There is a correlation at the level of significance ( $\alpha = 0.05$ ) between the information technology and choosing and adopting qualified human resources in the field of information technology.
8. There is an impact at the level of significance ( $\alpha \leq 0.00$ ) for information technology on the performance in the institutions surveyed.
9. There is an impact at the level of significance ( $\alpha = 0.01$ ) for information technology to improve services and increase efficiency.
10. There is an impact at the level of significance ( $\alpha = 0.01$ ) for information technology on the institution development.
11. There is an impact at the level of significance ( $\alpha = 0.05$ ) for information technology to increase annual revenue.
12. There is an impact at the level of significance ( $\alpha = 0.01$ ) for information technology to raise the capacity of the institution to meet the different attitudes and process it.
13. There is an impact at the level of significance ( $\alpha = 0.05$ ) of information technology on the providing important information bases that can be utilized in the developing their work and methods.
14. There is an impact at the level of significance ( $\alpha = 0.05$ ) of information on the choice and adopting qualified human resources in the field of information technology.

As explained by managers in the surveyed institutions, and through interviews with them, that the institutions possess information technology to help them to improve the performance levels.

By comparing the results of this study with the results of the previous studies, both practical or theoretical, it was found that there is a consensus with these studies, in terms of a positive relationship between information technology and performance, as well as having the positive impact of a statistical significance of information technology and performance. As a result of this, we must emphasize the importance of information technology in improving the performance level in the institutions surveyed.

## **VII. Conclusions:**

The impact of information technology on the performance and the relationship between information technology and performance are the theoretical foundations of this study. The use of study model to predict and explain the impact of information technology on performance, helped to clarify the impact of information technology on each performance indicator. The experimental validation of the model is the impact of information technology on performance in a sample of 66 Jordanian directors and employees showed the impact of information technology on performance. The results of the study confirmed the results of previous studies that have confirmed the positively affect of information technology on performance.

Previous studies have examined the impact of information technology on performance indicators separately. This study showed the importance of information technology and its impact on performance indicators combined. And explored the relative impact on each performance indicator.

The results showed that organizations with information technology is able to improve the performance though increasing the efficiency and effectiveness of the organization, increase their ability to provide services to beneficiaries with minimal effort, less time, less cost, and higher quality. They believe that the existence of databases, networks, and continuous updating of software leads to the development of the organizations, the development of methods, and easy access to information, this helps in the delivery of services to beneficiaries

efficiently and effectively. This corresponds with the results of the previous studies of Aljaddaah (2008), Arabi (2012), Jubouri (2009), Nayef (2007), Lami (2013), Rasooli (2006).

Moreover, the organizations use of information technology to contribute to the selection and adoption of qualified human elements in the field of information technology, this improves the services provided to beneficiaries, increasing annual revenue of the institution, as well as to increase the organization's ability to cope with various conditions and treat it. This corresponds with the results of the previous studies of Baloh & Trakman (2003), Ruel, Bondarouk & Velde (2007),

Although the results presented by this research, further studies can conduct to illustrate the impact of the demographic characteristics of staff and organization on information technology and performance at every level of performance levels.

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