

## **Effect Of Information Technology Components On Electronic Purchasing In Al-EtiHAD Food Industries / Babel**

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**Abstract :** *The research sought to determine the relation between the components of information technology represented (human resources, physical components, software components, databases, communication networks) and electronic purchasing, based on a set of assumptions that state that these activities are related to and affect electronic purchasing, the study applied to al-etiHAD food industries company / Babel / Iraq, where the questionnaire form was used as a main tool for data collection, as the study sample reached (278) working individuals, and in order to extract the required results, the statistical package (SPSS.v.25 & AMOS.v.25) was used. Correlation and influence tests were used to verify the study hypotheses. The results of the statistical analysis supported the study hypotheses and showed the existence of a correlation and influence relationship for the components of information technology on the electronic purchasing dimension.*

**Key words:** *Information Technology, Electronic Purchasing*

**INTRODUCTION :** E-marketing is a new concept used by modern companies. Companies are increasingly using this newborn medium to market their products and services and share new product ideas and information. Firms embrace information technology and the Internet to market their products and their adoption has gained interest from researchers, practitioners, and policy makers, as companies use the Internet and electronic media to support their marketing efforts and as a result. Marketing is growing very fast. In another way, we can say that the information technology revolution has completely changed the way we do business.

Different authors define digital marketing differently. Smith and Shafee (2005) defined it as "achieving marketing goals through the application of digital technologies" while Stewart and Pavlou (2002). defined it as "the use of data and electronic applications in order to plan and implement the visualization, distribution and pricing of ideas, goods and services to create exchanges that satisfy individual and organizational goals." While e-marketing is a broader term as all of the above concepts fall under the umbrella of e-marketing and also include mobile marketing, intranet, extranet, etc. (Dehkordi et al., 2012)

### **Methodology**

#### **First: Research Problem**

This study sought to answer a set of questions through which a set of facts and convincing answers can be reached that contribute to clarifying the study problem as follows:

- 1-Is there interest on the part of the researched company about the role that information technology plays in improving of the e-procurement activity?
- 2-Does the researched company rely on information technology to manage its business?
- 3-What is the extent of application of the e-procurement activity in the study sample company?
- 4-What is the correlation between the components of information technology and the e-procurement activity in the study sample company?
- 5-What is the impact of technology components on the e-procurement activity?

#### **Second: Importance Of Research**

The theoretical importance of the current study is evidenced by the following points:-

A- Presenting a theoretical framework by addressing many of the literature developed on information technology and e-procurement activity.

B - This study represents a modest addition to studies related to previous studies and related to study variables and complementary to previous studies in the same field.

The practical importance of the study is Building a clear perception among the employees of the company about the components of information technology and the extent of its contribution to improving the activities of the electronic purchase activity.

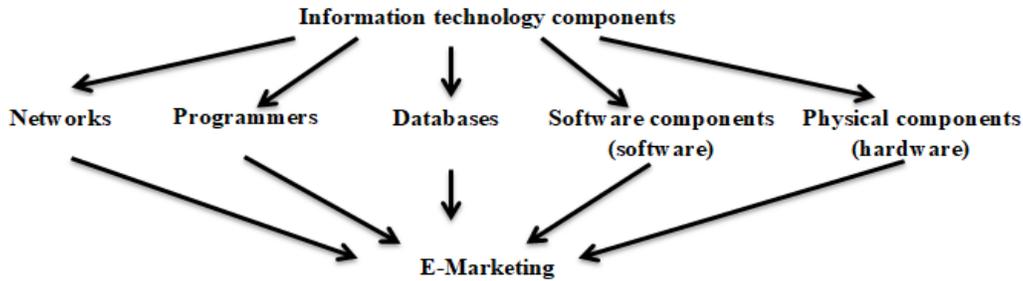
#### **Third: Research objectives**

This research aims to achieve the following:

- 1- Determine the level of implementation of the information technology components of the researched company.
- 2-Identify the level of application of the electronic purchase activity in the researched company.

3-Knowing the extent of the impact of the information technology components in improving the e-procurement activity in the research sample company.

**Fourth: Hypothesis study plan**



1

**Figure No. (1) illustrates the hypothetical outline of the study**

**Fifth: Hypotheses**

**H<sub>0.1</sub>:** There is a statistically significant correlation relationship between the dimensions of information technology (human resources, hardware, software components, databases and communication rules) and after electronic procurement) and this main hypothesis is derived from the sub-hypotheses related to each dimension of information technology.

**H<sub>0.2</sub>:** There is a statistically significant effect on the dimensions of information technology (human resources, physical components, software components, databases and communication rules) and after electronic procurement) and from this main hypothesis the sub-hypotheses related to each dimension of information technology are derived.

**Sixth: Materials and Methods**

We relied on the questionnaire to obtain data on the practical aspect. The questionnaire included in its final form three parts, the first part of which concerned the information of the individuals who were researched on whom the research was conducted, while the second part included the standards for information technology and its preparation was based on the method of random sampling. The third includes the measures of the electronic purchase dimension.

**Seventh : community and the research sample**

The researcher relied on the descriptive - analytical approach in testing hypotheses, research and describing data related to the research sample and the analytical method in analyzing data and finding results, as the research sample was represented by selecting (800) workers from different levels and functional specialties where the accreditation was done. On the method of random sampling in order to collect the necessary data and determine the size of the sample by relying on Steven Thompson’s equation.

$$n = \frac{N \times P(1 - P)}{(N - 1 \times (D^2 + Z^2)) + P(1 - P)}$$

(300)questionnaire forms were distributed among the sample members, and (288) were retrieved from them, and when the forms were collected and sorted for the purpose of preparing them for the graphic analysis, it was found that there are (10) forms that are not valid for the analysis processes (278), which represents (35.8%) of them. Study population.

**Literature Review**

**First: the concept of information technology**

Researchers and scholars in the field of information technology have referred to many names that consider their view of aspects of this field of knowledge, some of them call it (information technology) or (information technology) or (computer-based information technology) and others call it (information and communication technology) (Muqran, 2017: 8), and we can give several concepts to define information technology, as follows:

Where he (Zornić et al., 2014,391) defined it as the force that helps organizations to preserve their competitive precedence and face global competition, by providing their needs and customers' requirements with the appropriate speed and value. As for (Nikoloski, 2014: 303), he defined it as all the technologies used in the operation, transmission and processing of data to become information electronically. These technologies include computers, networks, means of communication and other equipment. As for (Ibrahim & Huimin, 2017, 951), it is defined as innovation, processing,

storage, and dissemination of different types of data by means of computer technologies, computer networks, and communication technology.

### **Second: The importance of electronic accounting and its application**

The importance of information technology is represented in two main aspects, the first is the importance of information technology at the level of the organization, in order to introduce information technology and achieve efficiency and effectiveness in terms of reducing cost and speed in decision-making, while the second aspect is at the level of human resources and the burdens that technology performs in developing the skills and capabilities of working individuals. Routine tasks.

(Jargon, 2013: 30) indicates that information technology and electronic communications provide the administration with all its information needs across borders, whether these borders are inside or outside the unified circle, with speed, cost and accuracy, surpassing all obstacles that encounter traditional methods of communication, as well as achieving a number of benefits. The most important ones are:

- 1-High output ratios (as a result of the increase in work capacity).
- 2-Reducing the need to travel (as a result of increasing work capacity).
- 3-Reducing the number of interviews (as a result of remote conferences and e-mail).
- 4-Reducing the number of telephone calls (to use e-mail for internal communications).
- 5- Getting rid of routine work, which saves time for the customer in performing activities that do not help in increasing productivity, such as searching in traditional files.
- 6-The use of automated systems saves labor, or omits some procedures or a group of them.
- 7-Reducing the means of information transmission (transferring information from one form to another).

### **Third: the characteristics of information technology**

Information technology is distinguished from other technologies by a set of characteristics and has several advantages over the institutions that use it. Among its characteristics, we mention the following, Shah & Kesan, 2014: 4) (Uzairue & Osawe, 2013,11):

- 1- Time reduction: Technology has made all places - electronically - contiguous
- 2-Downsizing: Storage facilities that accommodate an enormous amount of stored information allow easy access
- 3-Artificial Intelligence: The most important characteristic of information technology is the development of knowledge and the strengthening of user training opportunities for inclusiveness and control of the production process.
- 4-Forming communication networks: a group of equipment based on information technology unites in order to form communication, and this increases the flow of information between users and industrialists, as well as machine producers, and allows the exchange of information with other activities.
- 5-Connectivity: It means the possibility of connecting between various communication devices manufactured, that is, regardless of the company or country in which the manufacture was made.
- 6-Transferability: It is the ability to transfer information from one medium to another, such as converting the audio message into a printed or read message with the ability to control the communication system.

### **Fourth: Information technology components**

The information system infrastructure requires the provision of multiple requirements and requirements, including material requirements, software requirements, and assistance human resources requirements, which are considered essential to the system, and these elements are (Al-Amiri, 2011: 25) (AL-Samawi & Yemen, 2016,548) (garbage, 2017: 36):

#### **1-Human resource**

Manpower is the most important component of information technology, as it is the real driver for it, which is based on design, implementation and control. And it includes a specialized segment of working individuals that are prepared, qualified and trained in a way that enables them to perform their work properly. These forces are educated and trained to use modern technologies, including hardware and software, such as programmers, analysts, maintenance and communications engineers. This element can be classified into two groups (Shaikh et al., 2018: 4) (Muqran and Ibn al-Bar, 2019: 44):

A- Specialists: They are a group of individuals who analyze, design and operate information systems and consist of systems analysts, programmers, computer operators, owner, administrator, technologists and clerks. They are provided by system protectors, and computer operators operate the large and small computers

B- End users: They are a group of individuals who use the information system and they can be managers, accountants, engineers, vendors, clients or clerks.

#### **2-Computer and hard ware**

This component includes all the equipment and physical devices used in the system process, which are (Al-Dabbagh, 2018: 7):

Computer: The devices that are used in data entry, processing, and output of information required to make decisions and perform actions as required.

A computer is also known as an electronic device that takes data as inputs, where it is stored and processed according to orders issued to carry out certain tasks, and then it is incidentally as output.

**Computer components:** The computer consists of the following main parts (Ibrahim, 2017: 949 & Huimin): Secondary storage units, main storage unit, output unit, communication unit, CPU and output units (Cardoso & Miller, 2014,3).

### **3-Software programs**

All basic software includes assisting in the management of the system and the implementation of its tasks and works, and this software includes operating systems and applications, ready-made programs and the provision of various computer languages, as well as programs designed to implement and perform tasks and system works, and it is worth noting that this element is one of the important elements to support the system, as its importance lies in the continuity of its development and modernization to keep pace with the leaps of information technology arising from modern inventions, and computer software is divided in general into (Uzairue & Osawe, 2013,11).

A- **System Softwares:** The software is necessary to operate the computer and organize the relationship of its units with each other. This type of software includes the operating programs, which are a series of programs prepared by the computer manufacturer and stored in it internally, and is an integral part of the computer itself.

B- **Compilation Software:** It is a group of programs concerned with translating circulars and written instructions in one of the high-level programming languages.

C- **Application Software:** It is a set of computer instructions written in a programming language that directs the physical hardware of a computer to perform data or information operations activities. Examples of these programs are computer writing programs, database programs.

### **4-Data base**

The data includes the raw and raw material and everything that must enter the system in terms of data and information that contribute to the perpetuation and continuity of the system's work. (Shaikh, 2019: 5) indicated that there are six types of databases, namely:

A- **Operational databases:** They are the rules that store detailed data that support the operations of the organization, including customer databases, personnel databases, and inventory databases.

B- **Analytical databases:** They are the rules that store data and information extracted from operational and external databases required by managers and users in the organization.

C- **Data stores:** They are rules that store data for the current and previous years in the organization. These rules are a main source of data that have been filtered, revised, standardized and integrated, which makes it easier to use.

D- **Distributed databases:** It is a set of databases that enable organizations to redistribute copies of databases to network users within the website.

E- **End-user databases:** These are rules that consist of different types of data files prepared by end-users on their workstation computers.

H- **External databases:** It is a set of rules that allow access to a set of essential information for fees from commercial service providers, or without fees from the Internet, especially the World Wide Web, which provides many unlimited pages related to each other very quickly.

### **3-Information networks**

They are all the various devices and means of transmission (standard telephone lines, cables, optical fibers and wireless networks) that facilitate the exchange and transfer of data and information in all its forms. Communication networks are also known as a group of computers connected with each other in a certain way through media that follow in that for different standards, and the objectives of connecting computers to form a network are: (Dordal, 2020: 129).

A- Reducing economic costs through the services provided by the network that individual computers are unable to provide at the same costs.

B - Another possibility that the network achieves according to its type and location, and includes confidentiality, security, and the use of single applications in simultaneous locations.

## **Applied Aspect Of Research**

### **First: The characteristics of the research sample**

The study population was represented in the Union Company for Food Industries Ltd., while the sample of the study was represented in the employees of the sugar factory of this company, as the study sample reached (278) working individuals, and accordingly, in order to extract the required results, the statistical package (SPSS.V.25 & AMOS.V. In order to extract the required results, and to analyze the regression of its two types, simple and multiple, and

accordingly, analyzing the data easily and with high reliability, and extracting accurate results requires expressing them with a set of symbols that facilitate the statistical analysis of the data included in the analysis, and accordingly, Table (1) shows the description and coding of the variables and dimensions of the study.

**Table (1) description and coding of the study variables and dimensions**

Code	Number of items	Dimensions	Variables
INHR	5	Human Resources	Information technology
INPC	5	Computer and hard ware	
INSC	5	Software components	
INDA	5	Databases	

**Second: Analysis of the normal distribution of the study data**

It is well known that the data that should be provided in the analysis is subjected to the analysis of the normal distribution, because the normal distribution in itself contributes to the answer to a fundamental question reflected in (whether or not the extracted results can be generalized to the community or not). Perhaps the most famous tests that were used in this analysis are The Kolmogorov - Smirnov and Shapiro - Wilk tests depend on the value of (P-value), and in order to characterize the acceptance process, the significant value must be higher than (0.05), while if the significant value is less From (0.05), this means that the data are not subject to a normal distribution, and parameter tests cannot be used in this regard, and it is advisable to use non-parametric tests in order to extract the required results, and Table (2) shows the nature of the internal data in the analysis.

**Table (2) the normal distribution of the study dimensions and variables**

Shapiro-Wilk			Kolmogorov-Smirnov			
Sig.	Df	Statistic	Sig.	Df	Statistic	
0.814	278	0.86	0.364	278	0.219	Human Resources
0.806	278	0.915	0.372	278	0.162	Computer and hard ware
0.753	278	0.847	0.383	278	0.234	Software components
0.772	278	0.916	0.358	278	0.155	Databases
0.780	278	0.85	0.398	278	0.238	Networks
<b>0.790</b>	<b>278</b>	<b>0.947</b>	<b>0.332</b>	<b>278</b>	<b>0.128</b>	Information technology

The Results of Table (2) indicate that the data on the variables and dimensions included in the analysis are subject to a normal distribution test, since the significant value is higher than (0.05), which enables the answer to the fundamental question that was previously raised, and that the data entering the analysis are subject to a distribution test. Normal, meaning that the data follow a normal distribution.

**1-Confirmatory Factor Analysis of the Information Technology Variable (INTE)**

This paragraph is concerned with drawing a constructive diagram of the information technology variable through the statistical package of the AMOS.V.25 program in order to show the amount of interpretation of the internal paragraphs of the dimensions for which they were designed, and therefore Table (3) shows the criteria for the quality of the model and the researcher's decision.

**Table (3) criteria for the quality of the model and the researcher's decision**

decision	Comparison	Index value	Index
Acceptable	less than 5	3.232	(df)
Acceptable	Greater than 0.90	0.942	(GFI)
Acceptable	Greater than 0.90	0.927	(AGFI)
Acceptable	between 0.08 - 0.05	0.072	(RMSEA)

Results show that increasing the value of the first paragraph by one standard weight leads to an improvement in the dimension of the databases by (0.877), and the rest of the paragraphs can be interpreted in this way, while the values on the left side represent the square of the standard weights, i.e. the variance, while the values that are located on the far right They represent the hypothetical correlations between the IT variable dimensions.

Using the statistical package (SPSS.V.25), some statistical indicators of the information technology axis related to graphs, frequencies, percentages, arithmetic means, standard deviations, and the relative importance of each paragraph were obtained, and the level and direction of the answer for each paragraph and the dimension were mainly determined.

**1-The Human Resources Dimension**

The results shown in the table (4) resulted in the general average of the arithmetic mean of the human resources dimension of (3.97) with a standard deviation of (0.895) with a high response direction and with an agreement rate of (79%). Perhaps the paragraph that contributed to this is the first paragraph (INHR1), which It states (the employees of the company are characterized by the ability to adapt to changing circumstances and technology) with an arithmetic mean of (4.08) and a standard deviation of (0.882) and a relative importance of (82%), while the fifth paragraph came (INHR5) which states (The employees of the company can Of taking their decisions based on information technology) in the last place with an arithmetic mean of (3.92), a standard deviation of (0.914), an agreement rate (78%), and a high response trend.

**Table (4) Descriptive statistical analysis of the paragraphs of the human resources dimension**

Order of importance	Relative importance%	Relative importance%	standard deviation	Mean	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	N	
1	82%	High	0.882	4.08	0	7	77	82	112	ت	INHR1
					0	2.5	27.7	29.5	40.3	%	
3	79%	High	0.952	3.94	0	22	68	92	96	ت	INHR2
					0	7.9	24.5	33.1	34.5	%	
2	80%	High	1.042	4	0	28	67	61	122	ت	INHR3
					0	10.1	24.1	21.9	43.9	%	
4	79%	High	0.93	3.93	0	6	112	55	105	ت	INHR4
					0	2.2	40.3	19.8	37.8	%	
5	78%	High	0.914	3.92	0	0	127	45	106	ت	INHR5
					0	0	45.7	16.2	38.1	%	
***		<b>79%</b>	<b>High</b>	<b>0.895</b>	<b>3.97</b>	<b>human resource dimension</b>					

**2- Hardware Dimension (INPC)**

Results in table () show that the general average for the arithmetic mean of the physical components dimension is (3.8), a standard deviation equal to (0.822), and an agreement rate of (76%) and a high level of response. Perhaps the paragraph that contributed to this belongs to the first paragraph (INPC1) Which states (Computer devices are available in all departments of the company to perform its various activities) with an arithmetic mean of (3.92) and a standard deviation of (0.822) and a relative importance of (78%), while the fourth paragraph (INPC4) came in the last place, which states ( The company seeks to complete its internal and external work electronically to reduce time and effort) with an arithmetic mean of (3.73) and a standard deviation equal to (0.839) and a relative importance of (75%).

**Table (5) Descriptive statistical analysis of the physical components dimension paragraphs**

Order of importance	Relative importance%	Relative importance%	standard deviation	Mean	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	N	
1	78%	High	0.822	3.92	0	7	85	110	76	ت	INPC1
					0	2.5	30.6	39.6	27.3	%	
3	75%	High	0.886	3.74	0	28	70	126	54	ت	INPC2
					0	10.1	25.2	45.3	19.4	%	
2	77%	High	1.039	3.86	0	34	69	76	99	ت	INPC3
					0	12.2	24.8	27.3	35.6	%	
5	75%	High	0.839	3.73	0	6	127	81	64	ت	INPC4
					0	2.2	45.7	29.1	23	%	

4	75%	High	0.864	3.74	0	0	148	53	77	ت	INPC5
					0	0	53.2	19.1	27.7	%	
***	76%	High	0.822	3.8	Hardware Dimension -						

**3-Software components Dimension (INSC)**

Results in Table (5) show that the general average of the arithmetic mean of the software component dimension reached (4.19) with a standard deviation of (0.821) and an agreement rate of (84%), and perhaps this is due to the fifth paragraph (INSC5) which states (The company updates Its various programs whenever needed) with an arithmetic mean of (4.32), a standard deviation equal to (0.738) and an agreement rate of (86%), while the third paragraph (INSC3) came in the last place, which states (information is exchanged through software between employees The company is flexible) with an arithmetic mean of (4.09) and a standard deviation of (0.875) and a relative importance equal to (82%).

**Table (6) Descriptive statistical analysis of the paragraphs of the software components dimension**

Order of importance	Relative importance %	Relative importance %	standard deviation	Mean	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	N	
2	85%	High	0.975	4.24	0	19	32	117	110	ت	INSC1
					0	6.8	11.5	42.1	39.6	%	
3	83%	High	0.875	4.14	0	19	32	117	110	ت	INSC2
					0	6.8	11.5	42.1	39.6	%	
5	82%	High	0.875	4.09	0	6	77	80	113	ت	INSC3
					0	2.2	27.7	29.5	40.6	%	
4	83%	High	0.927	4.14	0	0	102	34	142	ت	INSC4
					0	0	36.7	12.2	51.1	%	
1	86%	High	0.738	4.32	0	0	45	98	135	ت	INSC5
					0	0	16.2	35.3	48.6	%	
***	84%	High	0.821	4.19	Software components						

Figure (2) shows that the fifth paragraph (INSC5) came first with an importance of (86%) because it had the highest relative importance, then followed in that by the first paragraph (INSC1) with the importance of (85%), then the second paragraph (INSC2) and the fourth ( INSC4 with importance (83%), and finally the third paragraph (INSC3) with importance (82%).



**Figure (2) The order of the relative importance of the software components dimension paragraphs**

**4 -The Database Dimension (INDA)**

Results in Table (7) indicate that the general average of the arithmetic mean for the dimension of the databases reached (3.89) with a standard deviation equal to (0.796) and an agreement percentage of (78%). Perhaps the third

paragraph (INDA3) contributed to this, which states (preserves) The company carried out the transactions that it carried out, whether inside or outside the company electronically) with an arithmetic mean of (4.08), a standard deviation of (0.704) and a relative importance equal to (82%), and the fifth paragraph (INDA5) got the last rank, which states (the company uses the database In the coordination of actions within its strategic plans) with an arithmetic mean of (3.78) and a standard deviation equal to (0.875) and an agreement rate of (76%).

**Table (7) Descriptive statistical analysis of the paragraphs of the databases dimension**

Order of importance	Relative importance %	Relative importance %	standard deviation	Mean	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	N	
3	77%	High	0.843	3.84	0	26	46	152	54	ت	INDA1
					0	9.4	16.5	54.7	19.4	%	
2	79%	High	1.064	3.96	0	39	45	81	113	ت	INDA2
					0	14	16.2	29.1	40.6	%	
1	82%	High	0.704	4.08	0	0	59	139	80	ت	INDA3
					0	0	21.2	50	28.8	%	
4	76%	High	0.898	3.81	0	0	144	44	90	ت	INDA4
					0	0	51.8	15.8	32.4	%	
5	76%	High	0.875	3.78	0	13	105	9	69	ت	INDA5
					0	4.7	37.8	32.7	24.8	%	
***	78%	High	0.796	3.89	<b>The Database Dimension</b>						

Figure (3) shows that the third paragraph (INDA3) came first with an importance of (82%) because it had the highest relative importance, then followed by the second paragraph (INDA2) with importance (79%), then the first paragraph (INDA1) with importance (77%), followed by the fourth paragraph (INDA4) and the fifth (INDA5) with importance (76%).



**Figure (3) The order of the relative importance of the paragraphs of the databases dimension**

**5 -The Networking Dimension (INNE)**

Results contained in Table (8) were excerpted that the general average of the arithmetic mean for the distance of the communication networks reached (4.17), a standard deviation of (0.827), and an agreement rate of (83%). Perhaps the paragraph that contributed to this is the first paragraph (INNE1), which states that (Information technology is used in coordination to complete the work) with an arithmetic mean of (4.29) and a standard deviation of (0.744) and a relative importance of (86%). The exchange of information between the users of these devices within the company) with an arithmetic mean equal to (4.09) and with a standard deviation of (0.917) and a relative importance of (82%).

**Table (8) descriptive statistical analysis of the paragraphs of the communication networks dimension**

Order of importance	Relative importance %	Relative importance %	standard deviation	Mean	Strongly Disagree	Disagree	Neutral	Agree	Strongly agree	N	
1	86%	High	0.744	4.29	0	0	48	101	129	ت	INNE1
					0	0	17.3	36.3	46.4	%	
3	83%	High	0.883	4.13	0	19	35	114	110	ت	INNE2
					0	6.8	12.6	41	39.6	%	
2	85%	High	0.986	4.24	0	25	34	67	152	ت	INNE3
					0	9	12.2	24.1	54.7	%	
4	82%	High	0.875	4.09	0	6	77	82	113	ت	INNE4
					0	2.2	27.7	29.5	40.6	%	
5	82%	High	0.917	4.09	0	0	105	43	130	ت	INNE5
					0	0	37.8	15.5	46.8	%	
***	83%	High	0.827	4.17	<b>The Networking Dimension</b>						

Figure (4) indicates that the first paragraph (INNE1) came first with an importance of (86%) because it had the highest relative importance, then followed in that the third paragraph (INNE3) with importance (85%), then the second paragraph (INNE2) with importance (83%), followed by the fourth paragraph (INNE4) and the fifth (INNE5) with importance (82%).



Figure (4) The order of the relative importance of the paragraphs of the communication networks dimension

**Test and analyze the hypotheses of the study**

This topic aims to measure the study hypotheses of the correlation and influence hypothesis, as the correlation hypothesis was measured by the statistical package (SPSS.V.25) in order to extract the Pearson correlation coefficient, while the modeling of the structural equation of the statistical package (AMOS.V.25) was adopted. In order to extract the impact hypothesis of the impact of information technology in the post-electronic purchase

**First: - Correlation Hypothesis**

This paragraph is concerned with measuring the hypothesis of the link between information technology (an independent variable) with its dimensions (human resources, physical components, software components, databases, and communication networks), and electronic purchasing (dependent variable) by using Spearman's correlation depending on the scale (Dawud Adebayo & Peter, 2013: 314) in order to determine the strength and type of this relationship between the study variables, and as shown in Table (9).

**Table (9) Standard for measuring the strength of the correlation coefficient**

Power correlation	degree of correlation
High very	1 -0.90
High	0.90 -0.70
Medium	0.70 – 0.5
Low	0.50 – 0.30
very low	0.30 – 0.00

**Source: Agunbiade, Dawud Adebayo & Ogunyinka, Peter I. , 2013 ,"** Effect of Correlation Level on the Use of Auxiliary Variable in Double Sampling for Regression Estimation " **Open Journal of Statistics, NO. 3, , p.p 314** Through Table (9), a group of important points can be observed, perhaps the most prominent of which are the following:

1-Accepting the correlation hypothesis (the first main hypothesis) which states (there is a significant correlation relationship between the dimensions of information technology (human resources, physical components, software components, databases, and communication networks) and after electronic purchase), as it is noticed that the strength of the link According to the (Dawud Adebayo & Peter, 2013) scale, a strong relationship was (0.808) and at a significance level less than (0.01).

2 -Accepting the correlation hypothesis (the first sub-hypothesis) which states (there is a significant correlation relationship between the human resources dimension and after the electronic purchase), noting that the strength of the link according to the scale of (Dawud Adebayo & Peter, 2013) is a strong relationship of (0.706) The level of significance is less than (0.01).

3-Acceptance of the correlation hypothesis (the second sub-hypothesis) which states (there is a significant correlation relationship between the physical components dimension and after the electronic purchase), noting that the link strength according to the scale of (Dawud Adebayo & Peter, 2013) is a rather low relationship of (0.494) And at a level of significance less than (0.01).

4-Acceptance of the correlation hypothesis (the third sub-hypothesis) which states (there is a significant correlation relationship between the software component dimension and after the electronic purchase), noting that the link strength according to the scale of (Dawud Adebayo & Peter, 2013) is a very strong relationship and has reached (0.956) And at a level of significance less than (0.01).

5-Accepting the correlation hypothesis (the fourth sub-hypothesis), which states (there is a significant correlation relationship between the dimension of databases and after the electronic purchase), noting that the link strength according to the scale of (Dawud Adebayo & Peter, 2013) is a moderate relationship of (0.578) and when The level of significance is less than (0.01).

6-Acceptance of the correlation hypothesis (the fifth sub hypothesis) which states (there is a significant correlation relationship between the dimension of communication networks and after the electronic purchase), noting that the strength of the link according to the scale of (Dawud Adebayo & Peter, 2013) is a very strong relationship of (0.943) And at the level of significance less than (0.01).

**Second: - Impact Hypothesis**

This paragraph is concerned with explaining the nature and type of the impact of information technology in the electronic procurement dimension, through adopting the statistical package for the program (SPSS.V.25), as well as adopting the modeling of the structural equation according to the statistical package (AMOS.V.25).

**The second main hypothesis test:** which states (there is a significant effect of significant dimensions of information technology (human resources, physical components, software components, databases, and communication networks) in electronic procurement, as the multiple linear regression equation will be used, which can be shown in the following:

$$Y = a + \beta_1 INHR + \beta_2 INPC + \beta_3 INSC + \beta_4 INDA + \beta_5 INNE$$

whereas:

Y = represents the electronic supply chain

a = the regression parameter, which is a constant amount

Accordingly, the levels of influence between the variables are analyzed by testing the second main hypothesis, and therefore Table (10) shows the statistical indicators between information technology and electronic purchasing, as follows:

$$Y = 0.568 + 0.827 INHR + 0.030 INPC + 0.412INSC - 0.268 INDA - 0.206 INNE$$

Noted from Table (10) that:

(The value of (F) computed for the model is (610.791), which is greater than the tabular value of (F) of (1.879) and at a level of significance of (0.00) and it is less than the level of significance (0.05). Based on this, the alternative hypothesis is accepted, which means that There is a significant significant impact relationship of information technology with its dimensions (human resources, physical components, software components, databases, and communication networks) in electronic procurement with its dimensions at a significance level (0.05), i.e. with a level of reliability (95%), and the value of Durban-Watson reached (1.923). ) It is a value indicating the absence of the autocorrelation problem because it is close to 2.

Through the value of the coefficient of determination (R<sup>2</sup>) of (0.696), it is clear that information technology is able to explain electronic purchase by (70%), in addition to this, the remaining percentage falls outside the boundaries of the study.

It is indicated by the value of the marginal slope coefficient of the HR dimension

( $\beta_1$ ) amounting to (0.807) that increasing the human resource dimension by one unit leads to an increase in the electronic supply chain by (81%). Increasing the hardware dimension by one unit leads to an increase in electronic purchase by (3%), in addition to increasing the value of the marginal slope parameter for the dimension of the software components ( $\beta_3$ ) of (0.412), that increasing the dimension of the software components by one unit leads to an increase Electronic purchase by (41%), and it shows that the decrease in the value of the marginal slope coefficient for the dimension of the databases ( $\beta_4$ ) by (0.268 -) that the decrease of the database dimension by one unit leads to a decrease in the electronic purchase by (27%). Decreasing the value of the marginal slope coefficient for the distance of the communication networks ( $\beta_5$ ) in (0.206 -). The decrease in the dimension of the communication networks by one unit leads to a decrease in the electronic purchase by (21%).

**Table (10) results of the effect of information technology on electronic procurement using multiple linear regression**

Information technology results in the electronic supply chain	Variables	
0.568	<b>Constant</b>	The value of the regression parameter (a)
0.807	$\beta_1$	Human Resources
0.030	$\beta_2$	Hardware
0.412	$\beta_3$	Software components
- 0.268	$\beta_4$	Databases
- 0.206	$\beta_5$	Networks
0.834	<b>R</b>	Correlation coefficient value
0.696	<b>R<sup>2</sup></b>	value of the coefficient of determination
610.791		The computed F value
1.879		The tabular F value
0.000		
Incorporeal		
1.923		

## Conclusions and Recommendations

### **1-Conclusions**

1-The existence of a correlation between information technology and the electronic supply chain, which contributes to achieving positive results that contribute to developing, equipping and providing workers with the necessary skills in order to improve the effectiveness and efficiency of work.

2-The presence of a significant impact on the dimensions of information technology in the electronic supply chain in its dimensions, which contributes to improving the company's ability to invest its capabilities in equipment, software and means of communication for computers and developing the capabilities of its employees.

3-The results of the statistical analysis indicated a consensus on the part of the respondents on the dimensions of information technology, and the most prominent dimensions that achieved the highest percentage of agreement were the dimensions of (software components), and this indicates the extent of the researched company's interest in the programs it adopts in its various operations. Whereas, the (physical components) dimension achieved the lowest agreement among the respondents, which means that the company's interest in this dimension is weak.

4-The company is keen to update its various programs from time to time in order to keep pace with the development in the field of information technology and according to work requirements.

### **2-Recommendations**

1-The use of electronic data exchange techniques, which contributes to strengthening cooperative relationships between supply chain partners.

2-The necessity of providing the critical electronic equipment and devices that the company needs in order to facilitate the carrying out of its various activities.

3-The researched company should increase interest in electronic supply chain activities because of their effective impact on enhancing the position of the company and ensuring its survival, growth and continuity in the business environment by introducing workers to training courses to develop their skills and management capabilities.

4-The company must increase interest in managing its relationships with its customers by developing the capabilities and skills of the workers in the departments that communicate with customers, identifying the changes taking place in their desires and orientations, and providing advanced communication devices that help workers reach the customer in a timely manner.

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