The importance and effectiveness of using ICTs in achieving the competitive advantage of the economic institution

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أهمية وفعالية إستخدام تكنولوجيات المعلومات والاتصال في تحقيق الميزة التنافسية للمؤسسة الإقتصادية

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Abstract:

This study shows the importance of information and communication technologies (ICTs) in activating business management and building a competitive advantage. The society of everything has become an information society more than ever, and this imposed on economic institutions speed in the collection of information and data, in the decision-making process, in the process of supply and financing, and the production and storage as well. To this end, this study is conducted to explore the extent of the contribution of ICTs in enhancing competitiveness. The theoretical study on the economic institution "WOUROUD" in El Oued, was dropped. Relying on the questionnaire to collect data, the study has processed the form outputs using SPSS v25 packages. The results show that there is a statistically significant relationship between ICTs and the competitiveness among WOUROUD. Also, there are no significant differences about the reality of ICTs that is attributed to variables.

key words: Information and communication technologies, competitive advantage, economic institution, "wouroud".
(Jel) Classification Codes :L86 ؛ L96؛L63

ملخص:

نهدف هذه الدراسة لتبيان أهمية بعض تكنولوجيات المعلومات والاتصال في تفعيل إدارة أعمال وبناء ميزة تنافسية لدى المؤسسات الاقتصادية، وذلك من خلال تبيان أهمية وضرورة إقحام تلك التكنولوجيات في الحياة اليومية للمؤسسات الاقتصادية، سواء في علاقاتها مع الموردين أو الزبائن أو الشركاء أو حتى بين أقسامها وفروعها، ذلك أن المجتمع بجميع أصنافه أصبح مجتمع معلوماتي أكثر من أي وقت مضى، وهذا ما فرض على المؤسسات الاقتصادية السرعة في جمع المعلومات والبيانات والسرعة في إتخاذ القرارات، وكذا السرعة في عملية التوريد والتمويل والسرعة في الإنتاج والتخزين والنقل والتوزيع، ومن اجل ذلك قمنا بهذه الدراسة لمعرفة مدى مساهمة تكنولوجيات المعلومات والاتصال في تعزيز تكنولوجيا تنافسية المؤسسة الاقتصادية ولتحقيق ذلك قمنا بإسقاط الدراسة النظرية على المؤسسة الاقتصادية "ورودWOUROUD" بالوادي من خلال الاعتماد على الاستبيان كأداة أساسية للدراسة حيث قمنا بمعالجة مخرجات الاستمارة عن طريق برنامج SPSS v25 ومن النتائج المتوصل إليها توجد علاقة تأثير ذات دلالة إحصائية بين تكنولوجيات المعلومات والاتصال وتنافسية المؤسسة الاقتصادية محل الدراسة كما أنه لا توجد فروق ذات دلالة احصائية حول واقع تكنولوجيات المعلومات والاتصال في المؤسسة المعنية تعزى للمتغيرات الرسمية (الاقدمية).

الكلمات المفتاحية: تكنولوجيات المعلومات والاتصال، ميزة تنافسية، مؤسسة اقتصادية، "ورود".
الترميز الاقتصادي(JEL) L86؛ L96؛L63

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I-Introduction :

Human development in recent years has been remarkable and tangible in all fields, especially in the field of communications. This has transformed the world into a small village, thus facilitating the transfer of all factors of production, goods and services among the countries of the world. In this age of information and communication technologies, on the other hand, it must be borne in mind that the survival and continuity of those who produce the highest quality and relatively lower costs than other competitors.

In addition, the information society, especially customers, imposed on economic institutions speed in the production process as well as speed to respond to the requirements of all partners of the institution, customers, customers and suppliers, and even among workers and managers of the same economic institution. To achieve this, we must find effective mechanisms for the management of information and facilitate communication process both inside and outside the institution as well as reduce the time to process and study all the information and data pertaining to the activity of the institution.

The problematic of the study

To make this study, we started from the following problem: Do information and communication technologies contribute to achieving a competitive advantage in the economic institution under study?

To answer this problem, we have put the following hypotheses:

-Study hypotheses:

-There is an impact relationship between information and communication technologies and competitive experience.

-There are statistically significant differences on the reality of information and communication technologies in the economic institution under study.

-Objectives of the study:

-Knowing the reality of information and communication technologies in the economic institution under study.

-To know the extent to which information and communication technologies contribute to achieving the competitive advantage of the economic institution.

-The importance of studying:

-Contributing to find solutions of the problems of adapting the Algerian economic establishment to economic globalization through modern technical means.

To discover a scientific explanation for the relationship between the use of information and communication technology and the level of competitiveness of the Algerian economic firms.

I- ICT infrastructure and the most important types of ICTs:

I-1.Information and communication technologies infrastructure

the effective use of use of ICTs in an economic institution needs to plant the groundwork for these technologies, it means… the infrastructure of these technologies, which is the sum of investments in equipment and programs, and other services related to ICTs such as: (consulting, education and training .. Etc).

For example, when you buy a computer for an office in the economic institution and connect it to the Internet, this process is part of the investment in infrastructure, so what is the infrastructure of information and communication technologies?

The concept of ICT infrastructure is defined in two ways:

- the set of technologies;
- its services.

In other words, infrastructure is the sum of the technologies, services and human resources that allow optimal and safe performance of ICTs, namely:

- Infrastructure for some technologies including central and local computers, office and laptop computers, all digital aids, Internet networks and extranets;
- telecommunication services that convert data, whether voice or video;
- Data management services that store, manage and analyze the data of the company;
- software that offers real-time processing capability implements the various structural processes of an enterprise's business activities;
- IT infrastructure management services, which plan and develop infrastructure and coordinate with all units, as well as conduct all ICT infrastructure projects;
- standards related to information and communication technologies, which require the institution and all its units to follow accurate standards through the use of all technologies used by the economic institution;
- The Department of Training and Assistance in Employment Preparations for the Use of All Information Systems; It also prepares managers to plan and the good manage the investments of all ICTs;
- Information and Communication Technologies (R&D) Infrastructure Research and Development Department on future projects as well as on the offered investments that can help the institution more and faster than those currently implemented by the company.

I. Levels of ICT infrastructure

Infrastructure affects three basic levels of a company

1- Public infrastructure, including:

-Internet;
- telephone network;
- Networks of a firm.

2. Infrastructure of the company, which includes:

- E-mail of the enterprise;
- the web site of the enterprise;
- Enterprise systems.

3- Infrastructure of commercial units (local or decentralized), including:

- processing of orders;
- production systems;
- remittance systems;
- customer data;
- Supplier’s data.

Figure (01) shows that in order to provide effective services to both customers and suppliers and even to the same institution, it is necessary to coordinate and integrate between the strategy of the institution, and the strategy of the infrastructure of information and communication technologies and information technologies.

It is also pointed out that some economic institutions do not pay much attention or at least considerably the importance of investing in ICTs; that is, some of the managers and decision

makers consider it as non-revenue costs, but many studies have shown that there are returns from investments in ICTs whether Directly or indirectly.

It is clear from the above table that investment in ICTs positively affects all actors in the organization, from suppliers to production to customers, thus activating all operations that contribute to profits, either directly or indirectly.

1. The most important types of information and communication technologies

Information and communication technologies (ICTs) have varied according to human needs on the one hand and, on the other, as a result of discoveries of ongoing research on these technologies.

There is another difference in the types of information and communication technologies as a result of the different information systems used by economic institutions, which is one of the most famous.

Mangement Information Systems (M.I.S):

Addresses a special type of business system that uses information technologies to capture, transfer, transfer, retrieve and process the information needed by an economic enterprise.

• Decision Support System (DSS):

Interactive information systems that provide managers and decision makers some information and models which help them in making decisions.

Executive Information System:

Executive Management supports important information on the business environment and the economic situation in support of the Strategic Plan. Information systems include executive management (M.I.S) and decision support systems (D.S.S).

We also find that the diversity of different information and communication technologies is due to the diversity and different functions of the departments of the economic institution, which are:

Marketing Information Systems; Human Resource Information Systems; Production Information Systems; Finance Information Systems; Procurement Information Systems; Storage Information Systems; Public Relations Information Systems.

If ICTs vary according to the information systems used by economic institutions, then what are the most important types of ICTs used today by economic institutions?

The most important components of information and communication technologies, which are the common factor among the various economic institutions, are:

- Networks;
- Internet;
- Intranet;
- Extranet;
- Enterprise Resource Planning "Entreprise Resource Planing" (E.R.P).

The most important components of ICTs are information networks, means of communication, and programs that manage, process, transmit and distribute information.

First: Information Networks of the Economic Institution:

The network means the link between things or people, ie the internal linkage between individuals and others to facilitate the process of information transmission, and we find the objectives of the information network:

- the distribution of resources such as files, applications, etc.;

- interpersonal communication such as e-mail, direct contact, etc.;
- communication between "Processus" as communication between industrial machines;
- Ensure standardization of information (database);
- Reducing costs due to data distribution;
- Standardization of applications;
- simultaneous access to data;
- More effective communication and organization.

1- Types of networks:

There are many networks, depending on the size of the network itself, and according to the speed of data transfer; hence the difference between the following networks:

- Personal Area Networks (P.A.N);
- Local Area Network (L.A.N);
- urban Area Networks (U.A.N);
- Wide Area Networks (W.A.N).

The process of adopting and selecting one of the schemes of the network depends primarily on certain characteristics of the economic institution such as size, number of workers, the number of computers ... etc.

2- Internet:

It is a group of interconnected networks to facilitate communication and the transfer of information between different parts of the world, and the Internet has become the most widespread means of communication after competing with global telephone networks.

The Internet originated in the 1960s, initially intended to serve the US government and was used for the exchange of military information. It was called the "ARPA. Net" for "Advanced Research Projects Agency Network."

After 1972, it expanded to include economic, social, political and cultural fields. Today, the Internet offers many services, including:

- E.mail e-mail service;
- FTP service;
- WWW service;
- TELNET service;
- Discussion Forums service;
- direct dialing service;
- Social networking service to publicize and exchange views such as: Facebook, Tweeter, ... etc.

We find that the services provided by the Internet are continuously increasing as a result of technological development.soall these services have made it easier for economic institutions to deal with all their partners, whether they are customers, suppliers or even branches of the same institution spread in different regions.

3. Intranet:

Based on the same principle of the Internet, but only within the internal boundaries of the institution, which depends on the information network of the institution, and intranets use some of the protocols used by the Internet such as: (TCP / IP), and we find that intranets rely on three basic levels are:

- Level I: deals with customers;

- Level II: handles the server device applications;
- level:III server machine database.

some the intranet objectives are:

- View and provide all information about the institution;
- Provision of technical documentation;
- Also considered as a document search engine;
- data exchange among workers;
- It is also considered an introductory guide for all workers;
- Project management and decision-making assistance;
- take care of the electronic sender;
- Intranets are also the gateway to the Internet.

4- Extranet:

Extranets originated in response to the requirements of the economic environment and also due to overlap between the Internet and intranets, since the extranet network is similar to the intranet, but the extranet is relatively open with the business partners of the economic institution, such as suppliers, distributors, customers, customers etc. Through the extranet, the institution can access part of the organization's data and information in order to facilitate the business.

5- E.R.P system

Known in English: Enterprise Resources Planing also known as French (P.G.I) Progiciel de GéstionIntégré.

This system allows the processing and management of all the operations of the economic institution with various functions such as human resources management, financial and accounting management, customer relationship, sales, inventory management, catering and e-commerce, etc., and is processed through a unified database that receives data from various applications Then re-sent to all other applications, with the aim of standardizing and centralizing data and information, as shown in the following figure:

The ERP system provides a quick response to all the needs of the economic institution, by relying on all the information applications used by the institution in all of the above-mentioned core functions, in the form of separate modules; For ERP applications, ERP is a federation that generates power, but all modules applicatifs must work locally on a unified database, even if they are located at different geographical points, including through the network; it is among the most important application modules on which system (E.R.P), we find:

-Accounting and financial management;
- control management;
- production management;
- sales management;
-support;
- treasury management.

First:The ICTs widely used by economic institutions:

After the widespread use of information and communication technologies in economic institutions in all of its work emerged the term e-business known globally (e - business), where these e-business includes the relationship of economic enterprise with various economic partners of workers, customers, suppliers, government departments ... etc, It also defines the electronic business

of the institution according to the nature and quality of the relationship with the other customer so we find three types of e-business:

- Business to business (B to B), it means the business relationship between the enterprise and another economic institution that depends on the use of digitization in the exchange of information, and carry out its business as the business relationship between the enterprise and its suppliers.

Business to Consumer " (B to C), it means the electronic business relationship between the organization and its wide audience of customers.This relationship is also known as e-commerce in addition to business processes, it also includes the inclusion of customer opinions through e-mail. E-mail marketing " is effective, and at the lowest cost.

Business to Administration (B to A) is relationship between the firm and various of administration, such as tax administration, social security administration, customs administration, etc. This is about the classification of some of the electronic business of the economic institution, in addition there are some technologies Information and communication used by the institution to facilitate all functions such as:

a. Enterprise Economic Technologies:

The openness of the enterprise information system with its economic partners and the media, on the one hand, and the unprecedented increase in the volume of information and data of the institution, all that push to need to develop effective means to ensure economic performance. And we find these means are some techniques which is next:

A-1: Employee Relationship Management Technology: Employ RelationShip Management This technique aims to manage the human resources affairs by involving and interacting the workers of the Corporation with its customers, in addition to the development of an information system to deal with all the operations that link the economic institution with its workers.

A-2: Information Life Cycle Management Technology: Information life cycle management technology is based on the rational andeffective management of the information legacy of the institution. This technology also aims to rationalize and activate the means of storing information taking into consideration the technical, organizational and legal requirements for storage and reuse. Retrieve information while ensuring that:

- Abundance;
- The speed of entry and access to information.

A-3: Electronic Document Management Technique: It is used in various information tools to manage various electronic documents such as (text file, spreadsheet file, picture file, video file, audio… etc).

A-4: Knowledge Management Technology Knowledge Management Technology is a set of tools and software that allows the definition and identification of knowledge capital, especially in terms of organizational and how to exploit it. Generally, knowledge management technology is based on the five rules known as the preferred knowledge management cycle:

- Guided and developed the basic parameters of knowledge;
- Preservation and maintenance of knowledge;
- Valuation of knowledge;
- Creation and division of knowledge;
- Continuous renewal and updating of knowledge.

B. Customer Technologies: "Customer Relation Management" (C.R.M)

Since the customer is the main source of income for the economic institution and in addition to economic development through the use of new information and communication technologies that have developed the relationship between the customer and the company, the institution had to create modern means to maintain its customers and attract new customers, especially after the intensification of competition in recent years, Via:

- Developing profit margins with each individual customer;
- Developing the number of customers;
- Developing the customer's life cycle it means prolonging the fulfillment period.

The use of customer relationship management technology has helped economic institutions to open channels with their customers and respond to their requirements through (B to C) technology, for example, the French company "L'Oréal" has been marketing with its customers through mobile phone "I.PHONE "To develop and improve sales.

C. Supplier Technologies: In economic institutions, especially productive ones, we find that their activities depend largely on the supply of raw materials and / or the assembly of spare parts, semi-manufactured products, which are provided by the suppliers of the enterprise; this is known as the supply chain, which includes:

- Procurement; Supply; Stock management; Transportation; Arrangement and typesetting.

All this is done under the control and management of the so-called support chain management (S.C.M) "Supply chain Management", which aims primarily to activate the performance of supply through:

- Reducing stockpiles;
- Reduction of supply time, it means receipt of materials in the shortest possible time from the supplier;
- Determine the size and quantity of stocks throughout the production chain;
- Prepare orders automatically, automatically when the stock of raw materials reaches the minimum level.

D- Technologies for rapporteurs: Decision-making technologies depend on the extent to which the information system exploits all data from within and outside the organization.

- “date ware house” technology, it means data collection from various sources for decision-making;
- “Data mart” technology, which is to retrieve a set of data from the “data ware house” and then assign it to a specific entity or center within the organization, whether it is a directorate, a workshop, a product, etc.

1-3-Impacts of the use of information and communication technologies on the economic institution:

The widespread use of various information and communication technologies has had a significant impact on economic institutions of all sizes and activities, and we will show the most important of these effects, whether economic or regulatory.

1- Economic impacts through the use of information and communication technologies:

The impact of information and communication technologies on the economic performance of the institution attracted a lot of views of experts and economic thinkers, starting with the famous saying of the economic thinker "Solo" known as "Solo contradiction", and in French "paradoxe de Solow" we can see the ICT Information and communication everywhere, except in productivity

statistics ... ", it means the difficulty of measuring and calculating the relationship of investment in these technologies and productivity of the enterprise.

the most of international studies have proven that ICTs play an effective role in improving the productivity of individuals, controlling the level of costs and thus achieving a competitive advantage.

First: Effects of Information and Communication Technologies on the Productivity of Individuals:

Many field studies have proven that the use of various information and communication technologies contribute to the development of the performance of individuals, especially the supervisors and heads of departments by processing the largest number of files and the most volume of information in record time, and we find that the impact of information technologies and Communication appears in three main points:

- impact on the context of work; impact on the content of activity; impact on the efficiency of workers.

* the effects on the context of work we find:

- Removing the barriers resulting from the functional pyramid; Reducing the imperative of teamwork in one place; Developing telework; Sense of independence and freedom to work;

* the effects on the content of activities we find:

Information and communication technologies (ICTs) have a strong and powerful impact on information processing, such as accessibility and greater distribution of information;

- These technologies, by their very nature, do away with certain administrative functions and positions.

* And the effects on the efficiency of workers find:

- Information and communication technologies require both rigor and vitality to perform tasks;
- It also requires new information and data processing skills;
- the level of control of information and communication technologies becomes a standard for assessing the level of performance of individuals;
- The use of various information programs helps in the process of innovation, both in production processes and / or product design;
- The continuous use of the Internet is one of the key factors to develop the institution's ability to predict in its economic environment.

Second: Effects of Information and Communication Technologies on the Level of Cost Control:

The wide use of different information technologies through data logging at all stages of the product has contributed to the development of traceability activities, known in French as "la traçabilité des activités"; this helps the organization to control a large part of the total cost, in addition to that the information and communication technologies help The organization is quick to react and adapt to changes in its surroundings relatively faster than its competitors, and this is one of the factors to gain a competitive advantage.

1. Management and regulatory implications of ICTs:

The impact of information and communication technologies on the regulatory environment of economic institutions has been very clear, which led many studies to address these transformations, especially from the social side, as the great development in network technology in addition to the use of the system (ERP) all contributed to the actual evolution of the process Distribution of information, the most of activating the process of linking and coordination between the various

branches of the institution and the parent institution, as well as between the various internal departments of the institution.

Some studies have shown that in order to activate the role of information and communication technologies in economic institutions, the degree of functional pyramid must be reduced, ie One of the most important management effects of information and communication technology is that it helps to develop processes and applications in decision-making with the required speed and accuracy, and that at different levels of career progression in the economic institution, and among the most important assistive technologies in decision-making are shown in the following table:

2. The importance of information and communication technology on the competitiveness of the economic institution:

2-1- The impact of information and communication technology on the level of performance of the economic activities of the institution**:**

The rapid development of means of communication across various networks has led to the creation of what is now known as the "network economy", through the Internet, in all commercial and financial transactions, in order to achieve the following:

- Effective organization and ease of decision-making;
- Preparation of reports to assist in the process of anticipating associated or anticipated problems;
- Improve productivity and reduce costs;
- Increasing efficiency and effectiveness by providing accurate information and data;
- Improved internal audit.

So we can say that the effective performance of information and communication technology is one of the most important keys and components of the overall performance of the economic institution, so the level of performance of these technologies must be a unit of measurement and not a goal in itself, so we may find that the level of performance of information and communication technology is different from The overall performance level of the economic institution.

2-2- Using ICTs to create a competitive advantage and how to manage competition factors:

1. Use of ICTs to create a competitive advantage:

In all economic sectors, whether industrial or service, there are always some leading institutions in the sector of activity for a considerable period of time, for example, but not limited to we find in the sales sector through networks and websites "Amazon" and in the field of engines Google, and TOYOTA, the world leader in automotive production for 20 years.

Leading economic institutions are those that have a competitive advantage over their competitors, whether by introducing some private resources more then other institutions and / or by being able to use resources more efficiently by having the best information and knowledge. Competitiveness achieves best results such as improved productivity and turnover.

Therefore, it was necessary to know the contribution of information and communication technologies in achieving competitive advantages, because many studies have shown that ICTs have an important and significant role to build and develop the competitive position of the economic institution, and this leads us to address the factors affecting the competitive environment. Through the five-power model of Michael Porter.

2. Porter's Five Powers Model:

The five-power model of Porter gives the economic institution a comprehensive view of the components of the competitive environment, and also gives an interactive picture between the

institution and its environment, so Porter relied on five key factors to analyze the competitive environment of the economic institution.

In determining strategic and competitive position, Porter not only took direct and ordinary competitors, but also considered:

- new market entrants;
- alternative products and services;
- Customers;
-Suppliers.

The five forces among which Porter is a set of information and data collected through information and communication technologies to determine the competitive position of the organization, as well as activate the process of strategic decision-making, and here is clear the role of information and communication technologies in the following:

- Good customer knowledge;
- increased flexibility with environmental variables, including Porter's five forces;
- effective management of supply - that is, the forces of suppliers - and the reduction of stock size;
- reduce the life cycle time of the product - that is, the forces of customers -;
- Reduce some expenses through research and development of the quality of products and services.

so, we conclude that the level of performance of the use of information and communication technologies has a direct impact on all five forces brought by "Porter".

3. Information and Communication Technologies Strategy to Manage Competition Factors

There are four basic strategies that can work and support through ICTs:

- leader through lower costs;
- Product diversification;
- Focus on niche markets;
- Consolidate and improve the relationship with customers and suppliers.

First: leader through the lowest costs:

The exploitation of some information systems and technologies and communication to reduce the costs of exploitation, and the expenses of some services, the supply system "Wal-Mart" has become one of the most famous information systems in the field of supply, allowing to send new orders for products directly from the supply of the supplier to the sales of the customer.

Second: Product Diversification:

When using information and communication technologies to provide new products or services, or to develop and improve the utility of pre-existing products or services, manufacturers and distributors aim through these technologies to create products or services according to special wishes strictly oriented to the characteristics and desires of their customers. As an example Dell responds directly to the wishes of its customers.

Third: Focus on Specialized Markets:

Through the use of information and communication technologies, access to specialized markets and better presentation of products and services than competitors, it means through information systems organizations can analyze the tastes of customers and the culture of purchase, which is appeared in some systems to manage the relationship with customers "CRM" "Customer" Relationship Management "Through this system is analyzed customer data.

Fourth: Consolidating and improving relations with customers and suppliers:

The Good use of information and communication technologies is developed through the relationship with suppliers, and the formation of personal relationships with customers. In order to ensure the continuity of the supply process from the provision of raw materials and / or half manufactured all the real time on the one hand and on the other hand to ensure the fulfillment of both suppliers and customers of the institution.

2-3-The impact of the Internet on competitive advantages

The emergence of the Internet has resulted in the elimination of some economic activities and at the same time contributed to the creation of new economic activities; also contributed to the construction of infrastructure for thousands of new companies.

The Internet has had a very negative impact on some activities such as music sales. In addition to the elimination of some brokerage and brokerage companies and written press, and at the same time opened the Internet to new products and services, for example, the emergence of some electronic economic institutions "e-Bay" and "Amazon" of the largest commercial companies online.

So many companies had to change their business culture and even their organizational structure according to the Internet economy, allowing any organization to easily enter and join any sector of activity of any kind and specialization; the Internet has also increased the power of dialogue with customers who have become able to Discover online the cheapest seller at a short time.

2-4- A model of the impact of information and communication technology on the value chain of the economic institution

The value chain model depends on the specific activities through which the strategic performance of the organization develops.

The value chain model considers the economic institution as a series of activities that generate value added in the form of services and commodities.

The diagram above distinguishes between the core activities, the auxiliary activities, the partners and the economic dealers. The main activities are those that are directly related to the production process, and to the distribution of products and services that have added value to the customer and these activities are:

• Production support;
•Processes;
• distribution support;
•the sales;
• Marketing and services.

However, the auxiliary activities ensure that basic activities are assisted.

• Structure of the administrative and management institution;
Human resources (recruitment, training of workers, etc.);
• technologies (product development, development of means of production, etc.);
• Supply (purchase of various resources);
• Accounting and Finance.

After the division of all the activities of the company into basic activities and other auxiliary this enables to know the extent of the contribution of some information and communication

technology systems in the development of operational performance of the various activities of the institution as well as in the contribution of developing the relationship with each of the customers and suppliers, at each stage Stages of the value chain, through supply chain management systems, as well as customer relationship management systems.

Many organizations perform only on the internal environment, but in the value chain, the performance level also depends on external communication and good coordination between the organization and its suppliers and customers. Competitiveness of the economic institution.

nowadays, the economic institution is dealing with several other institutions in addition to many economic partners and dealers who deal with various information and communication technologies to achieve commercial exchanges electronically. These economic exchanges between institutions are unified and organized in what is known as "business to business". "(B to B), through the use of (EDI)" Electronic Data Interchange "which is one of the most responsive to all the requirements of electronic exchanges between institutions, so we find all dealers in various sectors of economic activities are obliged to adopt and join To the same metrics.

Information systems and various information and communication technologies, especially the Internet service, allow some industries to create a value chain strongly, it means to creat a group of independent organizations, but are involved in the use of certain information and communication technologies to coordinate in order to produce a product or service oriented to a particular market.

the relationship between institutions can be in groups or different groups, depending on the evolution of market size and the size of demand, so institutions must make the best use of the value network, such as forming good relations with customers, as well as making decisions quickly enough to acquire opportunities And avoid threats.

Application side:

II - Method and tools:

1-Study methodology: In order to achieve the desired goals of the study, the descriptive analytical approach was adopted, gathering data and information related to the phenomenon under study through the respondents' answers about the axes and paragraphs of the questionnaire, and analyzing the results reached and interpreted, while the secondary data are represented in scientific books and studies Previous, scientific publications and forums related to the study topic.

2-Study community and sample: The study community is represented by the workers of the National Agency, Workers at WOUROUD organisatios in ELOUED city . where 47 questionnaires were distributed, 42 questionnaires were returned, and two forms were excluded because they are not valid for study, which means that the number of the form valid for study is 40 forms.

3-Study tool: The questionnaire was used as a main tool in collecting the necessary data for the subject of the study, as it included the first part of the definition of the subject of research and general data for the target group, while the second part was devoted to the study variables, where the second part divided phrases related to the independent variable (Information and Communication Technology), and expressions for the dependent variable (enterprise competitiveness), and the Lekart five-point scale was adopted to answer the phrases of the part of the study variables.

3-1-Validity of the Study Tool:

To ensure the validity of the study tool, we measured the apparent sincerity of the questionnaire, so we distributed it to a group of arbitration professors who specialize in economics and management

sciences in order to take their views in terms of the appropriateness of the proposed phrases and the soundness of their formulation, and asked them to add, delete or amend the phrases in order to enrich this Research, and based on the observations and guidance made by the arbitrators, we have made the amendments that most agreed upon.

3-2-Stability of the Study Tool:

To ensure the consistency of the study tool, we applied the Alvacronbach method to calculate the coefficient of stability, as this method indicates the strength of correlation and cohesion between the scale phrases, we notice through Table No. (01) that the Cronbach Alpha parameter for the study instrument's paragraphs is 0.884, and this indicates that High stability coefficient, which qualifies it to be a suitable and effective measuring instrument for this study, and it can be applied with confidence.

4-Statistical methods and programs which used in the study: To achieve the goals of the study, and to analyze the collected data, we coded and entered the data into the computer through using the statistical package programSPSS v25. Several statistical methods were used, namely:

 Cronbach Alpha test to determine the reliability of the questionnaire paragraphs.

Kolmogorov-Smirnova) for moderation test.

 iterations: for describing the characteristics of the study sample, and indicating the number of its vocabulary, according to the answers towards the axes and dimensions of the study.

 Percentages with a view to determining the percentage of repetitions, whether for the characteristics of the study sample, or the answers to the sample items on the form phrases.

 arithmetic mean for calculating the average answer for each phrase of the form.

 Standard deviation for determining the extent to which the readings are separated from the center of their collection for each of the phrases of the study tool.

Pearson correlation coefficient to see how the independent variable relates to the dependent variable.

 Simple linear regression analysis to see the effect of the independent variable on the dependent variable.

ANOVA ONE to study differences.

III- Results and discussion:

1-Statistical analysis of study variables:

We are working to provide an analysis of the demographic characteristics of the sample, as well as an analysis of the responses of the sample to the study variables.

1-1-**Analysis of the demographic characteristics of the sample:**

Table No. (02) indicates that the gender distribution of the sample was 87.5% for males while females represented 12.5% due to the nature of the work of the institution. As for the age, the largest percentage was for the age group from 31 to 40 years. About (52.2%), which means that most of the individuals working at the height of their activity and giving, and with regard to the distribution of sample members according to seniority, the first percentage was less than five years (35%), then the second arrangement is from five to 10 years and the last arrangement is for a group of 10 to 15 years.

1-2-**Analyzing the mean of the respondents' responses to the study variables phrases:**

Through Table No. (03), it is clear that the mathematical averages of the respondents 'answers to the communication technology phrases were positive, as the overall mean for this axis was 3.52 and

it falls in the field of approval and acceptance with a standard deviation of 0.683, and the arrangement of the rest of the statements is explained in the said table.

As well as for the second axis of employee performance, as shown in Table No. (04), the mean of the responses of the individuals of the sample surveyed were all positive, and the arrangement of the phrases is explained in the last table.

2-**Test and analysis of hypotheses:**

The results of the hypothesis test are as follows:

2-1-Test of the first major hypothesis: There is a statistically significant effect relationship between communication technology and the competitiveness of the institution under study at a 5% level of significance.

To ensure the validity of the linear regression model in testing the hypothesis of the extent of the effect of moral incentives on the performance of workers at the level of the institution which studied, we perform the analysis of variance shown in Table No. (06), which shows that the calculated value of (F) was 9.69 which is greater than the tabular value at the level of significance 5%, and the calculated level of significance was 0,000 which is less than the approved level of significance 5%, which means rejecting the null hypothesis and accepting the alternative hypothesis that indicates the validity of the regression model in testing the hypothesis of the influence of the independent variable, i.e. communication technology on the dependent variable, which means the competitiveness of the institution being studied, The value of the coefficient was 0.20. As for the correlation coefficient, it indicates an intermediate direct relationship between the study variables.

2.2 -Second major hypothesis test: There are statistically significant differences about the reality of technology Information and communication in the institution being studied is due to seniority at the level of significance 5%.

From Table No. (10), we find that the significance levels of the (seniority) demographic variables are greater than the approved level of significance ($\alpha = 0.05$), and we therefore accept the null hypothesis, meaning that there are no statistically significant differences about the reality of information and communication technology in the institution under study attributed Seniority is at a 5% level of significance. We reject the alternative hypothesis.

Conclusion

As a summary, the following results can be presented:

The presence of a statistically significant impact relationship between information and communication technologies and the level of competitiveness of the economic establishment.

- there are no statistically significant differences regarding the reality of information and communication technologies in the studied institution due to the variables, that is, seniority.

To activate the role of information and communication technologies in the competitiveness of the economic institution, investment must be made in the infrastructure of these technologies, as well as motivating and training workers to make optimal use of these technologies in accordance with the strategic goals of the economic institution.

- The various information and communication technologies are only means in the hands of the managers who demand the optimal exploitation of these technologies, because investing in these technologies is not a goal in itself but rather a necessity and requirements highlighted by the competitive situation and economic circumstance in general.

Recommendations:

* The Foundation should pay more attention to information and communication technologies in terms of strengthening the infrastructure and also in terms of better and better use of these technologies, such as training of workers and motivating them to adapt to these technologies.
* The economic institution must coexist with the external environment in line with technological development, economic circumstance and competitive structure.

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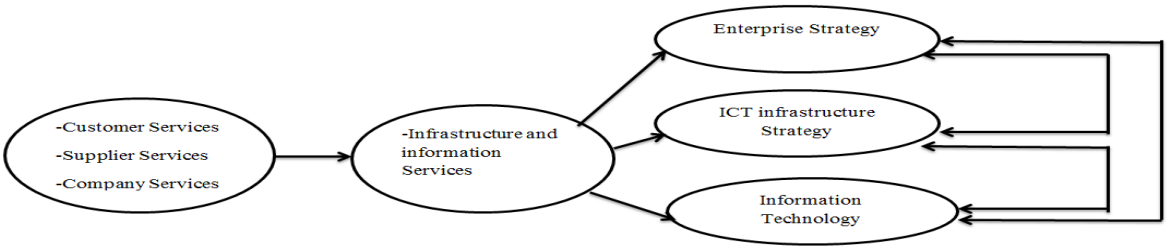
Appendices :

Figure (01) The relationship between the strategy of the institution and the information infrastructure and activity processes.



Source: Kenneth. Op. cit, p159

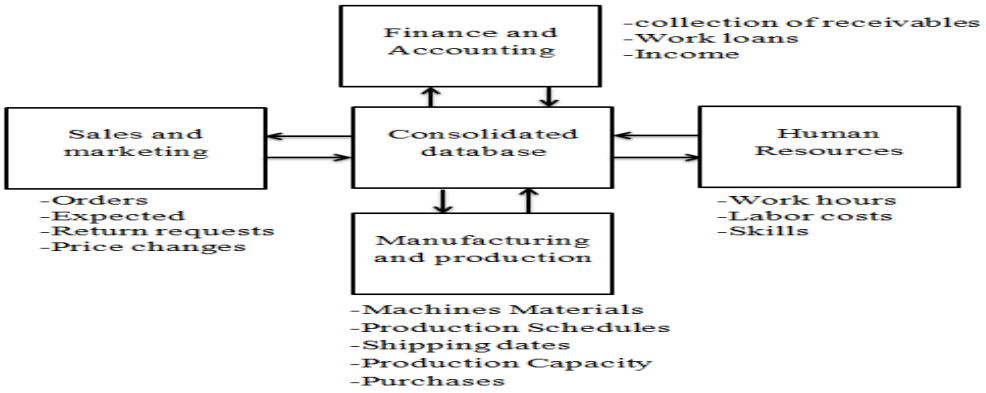
Table (01): represents some of the expected costs and returns of ICT investments:

Costs	Expected Returns
Equipment and Machinery	-Increased Productivity -Reduction in production cost -Reduction in labor -Reduction in IT costs -Reduction in costs caused by supplies -Reduction in the rate of increase of expenditure -Reduce installation costs
Software	-Better use of assets -Better control over resources -Activating organization planning

Services	-More cost-effective for the institution -Important information and accessibility -More information flow
Workers	-More respect for legal and regulatory restrictions and good training of workers -Achieve worker satisfaction on the work environment -Develop decision-making processes -Develop operational processes -More customer satisfaction -Improve the image and mark of the organization

Source I bid, P555.

Figure (02): represents the basic role of ERP system in the economic institution



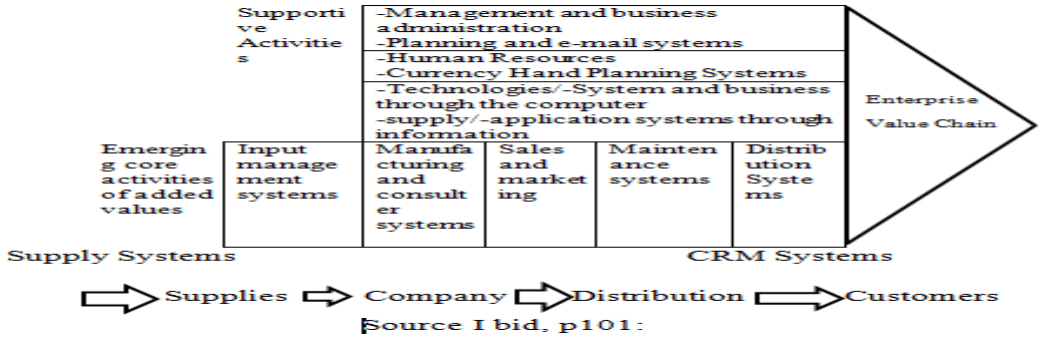
Source: Kenneth, Op. Cit, p14**.**

Table (03) shows some information and communication technologies to assist in decision making at different organizational levels.

Organizational level	Assistive Technology Decision	Examples
High managers	Making Manager Information System (MIS)	-Decision to enter or exit the market -Approving the investment budget -Defining the organization long-term goals
Middle Managers	Management Information System	-Supply materials to various sections
Supervisor operations	Collective Decision Assistance System	-Process the department budget -Create a marketing plan
Workers	System for collective decision working	-Workers performance examination -Re-stocking -Identify Special offers for customers.

Source: Kenneth, Op. Cit, P471

Figure (03): represents a model of the impact of information and communication technology on the value chain of the economic institution.



Source I bid, p101:

Table number :(01) Reliability Statistics

Cronbach's Alpha	N of Items
.887	22

Source: Program Outputs 21 SPSS.

Frequencies:(02) Table number Frequency Table

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method	Cumulative Percent
Vali				87.5
1	A[b]	.	Enter	100.0

		Frequency	**Age** Percent	Valid Percent	Cumulative
Valid	30 years and under	12	30.0	30.0	30.0
	31-40 years old	21	52.5	52.5	82.5
	41-50 yearsold	6	15.0	15.0	97.5
	Over 50 years old	1	2.5	2.5	100.0
	Total	40	100.0	100.0	

Seniority

		Frequency	Percent	Valid Percent	Cumulative
Valid	Lessthan 5 years	18	45.0	45.0	45.0
	From 6 to 10 years	15	37.5	37.5	82.5
	From 11 to 15 years old	3	7.5	7.5	90.0
	Over 15 years old	4	10.0	10.0	100.0
	Total	40	100.0	100.0	

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the
1	.451[a]	.203	.182	.29230

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.828	1	.828	9.696	.004[b]
	Residual	3.247	38	.085		
	Total	4.075	39			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.567	.287		12.416	.000
	A	.220	.071	.451	3.114	.004

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