

# **The Impact of Electronic Management on the Competitive Advantage of Business Companies, a Field Study on Earthlink Communications Company in Iraq**

**By**

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## **Abstract**

Through this study, we seek to determine the impact of electronic management on the competitive advantage of business companies. A field study on EarthLink Communications Company in Iraq. In addition, to identify the availability of the dimensions of electronic management and competitive advantages in the researched company, for achieving the objectives of the study, the researcher used descriptive and analytical approaches that try to describe the phenomenon under study. The EarthLink Company was chosen as a field for the study, and the workers in the three departments were studied as categories. The study was limited to a sample of (93) managers working in the researched company to achieve the desired goal. In order to answer the above questions, the hypothetical scheme of the study was put forward, which reflects the nature of the impact relationships between the electronic management variable and its dimensions represented by (networks, human capital, databases) and competitive advantage. Statistical methods for processing the data obtained through the responses of the respondents in the company under study to the questionnaire. The research reached a number of conclusions, the most important of which is that despite the discrepancy in the impact of the dimensions of electronic management on the competitive advantage, they all have a good effect on the competitive advantage. The study recommends the need to work on developing the networks used in the company, training workers to deal with these networks, and developing databases for beneficiaries.

**Keywords:** electronic management, competitive advantage, business companies, EarthLink Company.

## **1. Introduction**

To optimize business earnings and spur economic progress, the traditional production parameters are no longer adequate on their own. The importance of technology and scientific organization in the production process was established more than 20 years ago. Institutions are vying for the market in this new environment of rapid development, production, and service. which has become characterized by intense global competition that disregards national boundaries and protectionist barriers, driving it to make extensive use of information and communication technology in addition to other technological and scientific advancements, though the efficient and effective use of these developments is not limited to owning and transferring this technology It is related to how to localize this technology and maximize it in accordance with efficiency and effectiveness criteria, like any other component of production, because otherwise it becomes a burden on the institution's shoulders, and its costs could endanger its survival and expansion. Organizations that switch to the electronic management model reap a variety of advantages, including those related to facilities and internal organization, such as industrial organization based on information

systems, as well as indirect and direct advantages that extend to the external environment because of the nature of electronic interactions with all parties in the environment (customers, competitors, government).

### ***1.1 Research problem***

In view of the ongoing global digital revolution, which has become one of the basic requirements for the progress and development of societies, and forced companies to get rid of old practices, as the importance of electronic management lies in its ability to keep pace with the development of information systems and the revolution in technological progress, and this is the main reason for the importance of electronic management as a direct result of that development. This management approach to one of the most sophisticated management strategies, The subject of the study can be determined by taking advantage of the applications provided by the electronic management systems and the things that these systems can achieve in terms of speed, accuracy and transparency in the completion of the work. E-management on the competitive advantage in the field under study?).

### ***1.2 The importance of research***

Focusing mainly on educating the company's employees on the importance of applying electronic management and benefiting from its various systems in order to gain an advantage in the market, clarifying the function of electronic management and the importance it plays in successfully completing tasks in the shortest possible time, reducing expenses, and improving the level of service provided to consumers, providing an explanation How the advantages of networks, human capital and databases contribute to the competitive advantage of (EarthLink Telecom) in Iraq.

### ***1.3 Research objectives***

The research seeks to verify the impact of electronic management on the competitive advantages in the field under study, to identify the impact of networks on the competitive advantage of companies, to show the impact of human capital on the competitive advantage of companies, and to identify the impact of databases on the competitive advantage of companies.

### **1.4 Community, sample, research tool and methodology**

EarthLink Telecom Company in Iraq was selected as a study population the managers working in the company were targeted through the purposive sampling method. The sample size was determined according to the comprehensive enumeration method, with (93) managers. The researcher adopted the questionnaire form as a basic tool for research, and the researcher followed the descriptive analytical study method.

## **2. Theoretical review**

### ***2.1 The concept of electronic management***

While the administration followed the leadership thinking of managers and benefited from what is produced by daily experiences based on monitoring the performance of the individual and his or her peers, management witnessed a remarkable development in thought and practice through the rapid and successive transformations that took place in the last decades of the previous century, and it became a moving target whose stability and position are difficult to predict. It is now guided by the guidance of technology data and its day-to-day development for its purposes (Al-Jamal & Abu-Shanab0, 2015: 58). This technology, particularly information and communication technology, has been reflected in the various activities and tasks completed by management or employees to carry out the functions of the

organization, causing fundamental shifts in speed and mastery, which have improved performance overall (Al-Ma'aitah, 2019: 42). These ideas are primarily based on one technology: utilizing the information and communication revolution to its fullest potential in order to meet the organization's goals for stability and growth and to improve and expand its capacity for developing new competitive advantages (Almaiah & Althunibat, 2020: 5263). It is possible due to the speed with which businesses can adjust to market changes and the speed with which they can keep up with the changes brought on by the new working environment represented by open markets, economic alliances, and mergers between major international corporations. This increased competition among businesses and prompted managers in most institutions to look for new methods and tools for management in an effort to boost productivity (Abdulrahman & Omar, 2018: 459). Whether in terms of the speed of communication within an organization between senior management and department heads or the speed of reaction to the increasingly global environment in which firms must function (Al-Hakim, & Al-Fleet, 2020: 22).

This administration has become called electronic management, which is considered an advanced stage in the development of administrative thought, its applied techniques, and its technical and professional skills (Alomari, 2020: 68). It is based on enriching administrative thought with concepts and issues related to electronic knowledge on the one hand and management and its activities on the other hand, and thus motivates managers to benefit from technology and information, which has become one of the most important and powerful elements at the present time.

He defined it (Alkhsabah, 2017: 341) as a traditional administration based entirely on information and communication technology in all administrative and technical processes and in decision-making. He defined it (Alomari, 2014: 7) as a manifestation of development and modernity in management processes in the post-industrial (information) economy. (Alqudah & Muradkhanli, 2021: 68) describes it as a management that relies on participation between management and workers in decision-making processes through electronic interconnection between the organization's departments and branches through information and communication technology.

From the foregoing, electronic management can be defined as management that exercises its usual functions such as planning, organizing, directing, controlling and motivating with advanced technological methods and means that make the above management functions more effective and efficient elements and by directing the organization towards exercising its functions electronically.

## ***2.2 The importance of electronic management***

The importance of electronic management comes from the reality of the era of global technology and the growth of the use of its means, and the growing conviction of relying on this technology (information and communication technology) as a major tool in the implementation of business, and a fundamental basis for sustainable development and modernization (Al-Zoubi, 2019: 669). Electronic management has become an integrated philosophy and a radical transformation in the world of management at the theoretical and applied levels. It is also a quantum leap and a positive revolution in management concepts, theories and methods, which is clearly and clearly reflected on the overall picture of management and performance in any institution or organization. Its importance also lies in the fact that it is a copy of traditional management Which represents excessive routine, authoritarianism, nepotism, and other negative manifestations and practices that offend workers, employees, and customers alike, and accumulate in their minds, negatively affecting

their performance and productivity, and affecting the reputation of the organization on the one hand, and its ability or opportunities for stability and stability in an environment characterized by intense competition on the other hand. (Kislov et al, 2017: 61).

However, some believe that the application of electronic management in any organization or institution that seeks survival and stability in the global market today has become an inevitable option in the medium term, and that the adoption of one of its elements or applications in a specific department such as electronic commerce in the marketing department has become an important matter in the short term (Bataineh, 2017: 88). Because of the amazing results achieved by this department with its electronic means and tools, whether in achieving the objectives of the organization or in achieving the level of satisfying the needs of consumers and customers through rapid communication with them, immediate response to their tastes and requirements, and the ability to adapt according to local and global market changes quickly and at an appropriate time (El-Ebiary, 2018: 2). Some writers believe that the importance of electronic management is reflected through its contribution to the establishment of advanced organizations that rely on information and knowledge that deals with the organization as a whole from the highest administrative level to the lowest executive level, and contributes to developing plans and consolidating strategies in all departments and branches of the organization through its coherence and interdependence with an advanced communications system. In addition, based on a unified, up-to-date and integrated database that qualifies it to be digital, always learning and agile, it can be dealt with either as customers or as remote workers with complete safety and confidence (Fayyoubi & AboShindi, 2020: 4).

### ***2.3 Electronic management requirements***

Projects for the implementation of electronic management in any organization require the availability of many requirements that contribute to the success of the application of this management, and among those requirements are the following:

#### ***1. Networks***

Human skills capable of producing hardware and software that are used in internal operations and activities or communications to create and develop networks, as electronic management is manpower and human capital capable of using networks, taking care of them, benefiting from them, and maintaining them (AL-Zoubi & AL-Zawaideh, 2017: 322). It is noted that the researchers and writers agree that informatics develops the information system in a way that makes it more comprehensive as it deals with information in one way or another. The Virtual School of Informatics in California presents a definition that closely matches the definition of the European Journal of Informatics, as it defines it as that framework that contains information technology, computer science and systems. Information, networks, communications, and their applications in various fields of organized humanitarian action (Petrov, 2020: 39). The transmission and exchange of information and data between the constituent departments and sections of any organization or between it and its external environment, which is represented by the environment in which these institutions operate, which has become global, which showed a great need for speed, as networks began to appear and form, starting with internal networks and wide networks, and ending with global networks (the Internet) Sabani & Thai, 2019: 258).

#### ***2. Human capital***

In light of electronic management, human resources play an important role through the use and development of jobs, tasks and modern information systems:

- Availability of senior management of competent leaders and managers who are able to manage jobs electronically and complete them successfully.
- The presence of a group of policy analysts influencing the emergence of electronic management who understand the legislation and laws that perpetuate the interdependence of organizations electronically.
- Stimulating and urging the creativity necessary for the intellectual content of the analysts associated with the mission of the organization and their dealing with the potential and capabilities of the huge and growing amount of information available on the Internet. (Glybovets & Mohammad, 2017: 5).
- Human skills capable of producing hardware and software that are used in internal operations and activities or for communications to create and develop networks, as electronic management is manpower and human capital capable of using, taking care of, benefiting from, and maintaining networks (Ismail & Hanafiah, 2017: 6).
- The availability of high levels of quality and high productivity in learning systems that are open, available, lifelong, and around the clock to support human resources working in the electronic management environment (Al-Jamal & Abu-Shanab0, 2015: 58).
- Creating a fertile environment to support the culture of institutional and national innovation and creativity, and to share the available information.

Informatics is distinguished by its great reliance on human resources or what is called "human capital", whether in terms of designing and producing hardware and software components or in terms of rational use of them in any field. Alternatively, what is known as human (intellectual) capital, which is part of informatics.

### **3. Databases**

The importance of databases increases with the increase in the importance of this information and given the increasing insistence on obtaining this information from competitors or customers with the aim of imitation or simulation, the protection of databases is an important issue (Almaiah & Althunibat, 2020: 5265). In the past, computers were operated by the same individuals who prepared information systems and were responsible for their maintenance, but the developments that accompanied the emergence of the international information network (the Internet) made it easy for any user, anywhere, to access any database (Abdulrahman & Omar, 2018: 461), which requires high protection for this data. Databases are usually protected by means and tools found in the programs used to generate and use this information. The strength of these utilities varies according to the type of protection required, the type of programs used to generate them, and the type of data they contain.

Aslon encryption and the method of setting passwords are among the best and easiest methods to protect databases, as shown in the following:

- Encryption: It is one of the easiest methods of protection as it leads to compressing the database and making it unusable unless decryption is done using the utilities that were actually used in the encryption process.
- Password method: The other simple way to protect databases requires setting a password to open the database. Once the password is set, a dialog box will be displayed asking the user for the password when opening the database, and only the user who has the password will be allowed to enter the database.



#### ***2.4 The concept of competitive advantage***

The concept of competitiveness overlaps with a group of other concepts, including core capabilities, and this makes it difficult to define an accurate and precise concept of competitiveness, in addition to an important factor, which is the dynamic of continuous change of the concept of competitiveness. As for the nineties, it was associated with the technological development of countries, and currently the competitiveness of countries means their ability to raise the living standards of their citizens (Wang, Wen-Cheng et al, 2011: 100). There has been a shift in the concepts of competitiveness, from the concept of comparative advantage, which is represented in the company's capabilities of natural resources and low-cost labor force, the geographical location and climate that allow it to produce low-cost and competitive, to the concept of competitive advantage, which is the state's reliance on technology and the intellectual component in production, The quality of production and understanding the desires and needs of the customer, which made the constituent elements of the advantage become ineffective and unimportant in determining competitiveness (Hakkak, & Ghodsi, 2015:298). It means the ability to provide the customer with products and services more effectively and efficiently than other competitors in the international market, which means continuous success for this company at the global level in the absence of support and protection by the government, and this is done by raising the productivity of production factors employed in the production process (work and capital and technology) (Akram Sadat et al, 2018: 2). It means the company's ability to attract customers and build a good relationship with suppliers for the longest possible period, and work to keep pace with the events it faces in the competitive environment by striving to overcome internal and external obstacles (Al-Fadhel and Al-Nuaimi, 225: 2018). It means the company's advantage in the perspective of the product market that comes with more than one competitive position for the company, and this means that the competitive advantage means that the company has an advanced competitive position in the market (Hakkak, & Ghodsi, 2015:299). It means a set of capabilities that lead the company to discover new ways that are more effective than those used by competitors, as it is able to embody this discovery in the field, in other words, by simply creating a process of creativity in its broadest sense (Michael E. Porter, 2012:15).

#### ***2.5 The importance of competitive advantage***

The importance of competitive advantages lies in maximizing the benefit as much as possible from the features provided by the global economy and minimizing its disadvantages. Developing countries are more able to benefit from the concept of competitiveness than large countries. Global, because these developing countries are forced to confront this system, as one of the challenges of the twenty-first century (Aswini Kumar, 2013:7). Companies seek to excel in their business environment by owning and maintaining a competitive advantage and the competitive advantage focuses on the means by which the company can win its competition over others. The competitive advantage aims to build a system that has a unique or distinctive advantage that surpasses competitors through the value of the customer, in an efficient and sustainable way that can be maintained continuously and displayed or presented better than others (Abdullah and Elias, 2018: 160). The competitive advantage is a feature that distinguishes the company from competing companies due to its possession of resources and auxiliary factors, which gives it an internal dynamic force that establishes it a strong position towards all the different parties of the beneficiaries, which is reflected in the goods and services it provides of unique value to its target customers. The competitive advantage practically aims to meet the desires and needs of the customer for the purpose of the customer's acquisition of the good or service. As the competitive advantage is achieved when the company is able to carry out its activities at a lower cost and with better efficiency than

competitors by using better resources, or using its ingenuity and experience in carrying out its activities in a way that achieves greater value for the customer relative to competitors (Pawe Cegliński, 2017:59).

### ***2.6 Dimensions of competitive advantage***

The writers and researchers dealt with the dimensions of competitive advantages, each according to his point of view and as far as the matter relates to his research and what serves his study. Competitiveness) (Hakkak & Ghodsi, 2015:299). In the current study, the dimensions (quality, cost, flexibility, delivery, and creativity) were relied upon according to the model (Ismail et al, 2010: 159).

- 1. Quality:** The concept of quality is closely linked with companies, and in a broader scope than that, quality is not confined to the product, but has become linked to the quality of workers, the quality of production, the quality of warehouses in which products are stored, the quality of supply, the quality of post-supply services, and the quality of Examination, everything mentioned is related to the quality of the final product, and these activities and tasks are given to the company's departments for the purposes of follow-up, quality control and control, and these departments are (quality assurance, quality planning, quality control, and continuous development) (Heizer, J. & Render B. 2011:222). It means the ability to fulfill the desires and aspirations of the customer in a way that matches those aspirations and desires and works to achieve his complete satisfaction (Heizer, J. & Render B. 2011:222).
- 2. Cost:** It is one of the competitive advantages since ancient times that have been adopted by companies to achieve superiority over competitors. If the cost can be what the company pays in terms of cash in order to perform its activities by providing the necessary and necessary requirements to carry out the activities and practices of the company regardless of the fact that these Requirements are tangible or intangible resources, and the company can rely on lower costs than competitors for the purpose of outperforming them, and in this case the cost becomes the competitive advantage, (Abdullah and Elias, 2018: 162). As (Fathi and Al-Mukhtar, 2014: 109) indicated that the concept of cost is one of the most important concepts as it is a key factor in providing the services and goods provided by the company, aiming to reduce them to the lowest possible level.
- 3. Flexibility:** The content of the concept of flexibility revolves mainly around the company's ability to adapt and harmonize its operations, tasks and activities according to what the market needs, as well as taking into account the needs, desires and requirements of the customer in his preferences for the services and goods that he wants to obtain from the company, in addition to the company's focus on optimization in managing and utilizing its tangible and non-tangible resources. Tangible, in order to achieve the dimension of flexibility as a contemporary competitive advantage, (Fathy and Al-Mukhtar, 2014: 109). It is a competitive weapon represented by the ability to produce a wide range of products and services, by introducing new products and modifying existing products quickly, and responding to customer needs (Russell & Taylor, 2011:21).
- 4. Delivery:** After delivery is the basic, most effective and important basis for competition between companies in the markets by focusing on reducing lead times and speed in designing new services and products and presenting them to customers in the shortest possible time. Determinant, speed of delivery, speed of development) (Assaf, 2015: 33). In addition, between (Alfreda & Sviesa, 2010: 205) that speed as a competitive factor has gained great importance in the largest companies operating in

the global market, as the company tends to compete on speed in response to customer demand, new products and technologies introduced to the market.

### ***2.7 The relationship between electronic management and competitive advantage***

The view of the importance of informatics goes beyond the boundaries of companies and institutions, according to the observers participating in the World Economic Forum held in Davos, who emphasized that institutions are responsible for all the side effects they inflict on the surrounding environment, such as pollution or waste of material and human resources, which prompts them to use Intensive to developments, on top of which is information, with the aim of achieving multiple goals that go beyond the issue of profits and competitive advantages to be responsible for the social, political and ethical aspects, which are interconnected day after day in light of the role played by globalization in various fields, especially the issue of unemployment, which has become transmitted from one country to another as a result of intensive use Informatics (Abdulrahman & Omar, 2018: 460). Organizations must, before considering the shift towards electronic management, analyze the internal and external environment and study the costs and benefits that are expected to be obtained from the application of electronic management. Between several options such as competitive advantages (Kislov et al, 2017: 63).

#### ***The main hypothesis: the impact of electronic management on the competitive advantage in the field under study***

Through networks, it is possible to create a productive environment for the creation of completely new knowledge. However, the management of the knowledge network requires managing and controlling the flow of knowledge, directing it and facilitating access to this knowledge. The most important task of knowledge management is the creation and development of knowledge. And effective, and this task requires that workers learn how to learn, not what they learn, because knowledge varies in application, but skills are what last, so if workers know where to find knowledge and how to harness it in managing their daily tasks, they can adapt to everything new in an environment characterized by rapid change (Bataineh, 2017: 89 ).

#### ***The first sub-hypothesis: the impact of networks on the competitive advantage in the field under study***

The development of electronic management requires attracting appropriate human skills and enhancing the capabilities of workers. This is what is performed by knowledge management, or what is known as human (intellectual) capital, which is part of informatics, the availability of high-quality levels and high productivity in open, available, lifelong and round-the-clock learning systems to support human resources Working in the electronic management environment (Ismail & Hanafiah, 2017: 7).

#### ***The second sub-hypothesis: the impact of human capital on the competitive advantage in the field under study***

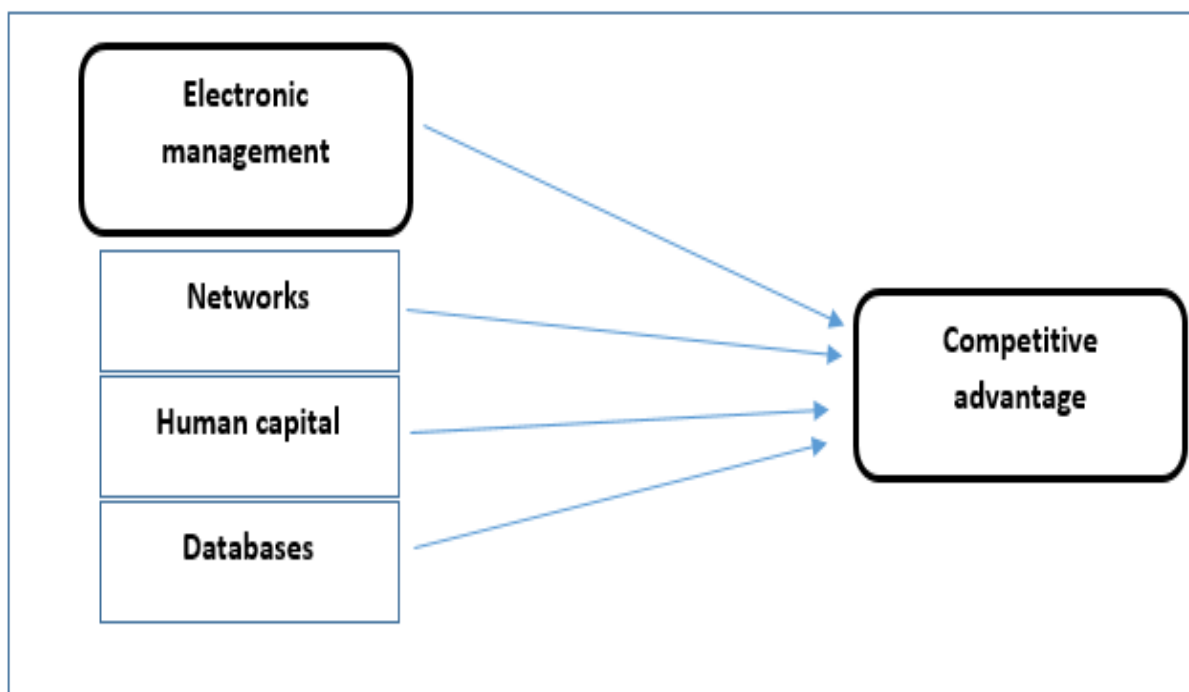
Electronic management drives the creation of organizations that operate at high speed and accuracy through electronic interconnection based on advanced databases, and while electronic management focuses on speed in response and processing to perform jobs, it also achieves high quality and focuses on monitoring the operations of the company or organization and drawing and implementing rules track (Fayyoubi & AboShindi, 2020: 5).



The third sub-hypothesis: the impact of databases on the competitive advantage in the field under study.

## Framework

For achieving the systematic treatment of the study, the researcher built a hypothetical scheme showing the logical relationships between the variables of the study (electronic management, competitive advantage), and the impact of those relationships in the field under study (EarthLink Telecom Company in Iraq), and the default scheme for research can be shown through the figure (1).



**Figure (1)** Framework

Based on the above model, the researcher sets a set of hypotheses, namely:

**The main hypothesis:** the impact of electronic management on the competitive advantage in the field under study.

**The first sub-hypothesis:** the impact of networks on the competitive advantage in the field under study.

**The second sub-hypothesis:** the impact of human capital on the competitive advantage in the field under study.

**The third sub-hypothesis:** the impact of databases on the competitive advantage in the field under study.

## 4. Findings and Discussions

Secondary data were collected from the field under study, EarthLink Company, through a questionnaire distributed to a sample of (93) managers in the company, and it relied on the Statistical Software Package (SPSS) program to analyze the hypotheses of the study.

#### 4.1 Results Of Descriptive Statistics

##### 1. Electronic management

This paragraph describes a description and diagnosis of the dimensions of electronic management at the level of EarthLink Telecom Company in Iraq.

**Networks:** Table (1) shows the frequency distributions, percentages, arithmetic mean, and standard deviations of the items of the network dimension at the level of the researched company.

**Table No. 1** *Frequency distributions, percentages, arithmetic mean, and standard deviations for the items of the network dimension at the level of the researched company*

Variables	I agree %	neutral %	I do not agree %	Arithmetic mean	standard deviation
X1	62.9	20.0	17.1	2.45	0.78
X2	68.6	17.1	14.3	2.54	0.74
X3	71.4	22.9	5.7	2.65	0.54
X4	60.0	22.9	17.1	2.42	0.77
X5	57.1	25.7	17.1	2.40	0.77
X6	74.3	5.7	20.0	2.54	0.81
	65.7	19.1	15.2	2.14	0.73

**Source:** *The researcher based on the results of the electronic calculator (SPSS) prepared the table.*

Where the data of table (1) indicate that (65.7%) at the (agree) level of the respondents affirm that the dimension of networks in the company considers the distribution of tasks among the various departments and sections according to their specializations, and in contrast, (15.2%) at the level (Disagree) Disagree with that, with a mean (2.14) and a standard deviation (0.73). The most prominent paragraphs contributing to the enrichment of this dimension was paragraph (X6), which amounted to (74.3%), supported by an arithmetic mean (2.54) and a standard deviation (0.81). While the least contributing paragraphs was paragraph (X5), which amounted to (57.1%), and this is indicated by an arithmetic mean of (2.40) and a standard deviation of (0.77).

**Human capital:** Table (2) shows the frequency distributions, percentages, arithmetic mean, and standard deviations of the items of the human capital dimension at the level of the researched company.

**Table No. 2** *Frequency distributions, percentages, arithmetic mean, and standard deviations for the items of the human capital dimension at the level of the researched company*

Variables	I agree %	neutral %	I do not agree %	Arithmetic mean	standard deviation
X7	74.3	17.1	8.6	2.65	0.63
X8	60.0	31.4	8.6	2.51	0.51
X9	65.7	22.9	11.4	2.54	0.70
X10	60.0	28.6	11.4	2.48	0.70
X11	40.0	34.3	25.7	2.14	0.80
X12	48.6	42.9	8.6	2.40	0.65
	58.1	29.5	12.4	2.45	0.66

**Source:** *The researcher based on the results of the electronic calculator (SPSS) prepared the table.*

Table (2) data indicate that (58.1%) at the (agree) level of respondents affirm that the human capital dimension is important to the company's work, and in contrast, (12.4%) at the (do not agree) level do not. This is an arithmetic mean (2.45) and a standard deviation of (0.66). One of the most important items that contributed to enriching this dimension is (X7), which amounted to (74.3%). This is supported by an arithmetic mean (2.65) and a standard deviation (0.63). While the least of the paragraphs contributing to the enrichment of this dimension was (X11), which amounted to (40.0%), and this is indicated by the arithmetic mean (2.14) and a standard deviation (0.80).

**Databases:** Table (3) shows the frequency distributions, percentages, arithmetic mean and standard deviations of the items of the dimension of the databases at the level of the researched company.

**Table No. 3** *Frequency distributions, percentages, arithmetic means, and standard deviations for the items of the database dimension at the level of the researched company*

Variables	I agree	neutral	I do not agree	Arithmetic mean	standard deviation
	%	%	%		
X13	54.3	37.1	8.6	2.45	0.65
X14	57.1	31.4	11.4	2.45	0.70
X15	54.3	28.6	17.1	2.37	0.77
X16	48.6	37.1	14.3	2.34	0.72
X17	51.4	28.6	20.0	2.31	0.79
X18	48.6	25.7	25.7	2.22	0.84
	52.3	31.4	16.3	2.35	0.74

**Source:** *The researcher based on the results of the electronic calculator (SPSS) prepared the table.*

It is clear from Table (3) that a percentage of (52.3%) at the (agree) level of respondents stress the importance of databases in the company, as they represent the basis of the company's work, and in contrast, a percentage of (16.3%) at the (do not agree) level of respondents do not. They confirm this, and that came with an arithmetic mean (2.35) and a standard deviation of (0.74). Paragraph (X14) contributed to enriching this dimension, which amounted to (57.1%), with an arithmetic mean (2.45) and a standard deviation (0.70). While the least paragraphs contributed to the enrichment of this dimension were the two paragraphs (X16) and (X18), which amounted to (48.6%). This is indicated by the arithmetic mean of (X16) (2.34) and (X18) (2.22), and the standard deviation of (X16) (0.72) and (X18) (0.84).

## 2. Competitive Advantage

Table (4) shows the frequency distributions, percentages, arithmetic mean, and standard deviations for the items of the competitive advantage variable at the level of the researched company.

**Table No. 4** Frequency distributions, percentages, arithmetic mean, and standard deviations for the paragraphs of the competitive advantage variable at the level of the researched company

Variables	I agree %	neutral %	I do not agree %	Arithmetic mean	standard deviation
Y1	51.4	22.9	25.7	2.00	0.72
Y2	45.7	28.6	25.7	2.14	0.80
Y3	37.1	34.3	28.6	1.80	0.79
Y4	45.7	28.6	25.7	2.08	0.78
Y5	37.1	34.3	25.7	2.11	0.83
Y6	45.7	34.3	20.0	2.28	0.78
	43.8	31.0	25.2	2.06	0.78

**Source:** The researcher based on the results of the electronic calculator (SPSS) prepared the table.

Where the data of table (4) indicate that a percentage of (43.8%) at the (agree) level of the respondents affirm that the competitive advantage variable is important to the company's work, and in contrast, (25.2%) at the level (do not agree) do not support that. This came with an arithmetic mean (2.06) and a standard deviation of (0.78). The most prominent paragraphs contributing to the enrichment of this dimension was paragraph (X19), which amounted to (51.4%), supported by an arithmetic mean (2.00) and a standard deviation of (0.72). While the least contributing paragraphs were (X21) and (X23), which accounted for (37.1%). This is indicated by an arithmetic mean (1.80) (2.11) and a standard deviation of (0.79) (0.83), respectively.

#### 4.2 Hypothesis Testing

This paragraph deals with testing hypotheses of the effect of the independent variable (electronic management) on the dependent variable (competitive advantage) in EarthLink Telecom Company in Iraq.

**The main hypothesis:** the impact of electronic management on the competitive advantage in the field under study.

The results of the analysis indicate that there is a significant positive impact of the dimensions of electronic management combined on the competitive advantage at the level of EarthLink. The table (5) shows them as follows:

**Table No. 5** The impact of electronic management on the competitive advantage in EarthLink

independent variable \ dependent variable	electronic management			F	
	B <sub>0</sub>	B <sub>1</sub>	R <sup>2</sup>	calculated	Tabular
competitive advantage	1.718	0.358 (4.636)	0.683	21.497	4.7

**Source:** The researcher based on the results of the electronic calculator (SPSS) prepared the table.

() indicates the calculated t-value    N = 93    P < 0.05    df (1.91)

It is clear from the table () related to the results of the regression analysis that there is a significant effect of the dimensions of electronic management combined on the competitive advantage, as the calculated value of (F) was (21.497), which is higher than its tabular value

of (4.7) at two degrees of freedom (1.91), and the coefficient of determination was (R<sup>2</sup>). (0.683), which means that (68.3%) of the explained differences in the competitive advantage are due to the factors of electronic management dimensions, and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following up coefficients (B) and testing (T) for them, it was found that the calculated value of (T) is (4.636), which is a significant value and greater than its tabular value of (1.79) at a significant level (0.05) and a degree of freedom (1.91), and this result converges. With the study (Abdulrahman & Omar, 2018), which indicated that the rapid developments and global conditions make this study difficult or not, because electronic management is no longer an option that can be studied and chosen from among several options such as competitive advantages. Thus, the main hypothesis was achieved, which states (there is a significant effect of electronic management on the competitive advantage in the field under study).

**The first sub-hypothesis:** the impact of networks on the competitive advantage in the field under study.

The results of the analysis indicate that there is a significant positive effect of the distance of networks on the competitive advantage in the field under study. The table (6) shows them as follows:

**Table No. 6** *The impact of networks on the competitive advantage in the field under study*

independent variable \ dependent variable	networks		R <sup>2</sup>	F	
	B <sub>0</sub>	B <sub>1</sub>		calculated	Tabular
competitive advantage	1.759	0.357 (4.299)	0.606	18.484	4.6

**Source:** The researcher based on the results of the electronic calculator (SPSS) prepared the table.

( ) indicates the calculated t-value      N = 93      P < 0.05      df (1.91)

seen from the table ( ) related to the results of the regression analysis that there is a significant effect of the dimension of the networks on the competitive advantage, as the calculated value of (F) was (18.484), which is higher than its tabular value of (4.6) at two degrees of freedom (1.91), and the coefficient of determination (R<sup>2</sup>) was (0.606). ) This means that (60.6%) of the explained differences in the competitive advantage are due to the factors of the distance of the networks and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following up coefficients (B) and testing (T) for them, it was found that the value of (T) calculated (4.299\*) is a significant value and greater than its tabular value of (1.77) at a significant level (0.05) and a degree of freedom (1.91), and this result coincides with a study (Bataineh, 2017), which indicated that spreading a productive environment for the creation of completely new knowledge is through the availability of advanced networks and in a way that affects the development of competitive advantages. Thus, the first sub-hypothesis was achieved, which states (there is a significant effect of networks on the competitive advantage in the field under study).

**The second sub-hypothesis:** the impact of human capital on the competitive advantage in the field under study.

The results of the analysis indicate that there is a significant positive effect of the human capital dimension on the competitive advantage in the field under study. The table (7) shows them as follows:



**Table No. 7** *The impact of human capital on the competitive advantage in the field under study*

independent variable \ dependent variable	human capital		R <sup>2</sup>	F	
	B <sub>0</sub>	B <sub>1</sub>		calculated	Tabular
competitive advantage	1.247	0.561 (*)5.636	0.490	31.763	4.08

**Source:** *The researcher based on the results of the electronic calculator (SPSS) prepared the table.*

() indicates the calculated t-value    N = 93    P < 0.05    df (1.91)

It appears from the table () related to the results of the regression analysis that there is a significant impact of human capital on the competitive advantage, as the calculated (F) value reached (31.763), which is higher than its tabular value of (4.08) at two degrees of freedom (1.91), and the coefficient of determination was (R<sup>2</sup>) ( 0.490) This means that (490%) of the explained differences in competitive advantage are due to factors after human capital, and the rest is due to random variables that cannot be controlled or are not included in the regression model at all. By following up the coefficients (B) and testing (T) for them, it was found that the calculated value of (T) is (5.636\*), which is a significant value and greater than its tabular value of (1.69) at a significant level (0.05) and a degree of freedom (1.91), and this result coincides with a study (Ismail & Hanafiah, 2017), in which they indicated that the development of electronic management requires attracting appropriate human skills and enhancing the capabilities of workers, and this is what is performed by knowledge management or what is known as human capital, which greatly affects the generation of competitive advantages, and thus the second sub-hypothesis has been achieved, which It states (there is a significant impact of human capital on the competitive advantage in the field under study).

**The third sub-hypothesis:** the impact of databases on the competitive advantage in the field under study.

The results of the analysis indicate that there is a significant positive effect of the dimension of databases on the competitive advantage in the field under study. The table (8) shows them as follows:

**Table No. 8** *Databases on competitive advantage in the field under study*

independent variable \ dependent variable	human capital		R <sup>2</sup>	F	
	B <sub>0</sub>	B <sub>1</sub>		calculated	Tabular
competitive advantage	0.109	0.404 (*1.930)	0.698	*10.807	2.33

**Source:** *The researcher based on the results of the electronic calculator (SPSS) prepared the table.*

() indicates the calculated t-value    N = 93    P < 0.05    df (1.91)

It is clear from the table () that there is a significant effect of the dimension of databases on the competitive advantage in the field under study. This effect is supported by the calculated (F) value of (10.807), which is greater than its tabular value of (2.33) at two degrees of freedom (1.91) and a significant level (0.05) with a coefficient Determining (R<sup>2</sup>)

of (0.698), which means that (69.8%) of the explained differences in the competitive advantage are explained by the databases, and the rest is due to random variables that cannot be controlled or that they are not included in the regression model at all. By following up coefficients (B) and testing (T) for them, it was found that the value of (T) calculated (\*1.930), which is a significant value and greater than its tabular value of (1.69) at a significant level (0.05) and a degree of freedom (1.91), and this result coincides with a study (Fayyumi & AboShindi, 2020), in which they indicated that electronic management drives the creation of organizations that operate at high speed and accuracy through electronic interconnection based on advanced databases. Thus, the third sub-hypothesis was achieved, which states (there is a significant effect of databases on the competitive advantage in the field under study).

## 5. Conclusions

Despite the variation in the impact of the dimensions of electronic management (networks, human capital, databases) on the competitive advantage, they all have a good impact on the competitive advantage.

The study recommends the need to work on developing the networks used in the company and work on training employees to deal with these networks and develop databases for beneficiaries, and work on enabling the company to develop appropriate decisions and an information strategy that helps it in developing appropriate decisions and a strategy that supports performance in its various functional units, preparing programs and courses Training for all levels to deal effectively with human resources techniques to improve performance and gain a competitive advantage. The study uses a sample of (93) managers in EarthLink Communications Company in Iraq.

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