# The Role of Electronic Governance in Achieving Entrepreneurial Orientation Using (GIS): An Empirical Study in the Babylon Water Department

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Abstract--- The current study aims to diagnose the pioneering direction of the Babylon Water Department through its dimensions of (creative, proactive and proactive, strategic vision, investment of opportunities, risk), presenting some suggestions that help the researched organization to take advantage of these dimensions, in addition to learning about the reality of the use of geographic information systems (GIS) in the researched organization and determining the relationship between electronic governance and the orientation of GIS mediation, for the purpose of identifying that relationship, a scale was designed consisting of (77) items distributed on three axes, 220 questionnaires were distributed, 200 of which were valid for statistical analysis were retrieved, that is, with a retrieval rate of (91%), the descriptive analytical method was used to analyze the questionnaire data, statistical tools were used, such as (arithmetic mean, standard deviation, confirmatory factor analysis), the researchers have aimed to test a number of main subsidiary hypotheses related to the relationships of influence and influence between the research variables, also, the moral differences between these variables for the purpose of answering the questions related to the research problem to reach the set goals, the study has reached a number of conclusions, the most important of which is that the Babylon Water Department is working to develop its work and strengthen it towards electronic work to achieve the required pioneering direction despite receiving most of the official orders and books in a traditional paper form, the study has come out set of recommendations, the most important of which is the management of the Babylon Water Department to directly supervise the website of the department as it is an effective means of communication between the citizen and the department through which he can transfer his complaint or shorten the work cadres while performing the tasks assigned to them.

**Keywords---** Electronic Governance, Entrepreneurial Orientation, Geographical Information Systems(GIS), Babylon Water Department.

## I. Introduction

In the midst of intense and strong competition, organizations seek to possess modern and advanced technologies leading to more efficient and effective operations. The purpose of such technologies is to prepare human staffs that are capable of dealing with modern technologies, finding innovative solutions, and developing themselves professionally. Electronic governance plays an important role in transforming organizations from traditional to modern methods of administration. It plays an important role in adopting approaches of creativity and innovation in business. The fully electronic systems of the organization encourages governmental and non-governmental

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organizations around the world to provide all the necessary requirements; formulation of elements of performance

assessment, measurement, and methods of implementation, especially in government service sectors. Providing

electronic services to different segments of society is a way to develop and improve the level of services. E-

governance is a strategy based on a set of laws and regulations to involve all parties in the same organization to

reach good governance, provide government services, and exchange information on communications transactions.

This technology leads to the integration of various self-standing systems and services between the government and

the citizen, between the government and companies, and between governments. The success of organizations and

their superiority in their field of work largely depend on the leadership of that organization. That leadership should

be able to adapt to the Environmental changes and investment opportunities to address risks and overcome them.

The leadership approach is not achieved through the adoption of geographical information systems in the

organization. It is a computer-based system that collects, maintains, stores, analyzes outputs, and distributes data and

information. Which would benefit the Babylon Water Directorate in identifying water pumping problems and other

problems facing the Directorate as computers are an important element in adopting the principles of electronic

governance. The GIS analyzes and processes data that is stored in huge databases. The GIS information is stored in

more than one layer to overcome technical problems caused by processing large amounts of data at the same time.

**SECTION ONE** 

The study methodology and previous studies.

The study methodology.

1. The Problem of Study

Electronic governance enables business organizations to achieve indicators that enable them to achieve their

objectives. Organizations must rely on effective elements to achieve an entrepreneurship; risk acceptance,

competitiveness, and independence. Such characteristics enable the organization to make future decisions and follow

up plans. The integration of the GIS enables the organization to archive their data electronically.

Accordingly, the study problem can be formulated in light of the following questions:

1. Does adopting the principles of E- governance help the organization achieve a pioneering direction?

2. Do the leaders of the organization have a GIS approach through which they determine the water stations of

the Directorate?

3. Does using the GIS in the directorate help it achieve a pioneering direction?

2. The Significance of Study

The following points highlight the significance of the present study:

1. Demonstrating the empirical side through which E- governance contributes to achieving the pioneering

approach through the GIS in the Babylon Water Department.

2. The present study is significant as it addresses the issues of one of the important service departments; Water

department. It is of a particular importance for Babylon as it is concerned with its water directorate.

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3. Highlighting the role of electronic governance in achieving the pioneering approach through the GIS plays, and how the department addresses the problems and obstacles it faces through creativity, initiative, proactive, strategic vision, investment of opportunities, and risk taking.

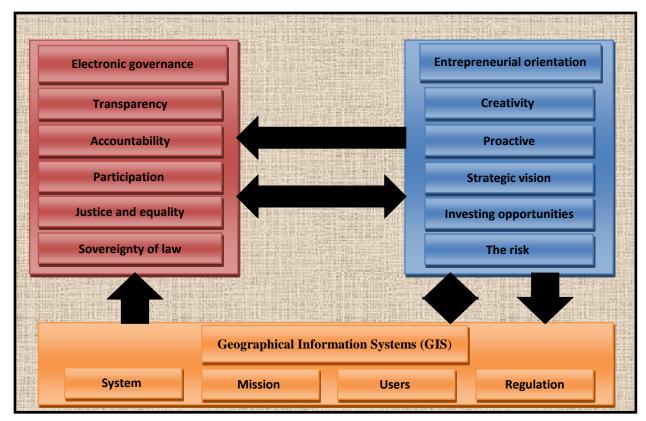
The present study is also significant in that it increases the awareness and understanding of leaders in the Babylon Water Department of the research variables; E-governance, entrepreneurial orientation, and GIS. The results of the present study are useful in administrative development in the Babylon Water Department.

#### 3. The aims of Study

- 1. Identifying the extent of using GIS in the Babylon water directorate.
- 2. Diagnosing the pioneering direction of the Babylon Water Department through its dimensions of creativity, strategic vision, investment of opportunities, and risk taking and presenting some suggestions that help the organization to benefit from these dimensions.
- 3. Determining the importance of electronic governance using the GIS in achieving the pioneering approach to the Babylon Water Department.

## 4. The Hypothetical Scheme of the Present Study

The hypothetical plan is an intellectual construction of a set of facts that provide a simplified, brief, and hypothetical conception of the phenomena under study.



Source: The Researchers

Figure 1: The Hypothetical Scheme of the Present Study

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Clarifying the problem of the study and achieving its objectives require a hypothetical scheme through which the

nature of the study variables is presented. So, a hypothetical scheme will be designed according to a survey of the

literature of the previous related studies. The following chart clarifies the correlation between the dependent variable

and the two main variables.

5. The Hypotheses of Study

The hypotheses of the present study are formulated according to the research problem and objectives and its

hypothetical scheme. The hypotheses are an attempt to answer the questions mentioned in the problem. The

statistical testing of the hypotheses determines the quality and level of the relationship between the variables. The

research hypotheses can be clarified as follows:

The first main hypothesis; There is a significant correlation between E-governance and entrepreneurship.

The second main hypothesis; There is a significant correlation between GIS and entrepreneurial orientation.

The third main hypothesis; There is a significant correlation between electronic governance and GIS.

The fourth main hypothesis; There is a significant influence between E-governance and the pioneer direction.

The fifth main hypothesis; There is a significant effect of GIS on the entrepreneurial orientation.

The sixth Main Hypothesis; There is a significant effect between E- governance and GIS.

The seventh main hypothesis; There is an effect of electronic governance on the pioneering direction using the

GIS.

6. The Study Method

The descriptive analytical approach is used as it is appropriate for the research directions which are based on a

survey of the opinions of the research sample. The description and analysis are adopted. The description is used to

collect the required data. The analysis is used in order to identify the results and diagnose the indicators. The

characteristics of the phenomenon are then determined. The quality of the relationships between its variables and the

factors affecting it are quantitatively and qualitatively monitored in order to identify their features.

SECTION TWO

The theoretical side

First; Electronic governance

1. The Concept and Importance of Electronic Governance

The term governance is originally rooted to a Greek word. It expresses the ability and skill in leadership, as well

as high values and ethics. This term was used for the first time in the thirteenth century as a synonym for the term

government, which focuses on the values of transparency and broad participation in all sectors of Society (Imran and

Jarrah, 2014: 4). E-governance is defined as the use of information technology to provide electronic services with

direct suspicion to citizens around the clock without being restricted by time constraints (Dahleys and Walid, 2017:

7). It is also defined as providing public services that are capable and efficient to support The benefits and expected

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benefits of the service according to a legal framework within the organization's contexts in a way that leads to

unconventional service (Hammadi et al., 2019: 594). The researchers believe that E-governance is the government's

use of Internet applications on the Internet and other information technologies, along with the processes that

implement these technologies To enhance access to government information and services and provide them to the

public, other agencies, and other government entities, or to bring about improvements in government operations that

may include effectiveness, efficiency, or quality of service.

The importance of electronic governance can be clarified according to the opinion of (Muhammad, 2017: 25) for

the role it plays as follows:

1. Citizens' communication with decision makers.

2. Raising the level of efficiency and effectiveness in organizational performance.

3. Providing accurate and up-to-date information to decision makers.

4. Confirming procedures transparency and providing information to the citizens about the various activities of

the organization.

5. The flow of information and publicly circulating them through various means of communication.

6. Quality of service and how to measure its use from the target audience.

The researchers believe that the importance of electronic governance comes from its effective role in linking the

organization with citizens through the means of information technology, through which it enables citizens to

communicate their complaints without mentioning the name or identity of the complainant.

2. Dimensions of Electronic Governance

1. Transparency; It indicates the ease of access to information through disclosure in the organization and the

free flow of all of its beneficiaries. Transparency is obtained when freedom of expression and participation

is achieved (Marzouq, 2012: 70). (Sullivan, 2005) believes that transparency is aimed mainly at informing

the parties concerned and interested in the work of the organization of the work progress and mechanisms,

and how to take decisions in it, and keep it under the constant supervision of these bodies, it also represents

an announcement to the administration about its progress in accordance with sound principles and standards,

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as prescribed by the public interest, it also gives a good impression of the organization's management and

performance (Sullivan, 2005, 25).

Participation; it is one of the important principles of E-governance. The organization is influenced by the

level of the external environment and the extent to which citizens are affected by the policies it follows. So,

the organization must consider the existence of a flexible organizational structure that allows it to share with

others. It also allows citizens and workers in the organization to participate in the decision-making process

(Bovaiy & Loffler, 2009: 280). (World Bank) defined it as a process whereby stakeholders can influence

and participate in oversight of development priorities, decisions and resources affecting them (Duraiappah,

et al, 2005: 3), (Al-Ta'i, 2012) states that the International Association for Public Participation has identified

a number of steps to design a successful participation program as follows (Al-Ta'i, 2012, 87): it is the

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participation of the director and individuals in the organization in defining the goals that the organization seeks to achieve and the resulting actions and activities.

- 3. Justice; Justice is used as a term to describe the role of fairness in treatment, particularly in situations or locations of the workplace. It is particularly relevant to the ways and methods by which the employee or user determines whether dealing with him/her is done in an equal and fair manner in his/her work. Thus, the employee's ideas affect other variables related to work. Justice is defined as the employee's awareness of fairness, integrity, and transparency in procedures, distributions, and interactions, whose presence leading to increased employee's satisfaction and trust in management and the exchange of positive attitudes between workers on the one hand and between workers and the organization on the other hand to enhance Organizational performance (Darraji 2015: 25).
- 4. Ruling of law: (Al-Daour, 2008) defines legitimacy as considering the law a reference For everyone, ensuring sovereignty without exceptions, and implementing laws and regulations to be fair and impartial, in order to guarantee human rights in society with a high level of security (Al-Daour, 2008: 21). (Berber, 2012) believes that organizations must comply with state laws, they must work in accordance with their internal regulations, choose the appropriate mechanisms and develop their tools to avoid misuse, support or financing of businesses in violation of the law, as well as providing channels and systems for complaints and reports of any violation of laws or abuse of power, and this necessarily requires building an institutional culture based on adherence to and respecting internal and external regulations, laws and instructions, it also means adopting and supporting the administration at all levels of this commitment and applying laws and instructions in all fairness and transparency and without favoring one party without the other, to be a distinctive model, set an example in commitment, and not to go beyond any reason, because of this role and commitment to this culture in promoting a sense of security, tranquility and justice and its implications for workers, also, respecting the legal framework and observing its legitimacy, with the respect that it includes for the principles of integrity, trust and objectivity, in addition to the equality of all before the law, it is one of the most important foundations that guarantee the credibility and effectiveness of public administration (Berber, 2012, 284).
- 5. Accountability: It defines that the responsible person or decision-maker in the organization is subject to the principle of accountability to public opinion and without exception (Al-Azzawi, 2016: 30), It also means that decision-makers in different sectors are accountable to citizens or their representatives for these decisions (Jassim, 2016: 63). (Ahmed & et al, 2012: 283) mentioned the narrow concept of governance may describe the state of the formal system of accountability of senior management by shareholders, But the wide of the discussion format for this concept put forward a broad concept for it that represents two systems, both formal and informal, summarizes the parties benefiting from the organization in society, from here we can say that governance is represented in the structure, processes, culture and system that contribute to the success of the organization and the achievement of its goals (Keasey al et, 1997: 2).

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## Second; Entrepreneurial orientation

## 1. The concept and importance of entrepreneurship

Entrepreneurial orientation is a way for organizations to live as it helps them in the process of thinking in order to overcome threats, face challenges, and exploit opportunities. This concept has evolved during the past two decades to the point that the role of entrepreneurs in contemporary organizations has become an irrefutable role as they undertake to generate new ideas and turn these ideas into business Profitable and the creation of processes with innovative methods, In another context (Ejdys, 2016: 14) indicated that the theory of entrepreneurial orientation is based on resources. It assumes how the organization's resources are used competitively and directed towards the market and makes them pioneering organizations, the entrepreneurial orientation is one of the important elements in the entrepreneurial intention that distinguishes the entrepreneur from other businessmen, according to their capabilities to take risks, creativity and anticipation, (Alswidi & Asma, 2012: 75) has described the pioneering approach with a set of organizational practices that emerge as a new management entry into the organization's capabilities by being distinguished in decision-making processes, In this context, most researchers and writers have agreed, through what the literature on management and entrepreneurship has shown, that the entrepreneurial approach reflects the role of organizations in adopting a set of processes, practices, and decision-making activities that lead to the organization entering new markets characterized by one or more dimensions, which are independence, the desire to innovate, and take risks Competitive attack and opportunity investment (Wittay & Puriwat, 2017: 151), at the same time, the entrepreneurial approach is an appropriate means for contemporary organizations to deal with the dynamic environment, because of its proactive characteristics that tend to creativity and innovation continuously (Dewi et al, 2017: 239).

## 2. The dimensions of the entrepreneurial orientation

- 1. Creativity; Creativity refers to adopting ideas that abandon the usual way of dealing with the activities of the organization and lead to new products, services or technological processes that will develop competitive advantages in a rapidly changing business environment (Jin Su &Sohn, 2015: 2). The creative dimension depends on the characteristics of organizations leaders who face a dynamic environment. They decide which industry to enter according to the organization's ability to innovate to meet the changing market needs (George, 2017: 9). In another context, (Xaba&Malindi, 2010: 77) add that without creativity, new services and new ways of doing business products would not appear. Most organizations will remain stuck in the business Start doing the same old things in the same old way.
- 2. Pro-activity; It is the search for good opportunities that may first be related to the operations of the organization, and the introduction of new products and brands prior to competitors (Jin Su &Sohn, 2015: 2). In this sense, pro-activity is to search for opportunities and work quickly and make the most of the opportunities before To be exploited by others (Xaba&Malindi, 2010: 77). Venter, 2014: 22 adds that pro-active organizations are usually the most sustainable as the organization can define and forecast future expectations, which allows managers to have the opportunity to prepare themselves and benefit from emergent Environmental changes. In this context, pro-activity is an important organizational process

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because it requires a future vision for the organization by anticipating and pursuing opportunities and participating in emerging markets (Wickramaratne, 2017: 295).

- 3. The strategic vision; The vision is defined as an ideal or mental image that the leaders of organizations aspire to bring about organizational change. The entrepreneurial vision is different in the temporal sense that its context is the establishment of an emerging organization while the leadership vision includes three elements: a statement of the present, an evaluation of the desired future, and a transition map from a part To another. The entrepreneurial vision is to create a new organization, create a new culture, and establish new imprints (Bird, 2003: 5). Strategic vision has elements as defined by (Collins & Porras, 1991), citing (Rashid and Galab, 167: 2007) which are both the core ideology called guiding philosophy which is the subjective identity of the organization, its enduring characteristic, the core ideology consists of two elements (the core values) and the intrinsic purpose. The core values are high quality, innovation, creativity and social responsibility. As for (the intrinsic purpose) is the perceived or ideal reason for the existence of the organization that expresses its spirit and reflects its interest in others.
- 4. Investing opportunities; Opportunities are a necessary condition for the leadership of organizations. But, they are not a sufficient condition unless they are properly invested. This is confirmed by both (Lumpikin& Dess, 1996) that leadership is represented in seeking opportunities and then investing them (Callaghan, 2009: 31). Mueller, 2005: 2 adds that there is a relationship between investment of opportunities, entrepreneurship, and commercial growth. This relationship is complicated because opportunities need to be created and the individual needs to make a decision about exploiting them. Besides, the demographic and psychological characteristics have a strong impact on individuals 'decision when starting to take advantage of opportunities.
- 5. Risk: It refers to taking decisions and actions without knowing the likely results and venturing into the resources of the organization in a rapidly changing and unstable dynamic environment (Karpacz, 2016: 248). The risk has also been described by entering into new markets despite the lack of certainty of a positive or intended result. The risk occurs when there is no assimilation of knowledge by the organization in identifying information from its external sources. Risk implies a desire to allocate significant resources to opportunities that could be at risk of failure (Xaba&Malindi, 2010: 78).

## Third; The Geographical Information Systems GIS

# 1. The concept and importance of geographic information systems (GIS)

GIS is a field technology that integrates geographic characteristics with tabular data for the purpose of analyzing and evaluating problems related to organizations. This system has been used to support the decision-making process in many organizations and government institutions around the world (Acquah et al, 2017: 210). Al-Shammari (2007: 43 adds that the GIS is the latest technology that relies on the use of computers to store large amounts of tabular data, which are arranged within tables called metadata, with large areas of maps that cannot be safely saved on paper. GIS is one of the most important informational technologies that are described by For specialized data and depends on its work on a computer basis and activating the role of self-education through which the learner is able to receive a large amount of information and use it properly to manage his/her projects (Al-Abadi, 2017: 1160).

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The researchers define geographic information systems (GIS) as a computer-based system that captures geographic information, organizes and analyzes it, and converts it into usable information that supports the administration in making its leadership directions.

The importance of geographical information systems is highlighted through the data and applications it provides for various fields such as transportation, logistics, public health management, regional planning and environmental protection, and what it provides for other sciences such as sociology, economics and management science as well as geography or history (Henneberg, 2011: 1). Pandey, et al, 2013: 62 emphasize that the importance of geographic information systems arises through the basic steps that it undertakes which are environmental disclosure, information acquisition, analysis and implementation, which allow a clear understanding of the results of organizational processes. The application of these steps helps to solve complex problems to get better decisions, conserve the organization's resources, and improve the way the organization works.

## 2. Dimensions of the Geographical Information Systems (GIS)

- 1. System; Supuwiningsih et al, 2018: 168 confirm that the system is a group of interconnected components or elements with each other to achieve goals. The GIS contains a set of components that are formed by interacting with each other for the purpose of data processing and Producing geographic information to be implemented in the form of digital maps. This system helps to manage data with complex and wide-ranging structures in the decision-making process. The information produced by the system is to represent the knowledge resulting from the process of data processing through classification, sorting, merging, recording, retrieval, and transferring. These are called The process of a series of processors that lead to integrated information that contributes to giving optimal solutions to improve community services.
- 2. The task; The tasks performed by (GIS) are very complex tasks such as analyzing the suitability of the site. It deals with many data files in complex ways to choose the best sites based on criteria. It is able to convert the verification of information within the organization into knowledge, which revolutionizes the Information systems and organizational processes. The GIS can change the way organizations think. It is more than just a computer system. It interprets information more efficiently and provides new methods and directions to accomplish new things that enhance productivity (E. Davis & Schultz, 1990: 4). The main tasks of the GIS are to integrate the Data from different sources and allows for spatial analysis and evaluation by supporting organizations in crisis management and phenomena that lead to crises; floods and population density (Jowska&Zogal, 2018: 102).
- 3. Users; The users of geographic information systems are divided into three sections. The first section is the data in putters. They are the people who perform drawing operations and data input into tables prepared by people who have sufficient experience. The second section is the developers. They are only people who understand the tools of GIS). They are professional programmers who are working on developing new tools according to the need of the person who manages the project. The third section is the GIS analysts. These are people who understand GIS applications and have specific experience in multiple disciplines that support their work within (GIS) (Al-Shammari, 2007: 46(.

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4. Regulation; The geographic information system has many means in which the administration assists in

organizing its work effectively and efficiently in all matters related to strategic management, operational

management, human resources management and development, as well as marketing management, cost

analysis, planning and systems development, which is a way to integrate geographic information systems in

line with the business strategy and the information systems strategy (Farkas et al, 2016: 9). In another

direction, (E.Campbell& Shin, 2012: 8) emphasize that the geographic information system helps the

administration to assess the ways it thinks spatially and what is related to the surrounding world. This is

done through understanding that increases the geographical awareness of how the organization relates to the

local environment and the world at large.

**SECTION THREE** 

The practical side.

Testing the role of the intermediate variable (GIS) in the relationship between E-governance and the

entrepreneurial direction.

This topic is concerned with examining the mediator's hypotheses for the purpose of identifying the role of the

geographical information systems in the relationship between E-governance and entrepreneurial orientation and

determining the possibility of judging them with acceptance or rejection as the main hypothesis of influence is that

there is an effect of E-governance on the pioneering direction using the GIS.

But, before starting the process of studying the effect of the intermediate variable, it is first necessary to identify

the type of relations and the bilateral effect between the variables of the study to determine whether there is a

relationship and effect or not. After that, it is also necessary to study the two variables; E-governance and pioneering

orientation to identify whether the mediator variable has an effect or not. In case of the existence of an effect; is it

partial or full?

All these questions will be answered as follows:

First; Studying the Correlation and Effect between the Variables

1. The correlation hypothesis test.

To test the correlation hypothesis (7-a) which states that there is a significant relationship between E-

governance, geographic information systems, and entrepreneurial orientation, the correlation coefficient between E-

governance, geographic information systems, and entrepreneurial orientation is (0.889) at the significance level of

(0,000) which is less than the significance level of (0.05). This indicates the presence of a significant correlation

relationship between electronic governance, geographic information systems, and Entrepreneurial orientation. The

relationship between the variables is a positive direct relationship.

2. The impact hypothesis test.

To test the hypothesis (7-b) which states that there is a significant effect between electronic governance and

geographic information systems on the Entrepreneurial orientation, the analysis will be done according to the

multiple linear regression model as follows:

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$$Y = a + \beta 1 (X) + \beta 2 (M)$$

$$Y = 0.040 + 0.481 (X) + 0.499 (M)$$

It is clear from the table () that:

The calculated value of (F) for the model was (369.431). It is greater than the tabular value (F) of (3.09) at the significance level of (0.05). Accordingly, the hypothesis is approved. This means that there is a significant effect between electronic governance and geographic information systems on the Entrepreneurial orientation at the significance level of (5%), i.e. Confidence (95%).

Through the value of the determination parameter (2R) of (0.789), it is clear that electronic governance and geographic information systems together are able to explain (78%) of the changes that occur in the (entrepreneurial orientation). The remainder (22%) is dependent on variables.

It is clear from the value of the marginal slope coefficient of electronic governance of (0.481) that an increase in electronic governance by one unit will lead to an increase in (entrepreneurial orientation) by (48%). It is clear from the value of the marginal slope coefficient of geographic information systems of (0.499) that an increase in geographic information systems by one unit will lead to an increase in (entrepreneurial orientation) by (49%), as shown in the following table and figure.

| The effect of E-governance and geographical information system on the entrepreneurial orientation |      |  |                   |                           |         |       |         |                       |  |  |
|---|------|--|-------------------|---------------------------|---------|-------|---------|-----------------------|--|--|
| Dependent<br>variable   | line | Independent<br>and medium<br>variables | (β)<br>regression | S.E<br>Standard<br>errors | T- test | sig   | F-test  | Correlation value (R) | Determination variable (R <sup>2</sup> ) |  |
| Entreprene-   | <    | E-governance                           | 0.481             | 0.047                     | 10.191  | 0.000 | 369.431 | 0.889                 | 0.789                                    |  |
| urial<br>orientation  | <    | GIS                                    | 0.499             | 0.049                     | 10.157  | 0.000 |         |                       |  |  |

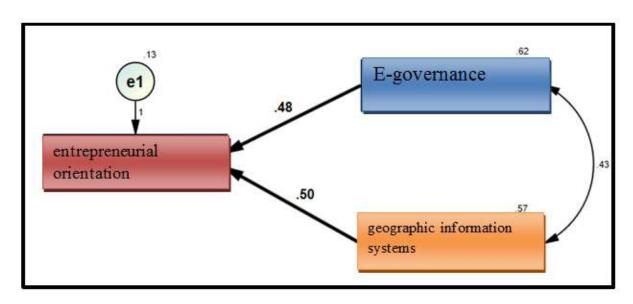


Figure: Prepared by the Researcher Using the Amos v.23 Program

Figure () the impact between E-governance and geographic information systems on the entrepreneurial orientation.

The seventh hypothesis states that There is an influence of the narcissistic leadership on the Entrepreneurial orientation using the geographic information systems.

The results in the table show the influence of the intermediate variable; geographic information systems on the relationship between the study variables; E-governance entrepreneurial orientation as follows:

It is clear from the results that the critical CR value between E-governance and geographic information systems amounted to (14.748) which is greater than the critical normative value of (1.96). Therefore, there is a significant effect between E-governance and geographic information systems.

It turns out through the results that the critical CR value between (GIS and the Entrepreneurial orientation was (10.157) which is greater than the critical value of (1.96). Therefore, there is a significant effect between (GIS and the Entrepreneurial orientation.

The results clearly indicate that there is a role for the intermediate variable; geographic information systems in influencing the relationship between E-governance and the Entrepreneurial orientation. This is evident through the values of direct and indirect impact. The results show that the value of indirect influence between E-governance and the Entrepreneurial orientation is (0.346) which is smaller than the value of the direct influence between E-governance and the entrepreneurial orientation is (0.481). This means that the effect of the intermediate variable; geographic information systems between the two variables; electronic governance and the Entrepreneurial orientation is a partial effect.

Table: Prepared by the Researcher Using the Amos v.23 Program

| The effect between E-governance and entrepreneurial orientation using GIS |                     |                      |       |       |                           |                          |  |                    |                 |                          |
|---|---------------------|----------------------|-------|-------|---------------------------|--------------------------|--|--------------------|-----------------|--------------------------|
| Research variab   | Indirec<br>t effect | Direc<br>t<br>effect | S.E.  | C.R.  | P<br>Direc<br>t<br>effect | P<br>Indirec<br>t effect | Significa<br>n-ce of<br>Direct<br>effect | Mediatio<br>n type |                 |                          |
| GIS   | <<br>-              | E-<br>governan<br>ce |       | 0.693 | 0.04<br>7                 | 14.74<br>8               | ***                                      |                    | Significa<br>nt |                          |
| Entrepreneuri<br>al orientation   | <<br>-              | E-<br>governan<br>ce | 0.346 | 0.481 | 0.04<br>7                 | 10.19<br>1               | ***                                      | 0.021              | Significa<br>nt | Partial<br>mediatio<br>n |
| Entrepreneuri<br>al orientation   | <<br>-              | GIS                  |       | 0.499 | 0.04<br>9                 | 10.15<br>7               | ***                                      |                    | Significa<br>nt |                          |

To make sure that the mediator has an effect on the relationship between E-governance and the Entrepreneurial orientation, it will be tested using the Soble test as shown in Figure () as it appears through the test values (p-value) that it is smaller than the level of the function (0.05). This confirms that The intermediate variable has an effect on the relationship between E-governance and the entrepreneurial orientation.

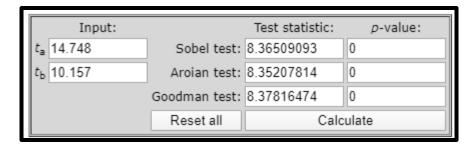


Figure: Prepared by the Researcher Using the Soble Test.

Format () of the Soble test based on the critical values of the variables

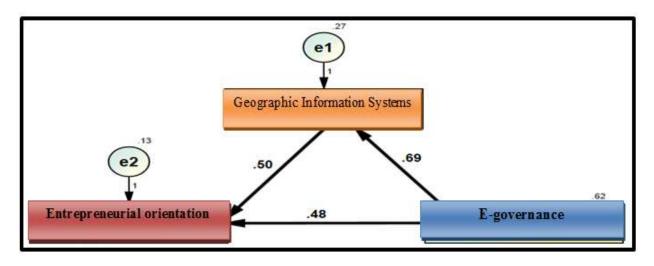


Figure: Prepared by the researcher using the Amos v.23 program

Form () the impact between E-governance and entrepreneurial orientation using the geographic information systems.

## **SECTION FOUR**

Conclusions and recommendations.

## First; The conclusions

- The Babylon Water Department is working on developing and strengthening its work towards electronic
  work to achieve the required Entrepreneurial orientation despite receiving most of the official orders in a
  traditional paper form.
- 2. According to the researchers' opinion, the Babylon Water Department suffers from a digital gap in official and personal dealings. Thus, comprehensive programs must be established to bridge that gap.
- 3. The Babylon Water Department possesses a great deal of transparency that leads it to confidently disclose its financial reports regularly to all beneficiaries.
- 4. The Babylon Water Department possesses control systems and organizational rules of conduct based on solid information bases through which it is able to properly ensure the proper progress of work.

- 5. The Babylon Water Department has a fair mechanism for distributing salaries based on professional competence and experience of the employees.
- 6. Babylon Water Department encourages its employees to adopt new methods of work interspersed with creative ideas that will raise the efficiency of work.

## Second; The recommendations

- 1. The researcher recommends that the Babylon Water Department be obligated to continuously disclose its financial statements and reports to citizens on its websites to increase confidence between them and the citizen, as this is one of the steps of leadership and entrepreneurial work.
- 2. Strengthening the organizational structure of the Babylon water department by the administration, as it reflects the extent of the department's mastery of its work effectively.
- 3. Establishing a mechanism for holding accountable minors, according to clear controls and laws through sound regulatory systems and professional codes of conduct.
- 4. The continuation of the Babylon Water Department in adopting salary distribution policies according to the employee's certificate and professional competence enhances the mechanisms of entrepreneurial work.
- 5. The commitment of the Babylon Water Administration to applying the instructions issued under the law and the effective instructions enhances the possibility of applying the foundations of electronic governance.
- 6. The Babylon Water Department should take the lead when providing the service, listening to the suggestions or complaints submitted about the services provided and trying to upgrade them, in addition to encouraging creative and proactive thinking.

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