A ROAD MAP TO A SUCCESSFUL APPLICATION OF E-GOVERNMENT IN IRAQ

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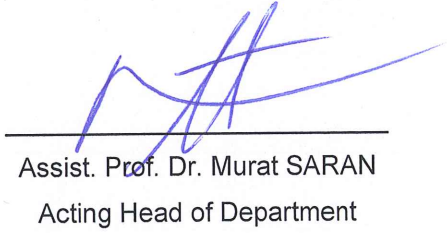Title of the Thesis: **A Rod Map to A Successful Application of E- Government in Iraq**

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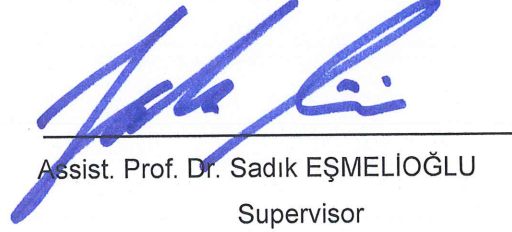
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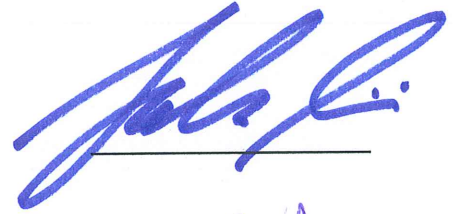
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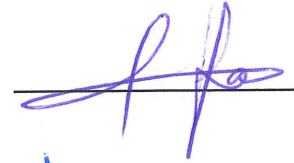Supervisor

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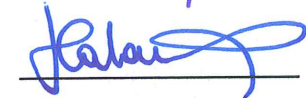
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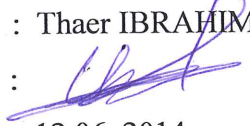
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ABSTRACT

**A ROAD MAP TO A SUCCESSFUL APPLICATION OF
E-GOVERNMENT IN IRAQ**

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The most important objective of the government is to provide services to citizens in easy and comfortable ways. The application of an e-government project is the best way to achieve this goal. Moreover, the widespread use of information and communication technology has facilitated the implementation of this project in various ways. The Iraqi government, like other governments, wants to provide these services to citizens through the application of an e-government project.

E-government is a way to improve the government's performance to become more efficient and effective. In addition, e-government leads to increased transparency and efficiency in the administration of the state. Therefore, the adoption of e-government is a process of change that will help to expand the areas of citizens and businessmen to participate in the new economy based on knowledge, technology and modern applications. In addition, e-government provides the possibility of the involvement of citizens and civil society in the policy debate through direct dialogue, and support decision-making in a way to facilitate better understanding of the citizens and their needs.

This thesis describes what an e-government project is and describes how it should be applied in Iraq as well as the experiences of many countries. This study also examines the challenges that will be encountered in the application of a successful e-government project. Information was collected for this thesis by extracting real data through interviews with people involved in the application of the e-government project in Iraq. In addition, many official documents related to this project was accessed to find out the challenges encountered during the implementation of the project and to find best solutions to remedy these problems.

Keywords: Iraq, E-Government, E-Government 2.0, Mobile Government, E-Governance, Good Governance.

ÖZ

IRAK'TA BAŞARILI BİR E-DEVLET UYGULAMASININ YOL HARİTASI

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Bir devletin ana hedeflerinden biri, kolay ve rahat bir şekilde vatandaşlarına hizmet sunmaktır. E-devlet projesinin uygulaması, bu hedefe ulaşmak için en iyi yoldur. Ayrıca, bilgi ve iletişim teknolojilerinin yaygın kullanımı çeşitli şekillerde bu projenin uygulanmasını kolaylaştırır. Irak hükümeti, diğer hükümetler gibi, e-devlet projesinin uygulaması ile vatandaşlarına bu hizmetleri sunmayı hedeflemektedir.

E-devlet daha verimli ve etkili olmak ve devletin performansını artırmak için bir yoldur. Ayrıca, e-devlet, devlet idaresinde daha fazla şeffaflık ve verimliliğe yol açar. Bu nedenle e-devletin benimsenmesi bilgi, teknoloji ve modern uygulamalara dayalı yeni ekonomide katılımı artırmak, vatandaşların ve işadamlarının alanlarını genişletmek için yardımcı olacak bir değişim sürecidir. Buna ek olarak, e-devlet, doğrudan diyalog yoluyla politika geliştirmede vatandaşların ve sivil toplumun katılımını sağlar, vatandaşların ve onların ihtiyaçlarının daha iyi anlaşılmasını kolaylaştırmak için mükemmel bir zemin hazırlar.

Bu tez, bir e-devlet projesinin ne olduğunu, bazı ülkenin deneyimlerini ve bir e-devlet projesinin Irak'ta nasıl uygulanması gerektiğini açıklamaktadır. Bu çalışma başarılı bir e-devlet projesinin uygulamasında karşılaşılan zorlukları da araştırmaktadır. Bu tez için gerekli bilgiler Irak'ta e-devlet projesi uygulamalarına katılan kişilerle görüşmeler yoluyla toplandı. Ek olarak, projenin uygulanmasında karşılaşılan zorlukları öğrenmek ve bu sorunlara en iyi çözümleri bulmak için, bu proje ile ilgili resmi belgeler incelenmiştir.

Anahtar Kelimeler: Irak, E-Devlet, E-Devlet 2.0, Mobil Devlet, E-Yönetim, İyi Yönetim.

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CHAPTER I

INTRODUCTION

Iraq is a very rich country among the Arab nations due to the ownership of oil and a lot of minerals such as phosphate and sulfur. However, this wealth, unfortunately, do not benefit Iraq because of its involvement in two major wars over the past 15 years, these wars led to the temporary suspension of the development of Iraq. In order to enable Iraq to compensate for what they lost in the days of war, it tries to be the reconstruction of the country, not only in regard with the part of infrastructure aspect, but also with regard to the psychological aspect.

The application of an e-government project could be one of the pillars of the country's development, in addition to being an important component of the fight against corruption.

However, the application of this project needs to have a great cooperation between the citizens and government agencies (because the proportion of the use of e-government project by citizens is the most important benchmark for measuring the degree of success of the project) [1], there are many steps which should be applied before the execution of this project, besides an e-government project which is a huge undertaking that covers most of the transactions in which the citizens are dealing with government agencies so It is not possible to implement this project all at once, but must be applied through carefully thought-out stages with continuous review to detect and correct errors[2], like   what happened in most of the developed countries e.g. Europe (http://ec.europa.eu/dgs/informatics/ecomm), USA (http://www.usa.gov), Turkey

(http://www.turkiye.gov.tr) and South Korea (http://korea.go.kr). These countries have used scientific methods to make a radical changes in the structure

of its institutions through several stages and then began to convert the completion of transactions from the paper way to the electronic way.

This thesis argues that the success of the application of e-government project in Iraq depends not only on the technological side and infrastructure (this is an aspect that could be the easy side of the project), but needs to be a radical change in the structure of government institutions to fit with the new reality that needs this project, as well it discusses major problems facing the application of an e-government project in Iraq, as it is trying to draw a road map for the success of this project .

1.1. Overview

The first idea for the establishment of e-government in Iraq was in 2004 [3]. The task was assigned to the Ministry of Science and Technology. This ministry in the same year placed a prudent research plan with the goal of applying an e-ministry or a small e-government project inside the Ministry of Science and Technology as the core of the giant Iraqi e-government project. Because of the magnitude of the proceedings, the project was to be based on the legislation. In addition, the use of electronic identity and the Iraq's currency needed to be used in e-transactions. However because of the poor security situation in Iraq the Iraqi government could not work effectively in this project until 2010 [4]**,** where the Iraqi government - in partnership with the United Nations Development Program (UNDP) - to convene a high-level meeting in Amman**,** where they developed indicators to monitor and evaluate the work of the e-government and e-readiness within the Iraqi government institutions in addition to develop a strategy work plan for e-government. As a result, the Iraqi portal was launched in the same year In addition to developing the framework of communication interface between government institutions and the development of four strategies for information and communication technology, and develop a plan for the

transformation of electronic health, electronic learning, electronic municipal services and electronic personal records [4]. Figure 1 shows the middle-east region and Iraq.

Figure 1: Middl East Region and Iraq [3]

But till now the Iraqi portal (http://www.egov.gov.iq), contains only a few simple services that's where most of the services is the dissemination of information only. Except for some sites which provide download some forms which are (passport form, driver's license), In addition to some informative sites such as (query about irregularities and traffic fines, query for stolen vehicles and query the newly imported vehicle registration) [5]. As for the rest of the projects the Ministry of Health has started the project with creation of patent data base, but for other ministries there is nothing worth mentioning. the Iraqi portal is shown in Figure 2.
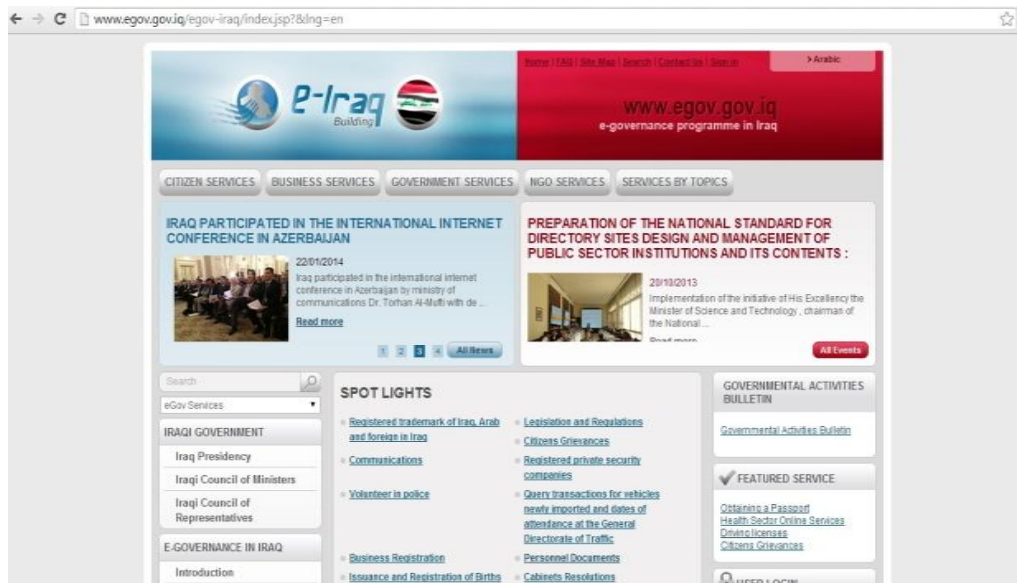
Figure 2: The Iraqi Portal [5]

1.2. Preliminary Experiments

In June 2004 the United Nations calls on member states to help the new Iraqi government for institution building [6]. Initiated by the Italian government to create the first draft of information technology in the province of Maysan, but this project failed because of its focus on technological development and neglect an important aspect of the development, which is the methods development for the institutions management, where they were to provide the infrastructure for organizations but ended up operating in isolation from the rest of the institutions, because the Italian government believed that Iraq had surpassed the stage of good governance and it needed to automate this mechanisms.

United States Agency for International Development (USAID) and Iraq Ministry of Science and Technology developed a common strategy on year 2007 up to 2010 for fulfillment of Iraqi electronic government project [7] as shown in Figure 3. It was planned to connect all governmental institutions and ministries in the city of Baghdad through Intranet where is to unified all of aforementioned ministries and institutions by creation of data center to provide information for all government agencies under circumstances of U.S. troops leaving Iraqi

territory, confined to the work of this project is to broadcast Internet services for government institutions.
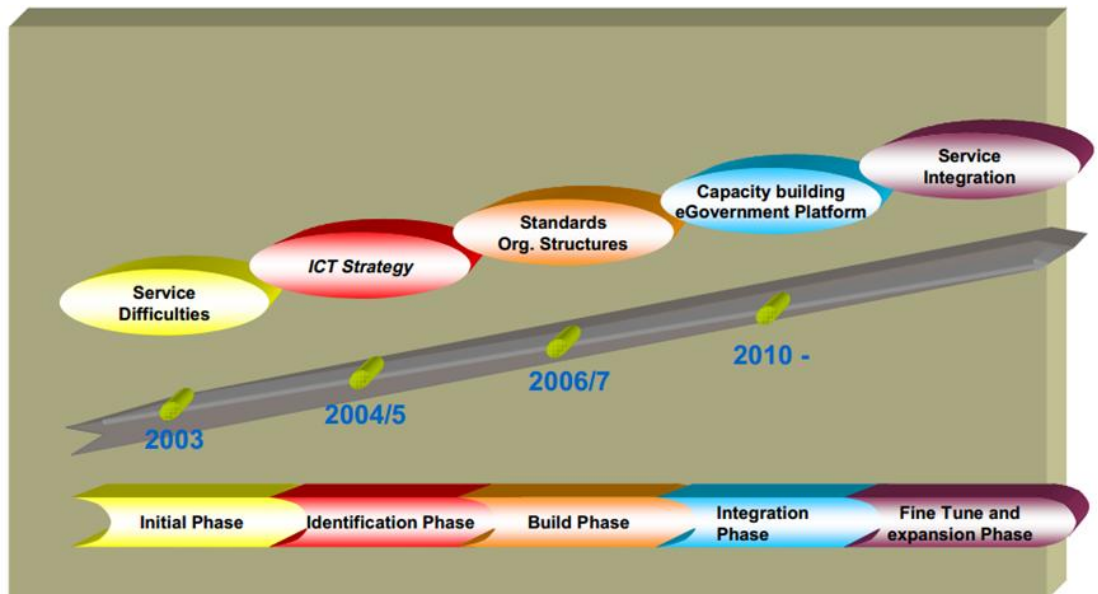
Figure 3: Pathway To E-Government In Iraq 2007-2010 [6]

Good governance means "the management of all state institutions and services in a new way through the application of Efficiency, Justice, Transparency, Anti-Corruption, Effectiveness, Citizen participation, The rule of law, Response and Accountability [8]. The aim of the e-government roadmap is to help and provide a support to learn and implement the e-government. To increase the chance of success for future projects. The e-government roadmap will highlight the important issues and common problems when applying e-government and gives choices for its management and success.

The objectives of this research is to identify challenges facing the success of e-governance project in Iraq and find some solutions to these challenges through the use of scientific methods in addition to benefiting from the experiences of other countries.

1.3. Purpose and Scope

This thesis discuss the reality of the e-government project in Iraq and the reasons for its non-completion until now, also talk over the problems faced by this project and suggests some solutions to these problems, because we did not have any research discuss this issue so far and for effectively finding solutions were not proved.

In this thesis we will describe the infrastructure of the Iraqi government through enumeration ministries and government institutions, in addition to the description of government departments associated with each Ministry that provide services to citizens, as we will explain these services and we will select some of these services (according to its importance to the citizen) to be the foundation for this project.

Some of the experiences of developed countries in this field, will also be mention, and how to overcome the difficulties faced by the e-government project in their countries.

CHAPTER 2

LITERATURE SURVEY AND BACKGROUND

As you have noticed in Chapter 1, the major interest is the e-government project in Iraq, but this project is called "e-governance project" so we will clarify both terms, what are the differences between them, and why Iraq has chosen this term for the project.

2.1. Electronic Government

When we read any paper regarding e-government, we can find a definition for e-government. It could be noted that most of these definitions are very close to each other. E-government has fundamentally changed and a strategic instrument supports and streamlines the governance of the political parties, government, citizens and businesses [9].

Another definition is the provision of government services and information to government, citizens and business using the means of technology such as the Internet [3].

E-government could be defined as the environment in which they are providing services and to fulfill citizens' needs and these activities are performed within a single government institution or between various government departments using information networks and remote connectivity [4], e-government aims to keep pace with technological developments in order to achieve integration with advanced technology in this field and to serve the interests of citizens and facilitate procedures in governmental and non-governmental agencies,

it also ensures the speed, secrecy and systematic procedures and information by providing adequate protection software. The idea of e-government depends on several key elements, among them you should gather all the activities, information services, interactive and reciprocity in one place which is the government's official site on the Internet (portal), try to stay in constant contact with the public 24 hours a day, 7 days a week, 365 days a year, with the ability to provide all the needs of informative and service to the citizens, achieve the speed and effectiveness of relevant agencies and coordination, performance and achievement among government departments and each individual department, in addition to trying to get the financial returns of government activities with commercial content to ensure the continuity of the project work. As the e-government project should not be copied for any other country, because each country has its own culture and society so each country needs to its own project.

Finally we can define the electronic Government (e-Government) is the use of Information and Communication Technology (ICT) in public administration combined with organizational change and new skills in order to improve public services and democratic process[1].

2.1.1. Electronic Government Services

The e-government applications are classified on the basis of focusing on end-users into four categories, these categories are: Government-to-Government (G2G), Government-to-Business (G2B), Government-to-Employee (G2E) and Government-to-Citizen (G2C)[10], in addition [11] find four additional services for e-government applications respectively: Citizen-to-Government (C2G), Business-to-Government (B2G), Government-to-Nonprofit (G2N), Nonprofit-to-Government (N2G). When we focus on the ultimate beneficiary we note that the second set is the government beneficiary. Plus a range of services provided by the government to non-profit agencies, and vice versa.

- **Government-to-Government**

G2G: "Many citizen services such as Homeland Security and verification of vital records require collaboration between federal, state and local governments. The goal of the Government to Government (G2G) portfolio is to forge new partnerships among levels of government. These partnerships will facilitate collaboration between levels of government, and empower State and Local governments to deliver citizen services more effectively" [12].

One of e-government services that include activities collaboration between government units, this cooperation is an important factor in the delivery of government services to the citizen in accordance with the required quality and timely manner.

- **Government-to-Business**

G2B: e-government category that includes interactions between governments and businesses (government selling to businesses and providing them with services and businesses selling products and services to government), there are many areas for G2B e-procurement, reverse e-auctions, forward e-auctions, tax collection and management [11].

- **Government-to-Employee**

G2E: interactions online via the tools instantaneous communication between government units and their staff for the purpose of providing employees the accessibility of information with respect to compensation and take advantage of policies, training and educational opportunities and civil rights. It also gives an effective method to provide e-learning for employees, and to bring them together and to promote the exchange knowledge [9].

- **Government-to-Citizen**

G2C: includes all the interactions between a government and its citizens that can take place electronically. The main objective of government services to the citizen is to facilitate the task of the citizen's access to information and services online during the day from any place in the world[11].

Major areas of G2C activities: tourism and recreation, research and education, downloadable forms, discovery of government services, information about public policy, public health and safety issues.
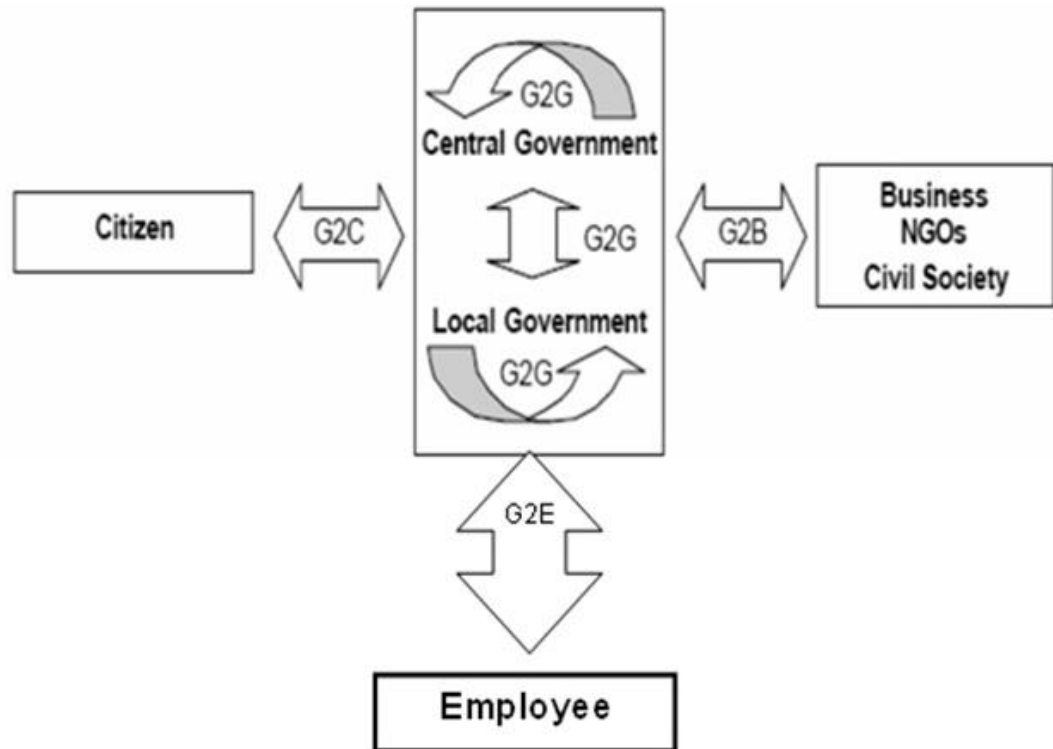
Figure 4: Types of Interactions In E-Governance[8]

- **Citizen-to-Government (C2G)**

C2G: providing a web page within the e-government portal to receive feedback from citizens and their assessment of the services provided by the government through the electronic voting services or suggestions made by citizens or to provide the type of services demanded by citizens. This may be the main objective of the e-government project because the sustainability of this project depends mainly on citizens and their suggestions and support.

- **Business-to-Government (B2G)**

B2G: means that the business of government institutions can use the e-government portal for the exchange of information and complete transactions more efficiently than conventional methods for example, if we had a web page

that provides B2G services, it means they offer special services for business, such as the provision of specific applications in addition to the tax bills and their own financial reimbursements, they can also include e-procurement services. The meetings can be held via the Internet to complete contracts or deals this can be a virtual workplace where the government agency and businessmen can arrange for meetings to discuss the projects progress and review plans [11].

2.1.2. Electronic Government Stages

Transition from the traditional government to the electronic government is not an easy matter and cannot be straight forward, because it is considered one of the difficult development process and that should start with the change of structural, organizational policies, strategies and regulate the relationship between the citizen and the government [11], as well, all these changes need to be through many stages. There are many models for e-government stages, [11] suggested that there are four stages which is cataloguing, transaction, vertical integration, and horizontal integration. Another model was proposed by United Nations and American Society for Public Administration (UN-ASPA). It contains of five stages emerging, enhanced, interactive, transactional and seamless or fully integrated stage [12].

Moon has identified a model contains of five stages as well, where stage one named (information), stage two (two-way communication), stage three (transaction), stage four (integration) and finally stage five (participation) [10]. This model is not much different from Hiller and Bélanger Model [13], because they are defined the same stages in there model. These stages can show in Figure 5.

In short, these stages can be summarized as follows:

1- **Simple Information Dissemination Stage (One-Way Communication)**
   This stage is the first official appearance to the government on the website, through a simple single website or multiple government websites. The government agencies can publish an information that explains their jobs, moreover the citizen can download some of government forms or print them.

The website also contains contact addresses of the government agencies, despite the availability of information on these sites, however there is not any electronic processing for the transactions.

2- **Request and Response Stage (Two-Way Communication)**

Is noted at this stage, a large increase in the number of government websites which enable citizens and businesses to access to a large number of government institutions and services provided by. In addition to having an official site for the government which should act as a gateway linking the customers directly with ministries and other government institutions. This stage is characterized by the existence of an interactive relationship between the customer and the government agency, where they can make some transactions via the Internet, such as the renewal of licenses and review real estate records and request birth, death and marriage certificates, and thus are on-site electronic processing of some transactions the e-mail is used at this stage to connect with government officials, and receive responses from them, in addition to receiving alert messages from the site when you provide any information or new services.

3- **Service and Financial Transactions Stage**

At this stage, the stakeholder can perform certain transactions with government departments, fully and securely online. At first, the customer identified himself in order to verify his identity, then he can start making transactions securely, where he can pay taxes, fees and billing irregularities, and registrations for the university, and cars registrations, as companies can enter the bidding, and customs clearance of goods online. Most transactions are processed electronically within the site.

4- **Integration (Horizontal and Vertical Integration)**

This stage is the most difficult of all stages because the content of the task is to convince all government institutions with the idea of integration between each other. It starts with the vertical integration which means the integration of scattered systems at different levels for the same function and the same government agency. The horizontal integration is the integration of scattered

systems at the same levels for the different function, the citizen can have one stop shopping.

5- **Political Participation Stage**

This stage is the final e-government development stage. This stage includes the participation of citizens in the development of government services and working policies in government agencies and electronic participation in the elections by mobile phone and other means of communications, also includes the provision of direct contacts with government officials in the country.
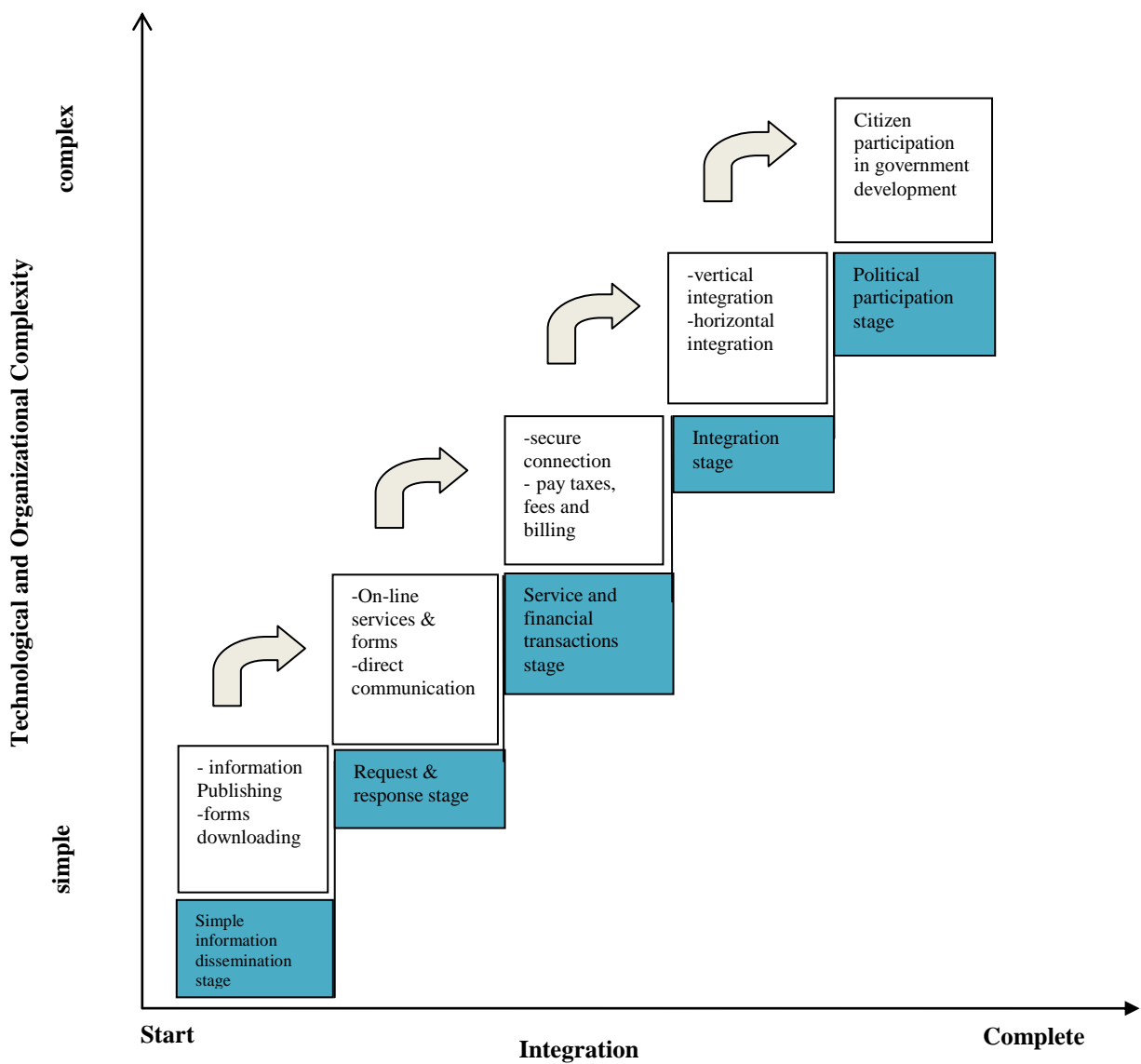
Figure 5: E-Government Stages

2.1.3. Electronic Government Roadmap

The success of e-government requires a change in the way of working of government, and its handling with the information, and how the officials have considered their jobs and interact with the audience. The completion of the success of e-government requires active partnership between, the government, citizens and the private sectors. e-government project needs to be an ongoing contribution and comments from the public, "customers", and businesses and officials who use e-government services, their voices and ideas necessary to make the work of the e-government possible, when applied to e-government is well regarded participatory process. The Pacific Council for International Policy in 2002, a map of the e-government in the developing world and the map consists of ten questions from governmental management in which it should ask themselves before embarking on an e-government project [14], these questions are :

1. Why we need e-government?
2. Do we have a clear vision for e-government?
3. Which kind of e-government we are ready for?
4. Is there sufficient political will to lead the government efforts?
5. Do we choose the e-government project in the best way?
6. How should we plan and manage e-government projects?
7. How to overcome resistance within the government?
8. How can we evaluate the progress? and how do we know if we fail?
9. What should be our relationship with the privet sectors (businesses)?
10. How e-government can improves citizen participation in public affairs?

These questions explained briefly as follows:

1- Why we need e-government?

The switching to e-government helps the citizens and the businesses to find new opportunities in the new knowledge world, but this switching is not simple because the e-government is not easy and also not cheap, it needs financial sources, political will, and enough time.

We must understand what e-government is?

It is not a shortcut to economic development or budget cuts or government saving, but it is a tool to accomplish these goals.

And rush forward with reckless plans for e-government can be a serious mistake, financially and politically or may be costly.

All leaders must think how to use technology to achieve the goals, the information and communication technology is one of these technologies, especially the e-government.

The use of e-government will contribute the building of the information society in which encourages citizens to access the information in a fast and direct way .

2- Do we have a clear vision for e-government?

The e-government can refer to many different topics. therefore, it is important to establish a clear vision for e-government, the government goals are to shear with the community in its objectives, so we should start the planning process to establish a clear vision and wide range of e-government with all associated citizens, businesses and civil society. This vision must follow the main objectives of the community.

The e-government strategy should not just reduces the cost of government or the cost of the performance of the government businesses, although it is an important requirement, but in some cases some of e-government applications does not reduce the governmental costs in a short term.

The public and privet sectors must contribute in development of e-government vision. and the vision should be clear and focused and it should be publicized to all citizens.

3- Which kind of e-government we are ready for?

Every society has deferent needs and priorities, so there is no single model for e-government and there is no universal standard to prepare for it. The readiness of both society and government to implement the e-government depends on

specific needs like the availability of financial resources, the level of infrastructure, legal framework and human resources.

It is important – after the clear vision and how can we start – to evaluate the readiness of the community for the application.

The e-government readiness evaluation needs to evaluate the government performance. the government readiness start with a political will and it should not be only words and decisions, there must be better results from working in all sectors of government, and support the necessary financial resources. The second important element in the readiness is the wish of government sectors to share the information with the citizens.

4- Is there sufficient political will to lead the government efforts?

The political will is very important for e-government as we mentioned because it is the real support of technical application and without it, the e-government will not exist, without the support of political leader, ministers and the managers.

There is no financial support or changes in laws and regulations and procedures and there is no information exchanges between the sectors not even human support requisition for the success, so we need a leader with development vision and managers who support this progress and solve every problem in the way of processing also use all the financial sources, the human and technical resources and keep promoting the project.

5- Do we choose the e-government project in the best way?

The selection of the first draft of the application is often one of the most difficult decisions Because the success of this project is the starting point for further application, and the loss of this project is a loss for the application and a chance for opponents to become stronger.

6- How should we plan and manage e-government projects?

Effective management is very important to the success of e-government. This management should contains a hard working team of the government and has the authentication which makes a job easier , this team must work on the

e-government project from the beginning to the end, the government must support this team financially and by human recourses.

7- How to overcome resistance within the government?

Government employees may resist e-government project or refuse the whole project, the first step to solve this problem is to understand why they resist the project. Actually there are many reasons :

- The fear that technology will make them lose their jobs.

- Acceptance of the current situation and the fear of changes.

- Fear of weakness because they do not know how to use the technology and some calls this phenomenon " technical shock " .

- Fear that the technology eliminates the corruption and thus end their influence,

  therefore the leaders in e-government project must identify the sources of resistance and find a plan to overcome them.

8- How can we evaluate the progress? and how do we know if we fail?

The implementation of e-government is big responsibility because it involves expenses, human resources, information and political commitments, therefore, policy makers, ministries and e-government managers are responsible for spending this money and policy development and delivery of public services – or will not be delivered – when the e-government start working.

So this performance is the success keys.

The e-government success list is depending on how to achieved the project objectives, for example, how can services delivered, make the access easier or increase the access rate to the government sites.

There are some standards to measure the performance of e-government :

a- Criteria for measuring government performance

This criteria contains the quantity and volume of transactions processed electronically, the length of services process for e-government with no problems from the starting time, the number of e-services or the number of the new e-services..etc.

b- Criteria for measuring the impact of e-government application

It contains for example the number of customers who have access to information or services electronically, increase contact with customers to 24 hours a day / 7 days a week, reduces the cost for citizens and government.

9- What should be our relationship with the private sectors (businesses)?

The privet sector has a big importance, it is the main partner to the government for starting the e-government project starting from the vision, the planning, the implementation, the monitoring and the evaluation of performance.

On the other hand, the government required wide experience and the recourses and the contribution of the private sector which has the experiences and the knowledge.

The companies can provide valuable trainings in how to provide the services to their costumers and how to offer a high response for the user's needs   ; this helps the government to understand the business side of e-government and thus improves their services.

10- How can e-government to improve citizen's participation in public affairs?

Public participation is an important element in many stages of e-government, the public can participate – the privet sector, civil society and individuals – in e-government with a different ways such as:

- Comment on e-government planning.

- Information retrieval

- View the information

- Participation in public (G to C) dialogues

The e-government means citizen service, so the government must be in touch with citizen, especially through the application that serve the citizen, to evaluate their needs.

2.1.4. Electronic Government Advantages

Because of what the world is witnessing today of a huge and fast development in the information and communication technologies, e-government project could be one of the measurements progress of countries, in addition it is an irreplaceable project because of the many services provided by all sectors of society. However, e-government project like any other project contains the advantages and disadvantages. We will discuss some of the benefits of this project hereunder:

- **Finance Advantages**
E-government project supports economic development by saving time, effort and money on both sides of users of the project as it facilitates the movement of finance between the government and the citizen or businesses, in addition to creating new job opportunities for professionals in the field of information and communication technologies, such as programmers, data entry, specialists in data maintenance, specialists in the field of network and information security … etc.
Also, this project provides the efforts in the search for the pages of the competent authorities and repeat the action as it happens in traditional work in the usual governments through the use of e-government portal, as well as that we can re-employment of human resources in this project through the rehabilitation of non-professionals in the world of information and communication technology and training to take advantage of their potential in the continued development of the project [15].

- **Management Advantages**

  One of the main reasons for the citizen to use e-government is to get rid of the routine business of the traditional government, where the use of electronic management at work leads to the smooth flow of information easily and conveniently, as well as the electronic management reduces the ratio for the mistakes and contributes to the elimination of the business routine, resulting in completion of transactions accurately and timely, contributes the application of electronic administration in the elimination of the administrative hierarchy also contributes to the realization of the principle of transparency and the elimination of bribery and corruption on the other hand, the application of electronic management creates a joint cooperation between the staff in the completion of the business which would lead to consolidation of the idea of working as a team within the government institutions [15].

- **Social Advantages**

  There is no doubt that the presence of the Internet and other means of communication have made the world as a small village where people can now communicate with each other with great ease and through many means of real communication, such as e-mail, Facebook or Twitter, or other means of virtual communications, such as Second Life, and so forth. It also became possible to activate different social activities by the use of certain information technology applications, such as conferences and meetings that collects people from different places of the world via computer networks (such as video conferencing). All of this leads to the result of development of citizen's thoughts and their quest to understand such technology and use it properly to get the knowledgeable society which is dreamed of everyone [15].

2.1.5. Electronic Government Disadvantages

Although e-government project contains many of the benefits, but it also contains some of the negatives may not be specifically negatives in the e-government project, but exist with dependence on technology in general [16], and we will clarify these negatives as follows:

- **Idleness**

  As we explained previously, an e-government project could provide new job opportunities for citizens, but this does not mean that this project will be a reason to prevent the increasing number of unemployment, because this project will provide jobs for specialized people or people who have the ability to be trained and rehabilitation the rest of the segments community, they would be at risk of unemployment and thus they will be a burden on the government and society [16].

- **Social Fragmentation**

  The total dependence of the people on the technology in the process of communicating with each other has become a negative impact on social relationships and even family relationships where most communication has become occurring in the virtual environment and not a real interactive environment, considered doing business from home, distance learning or online shopping, all of these factors due to the lack of people integrating during the study or work or other daily life activities, even members of the same family, and they live in the same house, they communicate with each other via the Internet, and even if they met in the same place you see them act as strangers to each other and each of them holds in his hand a device to communicate with other people through social networking sites or other sites. All this led to a weakness in social relations therefore; this weakness will lead to disintegration in the community.

- **Lack of Privacy**

  Convert data from paper to automated and stored in a single database, especially personal data made it accessible and found feasible by hackers and pirates of information and therefore this information has become a non-immune and this adversely affects the privacy of the citizen in terms that everyone would prefer to keep some information private by crisping away from the community in addition, this information could be used against its inventor (collector) badly by hackers.

- **Lack of Security**

Financial transactions were taking place face-to-face before and the payment of bills or delivered money or banking operations were done manually, but now because of the technological development all of these operations were done electronically, where it became possible to convert the money as soon as login to a bank account and the introduction of a set of numbers, considered revealing of those numbers are possible, so it has become money unsecured properly, as for the payment of bills are not have a receipt or an invoice confirming the payment required, or invoices that belong to you, when you receive a voice message or notice to extradite, this could not be an official receipt [16].

2.2. Electronic Government 2.0

"Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an architecture of participation and going beyond the page metaphor of Web 1.0 to deliver rich user experiences"[17].

Because of the rapid development of technology in the field of Internet, with the change of orientation of users and especially the new generations in the interaction and communicate with each other has been the development of a Web 2.0 application where this has provided new possibilities for users and for this reason this application has spreaded widely and so quickly, especially among the new generations who have become used to these applications leisure and to communicate with each other, where is the social networking sites, YouTube, Wikis and Second Life, a special world for them, day after day, these applications have become involved with transactions of everyday people and starting to get the attention of other generations, this the popularity of Web 2.0 applications, which affect not only the way people communicate with each other, but also how to communicate with the government[18].

There are many differences between Web1.0 and Web 2.0. In Weblog information users are playing a significant role not only in the consumption of information, but modification, and share with others. For Wikis users can now take advantage of the different web apps, because the information on the Internet has become with dynamic content, which increased the level of interaction on the site [19].

The following table shows the most important differences between generations Web.

Table 1: Evolution of The WWW And E-Government

Web 1.0 E-Government 1.0 1989 ~ 2005	Web 2.0 E-Government 2.0 2005 ~ 2010	Web 3.0 E-Government 3.0 2010 ~
Connecting computers	Connecting users	Connecting everything with everyone
Supply based services	Demand based services	Intelligent agents
Supplier generated content	User generated content	Machine generated content
Read only	Read-write	Personal web
One-way interaction	Two-way interaction	Live interaction
Expert's intelligence	Collective intelligence	Artificial intelligence
PC	PC, Mobile phone, PDA	Any device

Even though there are differences between Web 1.0 and Web 2.0 we must mention that Web 2.0 is a technological advanced stage of Web 1.0 and cannot be a substitute for Web 1.0, but we must refer to an important point, which is that Web 2.0 has the ability to make the goals of e-government can be implemented more easily.

2.3. Mobile Government

The most prevalent personal technology and the most popular in history so far are mobile phones, also it relates to the Internet have increased, the importance

and speed of it also spread, in addition (90%) of the world's population can have access to mobile phone networks, as well as (80%) of the rural population [20]. The Internet service providers benefited from this feature by providing internet service to users through their mobile phones [21]. Due to this development, which is unprecedented in communications technology and what governments are aware of the extreme importance of mobile technology and its role in the development of social and economic capabilities of the citizens, governments have begun to use the mobile government system.

M-Government: "the adoption of mobile technologies to support and enhance government performance and foster a more connected society" [22]. Consequently, it helps in improving the services offered by the government for the rest of the other sectors, not only through the development of existing services but by the development of new services in favor of the citizen and business. It must be a focus on the real needs of the ultimate beneficiaries.

Table 2   represents most of the differences between the conventional government, e-government and mobile government.

Table 2: Overview of Conventional, Electronic, and Mobile Government Concepts[22]

Item	C-Government	C-Government	C-Government
Principles	Bureaucratic process (phone, fax)	Process reengineering using IT (PC, Internet)	Seamless integration and linkage wireless devises
Services Time	8 hours a day, 5 days a week	24 hours a day, 7 days a week	24 hours a day, 365 days non-stop
Services Space	In-person visit, fax, phone	Customer's home and office using the Internet	Customer's location and physical place
Services Form	Several visits to office	Multi-clicks to web portals	One time access to needed service

2.3.1. Mobile Government Advantages

M-government as a new technology has many features; we will explain these features briefly. First of all, mobile government is providing an extra communication channel for the user leading to the more number of users of this technology and benefits from access to e-government services specifically those with special needs and the citizens who live in remote areas, thus it provides better access to services. Secondly, the services provided by the m-government cost much less than the services provided by traditional government plus that, these services are flexible, effective and efficient, and the possibility of high data access as well as the attendant of the citizen for these services to be easy at any time and without searching where these services are available 24 hours a day \ 7 days a week. The use of these applications facilitates the interaction between the government and other beneficiaries as dealing with them can be difficult when using traditional government also the use of information technology resulting in better performance of the government, because of the presence of horizontal and vertical integration between departments and sections of government institutions [22]. The presence of such facilities has encouraged citizens to use this technology and also contributed to the citizen participation in electronic democracy and government projects, where the use of mobile applications or mobile communication channels to communicate with citizens, has a significant impact in increasing the citizen's confidence in the government as it helps to involve them in the decision-making process or making amendments and thus get better results.

2.3.2. Mobile Government Services

Mobile applications considered are the most prevalent in the world, as well as in connection to the applications that belong to m-government that provide services to the stakeholders (citizens, business, government, and employees). The applications or services that belong to the citizens are the most common, but this does not preclude the presence of applications that belong to other categories, the following services are provided by the mobile government:

- **Government-to-Citizens (G2C)**

These services enable citizens to interact and communicate directly with the government, by the way that meets the needs of the citizen as it enables the citizen's access to information published by the government and also being able to submit requests or inquiries to government agencies and the completion of transactions has its own access to its own data, and so forth. This information can either be general information such as checking the weather or information relating to public safety or health information, or could this information be private information? Such as currency exchange rates or exam results or entertainment spots, restaurants and hotels, or be the information relating to cases of emergency, such as ambulance or fire or be a certain alerts such as date of payments of bills and may be these alerts via short messages (SMS). Direct connection could be found in an advanced stage of this service by making (one-to-one) deluges with the government agency (e.g. monitoring some cases of patients, crime reporting, emergency assistance requests, and airline flights).

- **Government-to-Government (G2G)**

When the government's use of G2G services, the departments and branches of government institutions turn out to be much like the one institution that performs services for the citizen (in a better way, higher efficiency and less time). This communication can be either vertical connections (among government agencies) or horizontal (between central and local government agencies). The services provided by the government can be a security services such as implementation of the law or maintaining the security of citizens or emergency management or supervisory and inspection tours on government institutions. The linking of emergency services (police, fire and ambulance) via one network communications and unified database is a good example of these services.

	M-Government to citizen (mG2C) Which refers to the interaction between government and citizen	M-Government to business (mG2B) Describing the interaction of government with business
	M-Government to employee (mG2E) Concerning the interaction between government and its employees	M-Government to government (mG2G) Referring to inter-agency relationships and the interaction between government agencies

Front-Office Application

Back-Office Application

Individual

Organization

Figure 6: Primary Delivery Models of M-government [23]

- **Government-to-Business (G2B)**

  The government provides some services to the business sector including instructions relating to taxation, procurement and licensing as well as providing services to small, medium and large companies, these services such as electronic signature and GPS services and information they need to implement their business.

- **Government-to-Employees (G2E)**

  Government officials need the services provided by the government like the rest of other sectors, they need continuous training and supply information so as to ensure continuity in the completion of their work successfully and especially for field teams and the employees who work in remote locations as well as facilitate of their access to a unified data base allows them to retrieve the data they need as quickly as needed, and can take advantage of these services to improve the efficiency of the staff.

2.3.3. Mobile Government Stages

"The United Nations Department of Economic and Social Affairs (DESA) identify five stages for connected government: emerging, enhanced, interactive, transactional, and connected"[22].

- **Emerging***:*
  The most important part which is the existence of the internet, as well it contains one-way communication, information dissemination, provide citizens with documents and has no interaction with the citizen.

- **Enhanced***:*
  At this stage, the user can access to a larger number of documents and government information more easily and faster because of the multiplicity of channels of communication. However, the user can not interact directly with the government agency.

- **Interactive:**
  During this stage we may note use of mobile phone applications and multimedia where it starts to use interactive services to provide citizens with information and alerts in order to grant citizens greater convenience.

- **Transactional:**
  This phase contains the two-way interaction between the citizen and the government, citizen is provided with many services such as bill payments, documentation and requests various services around the clock and every day of the year in addition to the emergence of new uses for the Web, SMS, IVR, IVVR (video), and WAP-equipped phones.

- **Connected:**
  We note at this stage, the presence of horizontal and vertical integration between departments of government institutions as well as conducting contacts with non-governmental agency such as civil society organizations in order to provide full

service to the citizen as well as making the citizen's partner in the political process by involving them in decision-making and make the modification to the decisions.

2.4. Electronic Governance

The use of ICT in public administration combined with organizational change and new skills in order to improve public services and democratic process to improve and strengthen the pillars of good governance [24].

The vision of the electronic governance:

Iraq employs Information and Communication Technology (ICT) in the delivery of public services to promote good governance and citizen participation and the achievement of equality and social justice and confirm transparency, accountability, efficiency and effectiveness in government work to get to a diversified economy based on knowledge [1].

2.4.1. Good Governance

The management of all state institutions and services in a new way through the application of nine principles, which are [25]:

1. Efficiency: providing high-quality service and a convenient time and suitable cost.
2. Justice: provide service to all citizens equally and without discrimination.
3. Transparency: citizen access to the information they need easily and conveniently.
4. Anti-Corruption: the fight against bribery and mediation used to complete transactions in addition to the reported cases of corruption.
5. Effectiveness: providing full service to citizens in a timely manner.
6. Citizen participation: the use of citizen's opinion of the service provided and to take advantage of their suggestions to improve service.

7. The rule of law: the law is the highest authority in the country and the law must be applied equally to citizens and government agency.

8. Response: completion of citizen transactions as soon as possible, with maintaining the efficiency.

9. Accountability: punish any person or governmental entity fails to provide service to the citizen in a good form and the required quality.

2.4.2. Why Electronic Governance?

Iraqi government uses the term governance instead of government because Iraq does not have good governance like the developed countries, for example in the developed countries before the implementation of e-government when a citizen wants to have a driving license he applies through competent authority and he knows all the requirements (such as time, money and effort) needed to complete his aim in addition of being sure not to get any failure or faulty, or a request for a bribery [26]. Therefore, when the e-government was implemented they just added the technology to this process, but in the case of Iraq, we need to apply good governance before we implement e-government.

The reason of use the term electronic is to keep the citizen away from the employee to avoid the corruption [27].

2.5. Other Countries Experiments

Developed countries have made great strides in the field of e-government, where modern scientific methods used to overcome most of the problems suffered by the e-government projects in the country.

2.5.1. Japan

Japan is the first country that put the first plan for information technology in the world, it has developed this plan in (1972), and in (1995) Japan's has developed basic policies for the development of communication technologies and

information technologies, after that the enactment of the first information law was in the year (2000). Since that time, the e-government project became under the direct patronage of the prime minister. E-government project in Japan has achieved most of his goals, which includes: the increasing number of online application of users more than 70% in addition to increasing the efficiency of the project by reducing the cost, effort and time required to implement applications [28].

Japan stands today ranked 18th among the governments electronic rankings by the United Nations in 2012 [29].

2.5.2. United States of America

In July 2001 the federal government has established the first official mission of the e-government in the USA, according to the strategy developed by the federal government the main task of the e-government was to improve quality of services rendered for each of the citizens, businesses, government, and employees.

According to [30] the most important challenge that has faced the e-government project in the USA is the difficult for citizens to be connected to the Internet, where the number of Internet users are estimated at about 74% of the population up to the year 2009 [30], the federal government has worked hard to overcome this challenge as soon as possible in order to percept of the importance of connection to the Internet to all segments of society in order to connect with e-government and the completion of their work through this important project.

The second challenge that faced this project is the weakness of the administration and coordination at every stage of the implementation of the project, this problem has been overcome by focusing directly by the supreme authority on the executives at every stage to ensure that the implementation of the instructions is correct [31].

United States of America occupies fifth place in the global order of the United Nations for 2012 [29].

The U.S. government has focused on two important aspects in order to entice citizens to use e-government project, the first was focused on democracy where persuaded the U.S. government citizen that the e-government project will increase the transparency of government transactions as it would impose censorship on the work of government institutions while the second focused on commercial transactions where it became transactions via the portal easier and cheaper than regular dealings

2.5.3. Australia

E-government project began in Australia in 2002, but the actual beginning started a governance project on year 1990 where all government institutions contained ready forms for use by the citizen as well as providing full information about every governmental institution online, which led to ease citizens interact with the government and increased their confidence in government. Therefore, the transition to e-government was only an automation of information and made some additional adjustments to the policy of government institutions [32].

The Australian government is composed of three levels (federal, state, and local) this creates a big challenge for e-government project at every level because there are separate responsibilities for each level and different priorities, but cooperation and coordination is very important in order to avoid redundancy and loss of information sources. Vast size and the difference in the nature of geographical diversity in addition to the density of the population is another challenge for the e-government project in Australia, where it is difficult to deliver e-government services to all areas and to all citizens with the same efficiency, except for the fact that Australia is a multi-national, and this adds another challenge because the government has to add information to meet the needs of all citizens [33].

The Australian government has had an early vision to the e-government portal through which could complete transactions with the government in a single step and this has developed a mechanism strategy for e-government based on the importance of integration in the provision of electronic services and to achieve

this goal, government has confirmed the cooperation between the various government departments. The e-government portal in Australia offers its users a number of services that facilitate dealing with the government. As for its position in the rankings for the United Nations in 2012, Australia ranked occupies 12 [29].

2.5.4. India

The Indian government put a practical plan to lay the groundwork properly and provide the reasons for long-term success of e-governance in the country, where it developed a four-year plan (2003 -2007), this plan called (National e-governance Action), the aim of this plan is to establish good governance and a correct mechanism for the functioning of governmental institutions [34].

Challenges facing the e-government project in India can be summarized to the challenges of economic and geographic and demographic. That's where India does not have a strong economy that can meet the needs of a huge project such as e-government project properly, so notes a lack of services provided within the e-government. The large area of India is another challenge for this project where it is difficult to deliver Internet service and therefore e-government services to all regions of India, in addition to the multilingualism of the population in India has increased the difficulty of the success of the project [35]. India is the country number 125 in the rankings of the United Nations in 2012 [29].

Government of India has set up mobile e-government as a solution for these challenges. The goal of which is the completion of transactions of the citizens who live in remote villages and have no knowledge of how to use the Internet or how to complete transactions through the portal of India. Mobile e-government consists of a vehicle containing a computer connected to the Internet is used by an employee who has experience in the use of the portal for the completion of transactions of the citizens.

2.5.5. Turkey

The first connection for turkey to the internet was in (1993), but till (2001) the number of Internet users has been limited (about 6% of population), in addition to the concerns of these users were far from the government side, where most of the users were listening to music and browsing, only (3%) of users are accessing the government websites. Turkey used the e-government project as a solution to a major reorganization of the administrative structure and the establishment of an infrastructure for information and communication technology as well as considered one of solutions to the economic crisis that was experienced by Turkey in that period and the application of this project is one of the things that achieves Turkey's accession to the European Union, which was sought by Turkey [36], For this reason, the Turkish government institutions began to incorporate the Internet in most of its activities and by 2002 became a 990 governmental institution use the Internet in their activities[37], where most of the government institutions, specifically the Department of Municipal Affairs to establish websites to disseminate information in addition to the presence of some simple interactive services [38]. Today, the Turkish people cultured electronically and is fluent in the use of technology and the benefits of e-government services as Turkish e-government project occupies ranked (80) in the rankings of the United Nations in 2012 [29].

CHAPTER 3

IRAQI MODEL

The formation of the first Iraqi government was in (1920) under the chairmanship of Abdul Rahman Al-Naqib, that government was consists of nine ministries which are (Defense, Interior, Education, Finance, Health, Religious Affairs, Justice, Commerce, beneficial), the regime in that period was royal regime. In 1958, the regime has been converted to the republican regime and this system continued until the present day. The Iraqi government now is made up of 22 ministries and three independent institutions these ministries are (M. of Interior, M. of Defense, M. of Industry, M. of Higher Education, M. of Commerce, M. of Finance, M. of Labor and Social Affairs, M. of Oil, M. of Transportation, M. of Science & Technology, M. of Foreign Affairs, M. of Culture, M. of Migration and Displacement, M. of Electricity, M. of Religious Affairs, M. of Education, M. of Human Rights, M. of Housing and Construction, M. of Health, M. of Justice, M. of Environment and M. of Communication). As independent institutions are (Federal Board of Supreme Audit, High Electoral Commission and Central Bank). We will explain later the process of work and the services that provided by each ministry to the citizen.

The Figure below shows the Iraqi ministries and the connection between them.

| Iraqi Presidency Office |
| Iraqi Council of Ministers |

M. of Interior	↔	M. of Defense
M. of Industry	↔	Central Bank
M. of Higher Education	↔	High Electoral Commission
M. of Commerce	↔	M. of Environment
M. of Finance	↔	M. of Communication
M. of Labor and Social Affairs	↔	Federal Board of Supreme Audit
M. of Oil	↔	M. of Justice
M. of Transportation	↔	M. of Health
M. of Religious Affairs	↔	M. of Electricity
M. of Foreign Affairs	↔	M. of Human Rights
M. of Culture	↔	M. of Education
M. of Migration And Displacement	↔	M. of Housing And Construction

| M. of Science And Technology |

Figure 7: Iraqi Ministries

3.1. Iraqi Ministries

1- Ministry of Interior : This ministry is interested in internal security of the country as well as the official body responsible for issuing official documents and personal archives of the citizen and many other responsibilities, the services offered by this ministry are shown in Table 3:

Table 3: Services Provided By The Ministry of Interior

Service Provider	Service Type	Information Type	The Beneficiary
Directorate-General for Communications And Informatics	G2G	Provide information to the competent authorities	All ministers
Directorate Identities And Licenses	G2G	Licensing of the political blocs	The political blocs
Directorate Identities And Licenses	G2B	The granting of work permits inside Iraq	Iraqi companies and businessmen
General Directorate of Passports	G2B	Granting residency visa for foreign companies and employment	Foreign companies and businessmen
Directorate Identities And Licenses	G2N	-Granting licenses to establish demonstrations -Licensing of civil society organizations	Non-governmental organizations
Directorate General of Nationality And Civil Status	G2C	-The issuance of the ID card and things related -Registration of births and deaths -Registration of marriages and divorces	Citizens
Central Office of Information	G2C	-Record the movement of citizens within the country and housing change -Issuing housing cards	Citizens
General Directorate of Passports	G2C	-Issuing passports -Granting of the visa and residence card for foreigners -Registration of foreign arrivals to Iraq	Citizens
General Directorate of Traffic	G2C	-The issuance of driving licenses -Vehicle Registration -Issuing and obtaining traffic fines -Anti-car theft	Citizens
Federal Police Directorate	G2C	Anti-murder, theft and armed robbery	Citizens
Directorate of Civil Defense	G2C	Fire-fighting	Citizens

2- Ministry of Finance: The Ministry of Finance aims to lay the foundations for financial planning and directions of the state and determine the general framework and outline the elements of a financial plan, as it is working on the

management of the public treasury and promote sources of nutrition. In addition to the management and development of the tax system, the services offered by this ministry are shown in Table 4:

Table 4: Services Provided By The Ministry of Finance

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Finance	G2G	The financial budget of the country	All ministers
Ministry of Finance	G2G	Public financial reports	All ministers
General Authority For Customs	G2B	Obtaining amounts of customs from the import companies	Companies and businessmen
General Commission For Taxes	G2B	Obtaining taxes from companies and businessmen	Companies and businessmen
General Authority For Free Zones	G2B	Cover free zones dealings	Companies and businessmen
General Insurance Company	G2C	Provide insurance mechanisms to life and property	Citizens
General Retirement	G2C	Provide salary pensions for retirees	Citizens
General Commission For Taxes	G2C	Providing information and obtaining taxes from citizens	Citizens

3- Ministry of Trade : The most important goal of this ministry is directing the internal and external trade of the country in the form that will ensure the public interest of the citizen, the services offered by this ministry are shown in Table 5:

Table 5: Services Provided By The Ministry of Trade

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Trade	G2G	Import and provide for the needs of other ministries	All ministers
General Company For Trade And Commercial Services	G2B	-The establishment of trade shows and receiving companies and businessmen -Recording companies and commercial agencies	Companies and businessmen
General Company For Central Markets	G2B	Contracting with importers to provide the needs of citizens	Companies and businessmen
General Company For Car Trading	G2C	Provide a vehicle for citizens	Citizens
General Company For Trade of Construction Materials	G2C	Providing construction materials to citizens	Citizens
General Company For Foodstuff Trading	G2C	Providing of food to citizens	Citizens
General Company For Central Markets	G2C	Provide the needs of the citizens of consumables	Citizens

4- Ministry of Higher Education: Aims to make changes in the quantity and quality of the movements of scientific and technical and cultural in Iraq, also directs scientific and research institutions to take over the process of creating a new generation provider of science and knowledge, the services offered by this ministry are shown in Table 6:

Table 6: Services Provided By The Ministry of Higher Education

Service Provider	Service Type	Information Type	The Beneficiary
Department of Scientific Affairs	G2G	Agencies and research centers	All ministers
Department of Construction and Projects	G2G	Consulting offices	All ministers
Department of Research and Development	G2G	Training of civil servants	All ministers
Department of Scientific Affairs	G2B	Private colleges	Companies and businessmen
Department of Missions And Cultural Relations	G2N	Civil society organizations	Non-governmental organizations
Department of Scientific Affairs	G2C	Universities and institutes	Citizens
Department of Missions And Cultural Relations	G2C	Cultural Missions	Citizens

5- Ministry of Education : This ministry tasks overseeing the process of education for elementary and secondary schools as it oversees the literacy campaigns in order to provide an educated generation capable of serving the country, the services offered by this ministry are shown in Table 7:

Table 7: Services Provided By The Ministry of Education

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Education	G2G	Send the results of the final examinations at the secondary level	Ministry of Higher Education
Board of Education	G2C	Supervision of primary and secondary education	Citizens
Authority of literacy	G2C	Literacy campaigns	Citizens

6- Ministry of Industry : This ministry is interested in all actions aimed at development of the manufacturing process in the country and oversees the affairs of government and private industry, the services offered by this ministry are shown in Table 8:

Table 8: Services Provided By The Ministry of Industry

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Industry	G2G	Contribute to the implementation of government projects	All ministers
State Company For Phosphate	G2G	Production of chemicals utilized in other industries in addition to the production of phosphate fertilizers	All ministers
General Company For Sulfur	G2G	Production of chemicals utilized in other industries in addition to the production of sulfur	All ministers
General Company for Glass Industry	G2C	Production of glass panes and glassware	Citizens
General Company For The Petrochemical Industry	G2C	Production of petrochemical fertilizer	Citizens
General Company For Cement Industry	G2C	Production of cement	Citizens
General Company For Pharmaceutical Industry	G2C	Medicine production	Citizens
General Company For Electrical Industries	G2C	Electrical appliances industry	Citizens
General Company For The Manufacture of Batteries	G2C	Battery industry	Citizens
General Company For Vegetable Oils	G2C	Edible oil industry and cleaning materials industry	Citizens
General Company For Spinning and Weaving	G2C	Textile and clothing industry	Citizens

7- Ministry of Human Rights : The ministry concerned with the rights of the Iraqi citizen, in addition to file prisons and human rights abuses that occur in the country, the services offered by this ministry are shown in Table 9:

Table 9: Services Provided By The Ministry of Human Rights

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Human Rights	G2G and G2C	Periodic visits to prisons and follow up on cases of prisoners and issuing reports	-Ministry of Justice - Citizens

8- Ministry of Justice : This ministry is one of the oldest and most important ministries in the history of the Iraqi government, where it oversees the judiciary as it is the ratification by all financial transactions that take place between citizens, the services offered by this ministry are shown in Table 10:

Table 10: Services Provided By The Ministry of Justice

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Justice	G2G	-Appointment of prison administrations and follow-up its affairs -The ratification of the laws and follow-up implementation	All ministers
	G2C	-The establishment of the courts and the administration of the judiciary -Documentation of commercial contracts -Registration of Marriages and Divorce	Citizens

9- Ministry of Labor And Social Affairs : This ministry has an important role in achieving social solidarity as well as overseeing the home care orphans and the elder lies as it is sponsoring the unemployed, the services offered by this ministry are shown in Table 11:

Table 11: Services Provided By The Ministry of Labor And Social Affairs

Service Provider	Service Type	Information Type	The Beneficiary
Department of Corrections Non-Adults	G2C	Follow-up repair non adult criminals	Citizens
National Centre For Occupational Health And Safety	G2C	Care workers affected	Citizens
Department of Pension And Social Security For Workers	G2C	Provide a pension for workers in the private sector	Citizens
Department of Employment And Loans	G2C	Provide jobs for the unemployed	Citizens
Department of Special Needs Care	G2C	Attention to people with special needs	Citizens
Social Protection Network	G2C	Attention shelters orphans and the elderly shelters	Citizens

10- Ministry of Environment : This ministry concerns with environmental surroundings in Iraq, preservation of the environment means to keep the plant and animal species and natural resources of the various places and to prevent all practices and activities that could lead to the disappearance or threat of natural resources, the services offered by this ministry are shown in Table 12:

Table 12: Services Provided By The Ministry of Environment

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Environment	G2G,G2B, G2C	Issuing approvals for the establishment of industrial and commercial enterprises	All ministers, companies businessmen, and citizens
Ministry of Environment	G2C	Maintaining a healthy environment free from pollution	Citizens

11- Ministry of Electricity : This ministry oversees the process of generation and distribution of electric power as it is undertaking all maintenance operations on power plants, and generating stations and distribution of electric power in the country, the services offered by this ministry are shown in Table 13:

Table 13: Services Provided By The Ministry of Electricity

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Electricity	G2G	Generation of electrical projects for the ministries	All ministers
Ministry of Electricity	G2C	Provide electrical power to the citizens	Citizens

12- Ministry of Communication: This ministry is trying to provide high quality service in the fields of communications and information technology. And seeks to turn Iraq from a country that uses information technology to a country that participates in the information technology, the services offered by this ministry are shown in Table 14:

Table 14: Services Provided By The Ministry of Communication

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Communication	G2G	Providing communication services and Internet for ministries	All ministers
Ministry of Communication	G2B	Contract with mobile phone companies and Internet service providers	Companies businessmen
Authority of literacy	G2C	Providing communication services and Internet for citizens	Citizens

13- Ministry of Housing And Construction : Carry out operations of planning and implementation of infrastructure projects and housing projects for citizens in addition to its role in the reconstruction of buildings that are exposed as a result of the destruction of the military actions in the country, the services offered by this ministry are shown in Table 15:

Table 15: Services Provided By The Ministry of Housing And Construction

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Housing and Construction	G2G	-The establishment of infrastructure and mega projects -Construction of roads and bridges -Creating buildings of ministries and government departments	All ministers
Ministry of Housing and Construction	G2B	Contracting with construction companies to set up construction projects	Companies businessmen
Ministry of Housing and Construction	G2C	-The establishment of residential complexes for citizens -Provide engineering consultancy for citizens	Citizens

14- Ministry of Culture: Sponsor this ministry works of art, literary and intellectual in the country in addition to the festivals and the issuance of various newspapers and magazines. And so to promote the cultural and intellectual level of the Iraqi citizen, the services offered by this ministry are shown in Table 16:

Table 16: Services Provided By The Ministry of Culture

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Culture	G2B	Licensing news agencies and satellite channels	Companies businessmen
Ministry of Culture	G2C	Issuance of books, magazines and newspapers	Citizens

15- Ministry of Foreign Affairs : This ministry is interested in foreign affairs of Iraq and its relations with other countries, in addition to consider the interests of citizens living outside the borders of Iraq, the services offered by this ministry are shown in Table 17:

Table 17: Services Provided By The Ministry of Foreign Affairs

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Foreign Affairs	G2C	Issuance and certification of official documents for citizens outside the country	Citizens

16- Ministry of Science And Technology : This ministry is concerned with scientific projects as well as the development of science and technology in the country in order to move Iraq to the ranks of developed nations, the services offered by this ministry are shown in Table 18:

Table 18: Services Provided By The Ministry of Science And Technology

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Science and Technology	G2C	Follow-up and support scientific projects	Citizens

17- Ministry of Transportation: This ministry is concerned with internal and external transport of people and goods. With different modes of land transport, sea and air, the services offered by this ministry are shown in Table 19:

Table 19: Services Provided By The Ministry of Transportation

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Transportation	G2G	The transfer of government cargo	All ministers
Ministry of Transportation	G2C	The transfer of citizens by land and air inside and outside the country	Citizens

18- Ministry of Oil : This ministry is concerned with the extraction and export of Iraqi oil is also interested in the implementation and maintenance of all oil projects in addition, it is responsible for the provision of petroleum products for the Iraqi people, the services offered by this ministry are shown in Table 20:

Table 20: Services Provided By The Ministry of Oil

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Oil	G2G	-The export of oil and its derivatives -Supplying electric power stations with fuel	All ministers
Ministry of Oil	G2C	The provision of petroleum products to the citizens	Citizens

19- Ministry of Health : This ministry is concerned with everything related to the health of the citizen, where it provide hospitals and medicines and monitoring food consumed by the citizens as it's responsible for a registration of births and deaths, the services offered by this ministry are shown in Table 21:

Table 21: Services Provided By The Ministry of Health

Service Provider	Service Type	Information Type	The Beneficiary
Ministry of Health	G2G	Provide government statistics-on births and deaths	All ministers
Ministry of Health	G2C	-The provision of health care and treatment of citizens -Conduct vaccination campaigns for children -Send patients for treatment outside the country -Combating diseases and epidemics -Granting a certificate of birth and death of citizens	Citizens

20- Ministry of Defense : It is the national military institution that holds the responsibility of defending the country's borders and protect the people and their security from any external or internal threats in cooperation with the ministries and other government institutions, the services offered by this ministry are shown in Table 22:

Table 22: Services Provided By The Ministry of Defense

Service Provider	Service Type	Information Type	The Beneficiary
Volunteering Management Directorate	G2G	Supervision and follow-up phases of the army volunteering	Ministry of Defense

21- Ministry of Migration and Displacement: The responsibility of this ministry is to care for the citizens who were forced to leave their homes and migrate to other areas inside or outside the country, the services offered by this ministry are shown in Table 23:

Table 23: Services Provided By The Ministry of Migration and Displacement

Service Provider	Service Type	Information Type	The Beneficiary
Department Immigration Affairs	G2C	Registration of the displaced citizens and to provide financial and material assistance to them	Citizen

22- Ministry of Religious Affairs: This ministry is responsible for the care of places of worship and make the necessary arrangements for the completion of religious rights, the services offered by this ministry are shown in Table 24:

Table 24: Services Provided By The Ministry of Religious Affairs

Service Provider	Service Type	Information Type	The Beneficiary
High Commission For The Hajj And Umrah	G2C	Register the names of citizens who wish to perform Hajj or Umrah	Citizen

3.2. Iraqi Independent agency

23- Federal Board of Supreme Audit: Supervisory institution with a sophisticated professional recipe. Has neutrality and independence to contribute to the preservation of public money and raising the efficiency of the performance of the ministries that is covered by its supervisory, and works actively to participate in the fight against corruption and the application of the principles of transparency and accountability, norms and standards in the areas of financial control and earn the trust of the parties dealing with the device, the services offered by this institution are shown in Table 25:

Table 25: Services Provided By The Federal Board of Supreme Audit

Service Provider	Service Type	Information Type	The Beneficiary
Federal Board of Supreme Audit	G2G	The fight against corruption in the ministries	All ministers

24- Central Bank : This institution the task of implementing monetary policy (with regard to the Iraqi dinar) in addition to maintaining price stability and management of foreign currency reserves as it is to issue and manage the currency and regulate the banking sector to promote financial system competitive and stable, the services offered by this institution are shown in Table 26:

Table 26: Services Provided By The Central Bank

Service Provider	Service Type	Information Type	The Beneficiary
Central Bank	G2G	Provide the government with information about the financial situation and the stability of the currency	All ministers
Central Bank	G2C	Provide citizens and banks foreign currency	Citizens

25- High Electoral Commission : The function of this institution is organizing the electoral process in Iraq and to secure all the requirements for the success of this process, the services offered by this institution are shown in Table 27:

Table 27: Services Provided By The High Electoral Commission

Service Provider	Service Type	Information Type	The Beneficiary
High Electoral Commission	G2G	Holding elections, and to provide the government with information	All ministers
High Electoral Commission	G2C	Voter registration and supervision of the election process and the counting process	Citizens

As noted, all of the institutions of government provide in many services to all sectors (for citizens, businesses and government) and the conversion of these services from the traditional services to electronic services are the early stages of the electronic government project which is almost impossible, so it must filter these services according to their importance's and should fit the current reality of Iraq, in other words, identifying services that have an urgent need and that can be the foundation stone for the establishment of e-government project in Iraq and a major reason for the success of this project and its sustainability.

3.3. E-Government Project In Iraq

Since 2003, Iraq has sought to catch up with the technological development and, in particular e-government project and that are because of its great importance in the organization of administrative work for the government, in addition to the adoption of the citizen on this project in the completion of its own official transactions as it is considered a major cause of deployment justice, equality and democracy among the people. Later we will clarify what is the current status of e-government project in Iraq and what kind of stage we aspire for accessing to them, in addition to the important sectors which should begin with, to ensure the sustainability and the continued success of this project.

3.3.1. The Reality of E-Government Project In Iraq

After more than ten years from the beginning of the e-government project in Iraq, in spite of the efforts made by the concerned authorities to try to ensure the success of this project, but unfortunately, it is still taking its first steps. This is because of the success of this project which does not require a potential material, but also needs radical change in the administrative structure of the Iraqi government institutions, as well as the urgent need to the application of the principles of good governance before the start of the technological changes or in conjunction with them. The Iraqi government has formed a higher committee to oversee the implementation of e-government project headed by the Minister of Science and Technology, the committee was keen to be the starter of this project which is the right start where it held's a number of conferences and workshops in collaboration with the United Nations Development Programme (UNDP), which resulted in a series of training courses for civil servants which have trained more than 10,000 employees in various government institutions in order to get the e-readiness and deployment of electronic culture among employees [25], after that the launch of the portal has been at Iraq (Iraqi e-portal), as well as a framework for addressing interoperability for all governmental institutions, has also been developed architectural design of government institutions.

However, the Iraqi portal contains links leading the user to the sites of ministries on the Internet; these sites contain information that describes the mechanism of action of this ministry and its mandated tasks, as well as allowing downloading some of electronic forms, such as getting a driver's license or a form to get a passport. It can be said that if we want to apply the European model to measure the level of Iraqi portal - which consists of five stages, the e-government project in Iraq is still in the publication stage, which is the first stage or that in the beginning of one way communication stage, a second stage of the European model.

Compared with the efforts and the amount of money and the length of time spent by the Iraqi government in order to ensure the success of this project, this stage is not satisfactory stage, but poor security situation and concern for the government and the citizen to provide safety and the other necessities of life is considered one of the most

important reasons in addition to the existence of other reasons, that we will mention later.

But even though the presence of all these obstacles, the Iraqi government continues to try to ensure the success of e-government project by creating useful solutions and use scientific methods also the development of expertise in addition to the deployment of electronic culture among citizens to have a knowledgeable society which is ready to use this project and be the reason of the success of this project, as well as benefiting from the experiences of the other countries that have achieved many successes in this area. Supreme Committee for e-government and developed a clear vision and strategy for the Iraqi government aims to achieve via e-governance project since 2010 through an interactive process with all stakeholders that this vision has taken into account with the needs and opportunities for national development.

The Iraqi vision says "Iraq harnesses ICT tools to improve basic services to all and to promote all-round good governance, including increased public participation, better social equity and justice as well as a general enhancement of the transparency and effectiveness of public institutions in order to build the necessary platform for a competitive, robust and knowledge-based economy" [25]. In order to achieve this vision, and in order to get the benefits of this vision, the Committee identified five strategic objectives as follows [25]:

- Promote interaction between citizens and the state for the promotion of civil society participation in public affairs, and promote social integration.
- Deployment and support new services for e-governance within the governorates so that all citizens access to it, to promote equal opportunities.
- increase the possibility and the response of government institutions through the use of information and communication technology to achieve good governance, and enhance efficiency, accountability and transparency.
- Contribute to the development of a suitable environment for properly economic growth.
- Promote the development of knowledge-based society and bridging the digital divident.

3.3.2. Future of E-Government Project In Iraq

Iraq aims to reach advanced stages in the implementation of e-government project like any other country, because of being aware of the impact of this project on the progress and development of the country, by facilitating the completion of transactions of citizens in a accurate, fast and transparent manner as well as the significant role played by this project is to eliminate bribery and administrative corruption and deployment of equality among citizens.

Supreme Committee for Corporate Governance Electronic has developed a strategic action plan focuses on ten key elements need to be addressed to highlight the impact of transfer of information and communication technology, these ten elements covered by the action plan are interrelated closely together, to allow the opportunity for the implementation of priority areas in an integrated manner. These elements are:

1- Awareness, Communication And Commitment.
2- Human Capacity Building.
3- Communication Interface And Standards.
4- Institutions And Change Management.
5- Legal Framework.
6- Communications Infrastructure.
7- Management of Financial Resources.
8- Monitoring And Evaluation.
9- The Delivery of Services To Citizens.
10- Data And Information Systems.

Each of these elements will be described clearly in terms of the actions to be taken as follows:

1- Commitment, Communication And Awareness:
   The continued success of e-government project depends largely on the continued support by the political leaders in the country, this support needs to a real commitment, so we should define the importance of this project and the

benefits of it to decision-makers to get their support for the transition process and get their help in overcoming the challenges faced by the implementation of this project.

On the other hand communication between government and citizens is extremely important due to the fact that citizens are the ultimate beneficiaries of the e-government project, so it is necessary to accept and understand this project by all stakeholders, to ensure the continued sustainability and success of this project. So it must start the process of developing a strategy for communicating with citizens to explain the importance of this project and the benefits of it in order to obtain the support of the citizens and avoid resistance to change that expectancy to occur. Generally involving of the citizen does not happen by itself, but it requires action campaigns for e-literacy and special campaigns to raise awareness in the field of information and communication technology [39].

Raise public awareness of the importance of e-government project is through the use of various communication channels and media such as TV, radio and daily newspapers, it is worth mentioning that the media's duty is awareness people and informing them of the latest developments on the progress by information and communication technology at the national level is a great importance to get their support in awareness campaigns, as well as the establishment of conferences and workshops awareness, also contributes to the success of this process. It could be argued that it is necessary that these campaigns focused on building trust among all stakeholders.

2- Human Capacity Building:

The level of human capacity is one of the main factors that affect the success of e-government project; the process of raising the human capacity depends on two parts: first part is to raise the capacity of the staff who is working on the implementation of e-government project [25].

The second part is to raise the capacity of citizens to take full advantage of the applications of e-government project.

The government must possess a group of experts for the success of e-government project on their own.

These experts can be classified into:

- Leadership and program development.
- Project management (coordination between institutions, budget management, measure the progress of the project, management of procurement, quality assurance, change management, etc.).
- The implementation of projects (design, implementation and maintenance).
- Information technology literacy.

If the government institutions do not have these experts, it must employ experts for these areas or re-training staff of these institutions according to an intensive training program to take advantage of their expertise in the fastest time possible.

As for the citizen has previously mentioned the importance of the establishment of centers for e-literacy and dissemination of electronic culture among citizens through the media (television, radio and newspapers) in addition to the establishment of educational courses in all government institutions and educational institutions to contribute to the awareness of citizens of the importance of e-government project and how to take advantage of its applications.

3- Communication Interface And Standards:

It is very important for all institutions that are related to the project of e-government to work within a unified global standards to achieve the appropriate data and information resources, as well as the work within these standards will achieve communication between governmental institutions, it also facilitates the secure transfer of information and communication with governments, companies and other organizations all over the world [26].

4- Institutions And Change Management:

It is necessary to develop the institutional capacities in some areas, such as policy development, change some of the laws, and public sector reform, strategic planning, change management as well as the coordination of relations between the institutions to coordinate the transition process and to

facilitate the exchange of data between all government institutions that make up the system of e-government thus build a positive perception about the value of information and communication technology within the government and society as a whole.

5- Legal Framework:

The application of e-government in Iraq must be preceded by some legislation to protect the information and privacy policy in the digital environment, where it should modify the criminal laws by the introduction of new laws pertaining to cyber crime, theft of electronic data, and intellectual property rights to include the protection of ownership of electronic content in order to protect the safety of the transport and storage of electronic information. In addition to the introduction of laws to accept electronic signature and electronic authentication in the official transactions, and should introduce laws to authorize access to the data by the government and the citizen in order to regulate the exchange of information within the government and between different governments.

6- Communications Infrastructure:

One of the obstacles that are difficult to overcome in Iraq is the infrastructure for telecommunication fixed-line, such as land lines and fiber-optic lines, because of wars and multi explosions made this network extended into non-well form in all parts of Iraq, which led to head to the use of wireless networks and mobile phone networks, However the high cost and limited coverage of these networks has led to the reluctance of many institutions and citizens for using them. The government can use foreign companies or private companies to overcome this obstacle.

7- Management of Financial Resources:

The government should determine the financial ability, and the appropriate classification for the budget of information and communication technology, and innovative financing mechanisms to finance the e-government initiatives based on defined priorities and good project management and planning to

increase the impact of information technology projects and sustainability of e-government project.

Because of the comprehensive nature for the e-government project, pooling of resources is necessary and the use of the idea of joint programming between different institutions to reduce costs, since most institutions tend to focus on their own budgets instead of thinking about the integration of the money contained to it from various organizations to have a joint product (platform information system administrative or geographic shared).

8- Monitoring And Evaluation:

E-government project is a giant project, its implementation take a long period of time, and because of the rapid and continuous development for the information and communication technology, evaluation of this project must be renewed during the period of application through continuous monitoring and make adjustments to it in accordance with the technological development. As it must specify the quantitative and qualitative indicators to measure the progress of the project and the readiness of the project to application in addition to determine challenges facing the implementation of the project and try to overcome them [26].

9- The delivery of Services To Citizens:

The main objective of the e-government project is the delivery of services to citizens and improves access to e-services and information by all levels using information and communication technology as a major supplier, in addition to use it as a contributing factor in the promotion of transparency and accountability. Can benefit from the centers of community service in this area because of its direct impact on the intellectual and social changes in the community by linking these centers to the Internet to help citizens access to e-government services.

10- Data And Information Systems:

In the first stage of the e-government project, we need to feed the information system with data, all governmental institutions had transferred their data

from the paper data to digital data, but this information is introduced into the system in a way which only benefits the organization that is introduced, and cannot take advantage of this information by any other institutions, so the institutions should rewrite this information in a way that is utilized by all the institutions linked to the e-government system through a unified database and a uniform format for the data so as to get on the horizontal integration, they also should avoid duplication and redundancy in the system of e-government, the institutions must publish all the data that is owned and utilized by the rest of the other institutions in order to obtain an integrated database .

3.4. Challenges of E-Government Project In Iraq

E-government project is a giant project, cause radical changes in the reality of society, it also causes changes in the level of citizens thinking, and methods of completing transactions and dealings, so it is normal to face many challenges and at all levels, and by many categories of community, but the nature of these challenges will vary from country to country according to the geographical nature and the financial possibilities and the level of education of the citizens. e-government project in Iraq is like any other project in any other country facing set of challenges these challenges are:

3.4.1. Political Challenges

After the regime change in 2003, Iraq entered a new phase lead to change of management system previously used, this change was from a centralized system to a decentralized system, but the new system did not apply in Iraq as a real application, it was chosen to fit the new reality of Iraq, the application of this system lead to overlapping in authority and lack of clarity in the application which impact negatively on the functioning of government institutions. The application of e-government project will find a solution for this challenge by specifying authority of the central power and decentralized power.

3.4.2. Security Challenges

The poor security situation in Iraq has a clear and significant effect on the progress of e-government project, and it can be a greater and a permanent excuse for the government not to execute any project, in addition to the brain drain "the situation in which large numbers of educated and very skilled people leave their own country to live and work in another one where pay and conditions are better" [39]. And the inability for companies and expertise working with them to handle the secure progress because not all the places are secured even some of the city centers, as well as keenness of some neighboring countries to the instability of security in Iraq so as to prevent the development of this country. All this has had a big impact in the face of the progress of this project.

3.4.3. Infrastructure Challenges

Iraq needs to build a secure Intranet network containing databases, and all ministries and government institutions should be connected to, as well as linked to a unified national data center, that's where the current reality of information technology projects are individually within the ministry or the government institution, all these institutes do not have a certain standard that leads to the technological union which is supposed to be the future of configuration e-government, each institute has its own vision, and unfortunately there is no unified vision for the project. Therefore after the formation of the National Committee for Electronic Governance in Iraq, whose duty is to unify all these visions through meetings and workshops to issue documents and recommendations, such as document conversational interface, to help these institutions and guide their plans and ideas about true orientation which eventually leads to build a true application of the stages of e-government [40].

3.4.4. Social Challenges

Iraqi society is a diverse community - like all communities in the world. Where it is divided into segments of societies by geographic locations to the cities and the countryside's, thus, the geographic location have a significant impact on the cultural level, the educational level, the standard of living and provide services, In spite of this diversity, the Iraqi society was able to use the multiple areas of the Internet correctly and in a short time period, with a clear distinction of the private sector in the provision of Internet services. But the problem lies in the citizens' confidence in the services provided by the public sector because it is a complex procedure and it takes long periods of time, for this reason, the citizens believe that the public sector is unable to develop new methods to deliver these services effectively. As a result, the National Committee for Electronic Governance in Iraq has done awareness workshops for all employees in the public sector to introduce them to the importance of this project and what are the benefits and features to be provided by this project for all, to build bridges of trust of the citizens in the provision of services via the Iraqi portal.

3.4.5. Legal and Legislative Challenges

The work of government institutions is subject to the laws emanating from them a set of instructions and regulations governing the work within these institutions. This would be represented by the internal system of the institute, so when you think about the total transformation or partial transformation of electronic government you must define the legislation and phrase it in a manner enabling you to implement this project, which enters into the work of all institutions. But unfortunately been neglecting the e-government project by not enacting these laws, considering that there are priorities to promulgate laws pertaining to services and infrastructure, security, etc...

3.4.6. Information Technology Projects (Management, Planning And Implementation)

Information technology projects, as it is known is characterized by continuously updating and contain many different products that make it difficult to select appropriate projects or required in terms of effectiveness and efficiency. So we find many of the technological projects in Iraq either stumbled or incompetent after completion it has become inoperable due to availability of the latest technology. From this we can see that the most important problem is lack of experience and skill in the selection of projects or products to suit the reality, which leads us to look deeply at how to manage technological projects in a way that makes these projects achieve the purpose for which it was founded. In many cases, the non-implementation phases of the projects on schedule and according to the time limit is either due to poor coordination or due to lack of taking into consideration the risk management or because of changes imposed from the beneficiaries on an ongoing basis. That's because of the lack of rigorous studies for projects or the assignment of projects to less experienced companies. All of this leads us to the solution for the success of these projects is to deal with reputable consulting firms to develop feasibility studies for the proposed project, in addition to contracting with specialized companies to monitor the project during the period of its implementation [40].

3.4.7. Readiness Challenges

Most Iraqi citizens use the Internet heavily, now but unfortunately, this usage is limited to the pages of social networking or search across browsers and there is no use for other applications or other services such as e-payment of bills or transfer of money or shopping online, in addition to the lack of confidence regarding the applications or financial transactions online. also their lack of confidence should be processed officially online by logging into the portal to the Iraqi government so that the number of visitors for this page is very few. low number of internet access ability is another reason for lack of use where limited availability of Internet services to city centers and a fraction of the countryside as the high prices of the reasons for the use

of the Internet are considered. Where the non-proliferation is to use the Internet in Iraq is considered as a kind of luxury. It could be argued that the difficulties of life and widespread unemployment have made the Iraqi citizens care about providing a better living and not to show any interest in learning how to use the Internet.

3.4.8. Other Challenges

There are some challenges that may be considered as small challenges, but it has significant impact on the progress of e-government project in Iraq. One of these challenges is Iraq's status which was incorrect in ranking within categories of the United Nation in 2010 and 2012 because of the delegation, which was sent to attend the meeting that was held in Amman because the information given by the Iraqi delegation to the classification committee was inaccurate and we can find it so obvious when you read the report of the United Nations, where that the percentage of users of computers in Iraq were incorrect as well as the percentage of Internet users. On the other hand, the UN committee is responsible for a publication of this report has not been able to visit Iraq to see the actual stages of implementation of e-government project

Country	2012	2010	2012	2010
United Arab	0.7344	0.5349	28	49
Bahrain	0.6946	0.7363	36	13
Saudi Arabia	0.6658	0.5142	41	58
Cyprus	0.6508	0.5705	45	42
Qatar	0.6405	0.4928	48	62
Kuwait	0.5960	0.5290	63	50
Oman	0.5944	0.4576	64	82
Georgia	0.5563	0.4248	72	100
Turkey	0.5281	0.4780	80	69
Lebanon	0.5139	0.4388	87	93
Armenia	0.4997	0.4025	94	110
Azerbaijan	0.4984	0.4571	96	83
Jordan	0.4884	0.5278	98	51
Syrian Arab	0.3705	0.3103	128	133
Iraq	0.3409	0.2996	137	136
Yemen	0.2472	0.2154	167	164
Sub Regional Average	**0.5547**	**0.4732**		
World Average	**0.4882**	**0.4406**		

Figure 8: E-Government Development In Western Asia 2012 [29]

The United Nations Public Administration Program (UNPAP) has found a composite measure called it The E-Government Readiness Index (EGDI). "The maximum possible value is one and the minimum is zero. Though the basic model has remained constant, the precise meaning of these values varies from one survey to the next as understanding of the potential of e-government changes and the underlying technology evolves"[40].

To explain what this value consists of "the EDGI is a weighted average of three normalized scores on the most important dimensions of e-government, namely: scope

and quality of online services, telecommunication connectivity, and human capacity. Each of these sets of indexes is a composite measure that can be extracted and analyzed independently:

EGDI = (0.34 × online service index) + (0.33 × telecommunication index) + (0.33 × human capital index)"

3.5. Solutions

The in-depth scientific study to any problem certainly lead to find a set of solutions to this problem, after a study of the challenges facing the application of e-government project in Iraq, and because of the interest of us on the success of this important project, we proposed some solutions to these challenges that may be the cause of project failure, these solutions are:

3.5.1. Recommendations

After an in depth study of the reality of e-government project in Iraq we could suggest some recommendations to get to a successful project:

1- The creation of databases for all institutions and conversion of all documentation into electronic data and linked to unified data center for each ministry within defined parameters.

2- Build a unified national information center (data center) and connect all of these centers to get into the possibility of providing services electronically as required, then find the appropriate way to link these institutions among themselves by building a network (wired or wireless) for data transfer and exchange of information.

3- Establish important laws related to telecommunications and information technology and give sufficient authority to members of the e-government to make the changes required in the institutional structure in order to ensure the success of e-government project in Iraq.

4- Re-organize government websites and activate the content management to these sites properly under the standards in terms of design and content management.

5- Provision e-service centers in all cities and provincial centers, districts and areas in order to facilitate the provision of services to citizens who are unable to communicate with these services electronically. In addition to provide electronic service kiosks in public facilities and the activation of the mobile gate through the use of a mobile phone.

6- Provide interactive electronic services possible to apply at the moment to raise the confidence of citizens towards the services provided by the public sector, such as the application form for universities after high school or jobs.

7- Web sites linking to (Web 2.0) " Web 2.0 describes World Wide Web sites that uses technology beyond the static pages of earlier Web sites" [41], or with social networking sites and raise issues of concern to the citizens about the services provided by the government and collect feedback and consider it and discuss it with the decision-makers and activating questionnaires about services through these sites and the involvement of citizen in decision-making.

8- Prepare and deliver awareness workshops for citizens in general (not for workers in the public sector only) and try to reduce the resistance to change by placing specialized teams in the centers of government institutions to evaluate the problems and obstacles facing the implementation of this project from the standpoint of - citizens and workers in the public sector (staff and decision-makers) - in addition to the use of the media to view the benefits of this project and the definition of the duty of the citizen to the success of this project [42].

9- Create teams within government institutions consisting of all majors of administrative, technical, financial, regulatory and legal to find legal solutions and the issuance of the controls and instructions necessary to facilitate the process of e-transformation [43].

3.5.2. Benefit From The Experiences of Developed Countries

Developed countries have made great strides in the field of e-government, where modern scientific methods used to overcome most of the problems suffered by the e-government projects in the country.

The U.S. government has focused on two important aspects in order to entice citizens to use e-government project, the first was focused on democracy where persuaded the U.S. government citizen that the e-government project will increase the transparency of government transactions as it would impose censorship on the work of government institutions while the second focused on commercial transactions where it became transactions via the portal easier and cheaper than regular dealings.

The Australian government has had an early vision to the e-government portal through which could complete transactions with the government in a single step and this has developed a mechanism strategy for e-government based on the importance of integration in the provision of electronic services and to achieve this goal, government has confirmed the cooperation between the various government departments. The e-government portal in Australia offers its users a number of services that facilitate dealing with the government [44].

Government of India has set up mobile e-government, the goal, which is the completion of transactions of the citizens who live in remote villages and have no knowledge of how to use the Internet or how to complete transactions through the portal of India. Mobile e-government consists of a vehicle containing a computer connected to the Internet is used by an employee who has experience in the use of the portal for the completion of transactions of the citizens.

CHAPTER 4

FUTURE WORK

4.1. Future Work:

The future work of a youthful project such as e-government project in Iraq, can contain many future plans, it needs many additions such as the start of electronic services in government institutions, activate the services of electronic payment, and electronic signature, as well as electronic services to the site of the Iraqi portal, all of these services need to an infrastructure and electronic readiness, as it needs to an electronic culture and a developed knowledge of society. However the poor security situation in Iraq prevent the achievement of these requirements, but poor security situation in Iraq prevents the achievement of these requirements, due to the preoccupation of the government in matters deemed more important than the e-government project, such as the fight against terrorism and corruption, and to provide the basic necessities of life such as drinking water and electricity, also insecurity and the difficult of living experienced by the Iraqi citizen led him to think that the e-government project is an important project and unessential, which is led to the proliferation of electronic illiteracy.

As a result of all these reasons and for getting a successful project we suggest that you have to work on the e-government project in Iraq in one of the following directions:

4.1.1. The One Ministry Project

Although most of the Iraqi governmental institutions embarked on the application of e-government project, but this application is limited to the automation of data and some simple transactions, and this application does not contain a unified database which can be referred to when needed to any information by the citizen or government agency, In order to implement the project properly and to obtain effective results from which to measure the success of the project accurately, we suggest that is applied e-government project to one ministry and when application is done completely (all stages), and apply all the services for this ministry electronically, so citizens can have access to these services, by which the time and the ease and accuracy required [45].

This ministry could be the Ministry of Health, and because of its importance in the lives of citizens, where the citizen begins to deal with this ministry from the day of birth (Department of Births) passing through all stages of his life (where the needs of health care) and then when he died (Department of Deaths), all of these transactions must be easy and convenient to the citizen. We can include here some suggestions for the application of e-government project properly and successful in this ministry:

- Creation of a unified database containing the record and a unique number for every citizen, this record must also contain information on the health of the citizens since the day of his birth passing through all his works with hospitals, pharmacies and primary care centers in all the cities of Iraq.
- Connect all health institutions with this database as well as to give each doctor a user name and PIN can have access to the database and look at the health history of the citizen from anywhere connected to the Internet and using any device in order to deliver the correct information to the doctor at the time needed.
- Linking blood banks and pharmacies with the database in order to service the needs of the patient as soon as possible.
- Trying to make the web page of the Ministry of Health more comfortable by using an easy terminology and understandable by all citizens, in addition to

contain all the websites which is necessary for the patient in order to encourage citizens to use the official page of the Ministry of Health.

- The use of Web 2.0 technologies and the mobile phone, in the delivery of bulletins to raise awareness of citizens.

After that this experience can be applied to the rest of government institutions, where they can take advantage of the database that was established by the Ministry of Health to be the foundation for major database, can also take advantage of the structure of the new ministry.

4.1.2. The One Governorate Project

As a result of the disparity in the level of the security situation between the cities of Iraq, there has become a noticeable difference in the urban development and technological development in the cities relatively safe, if the application cannot project the government mail across the country, can be applied in one governorate, this experiment can be done through this to save time, effort and money, because of the small size of the governorate compared to a country full and thus the small government institutions within this governorate. This leads to the ease of implementation of this project by starting to change the institutional structure, according to the suit the success of e-government project in that governorate. This suggestion can be implemented in the following manner:

- Create a database in the Department of Health in the governorate, contains a unique number for each citizen in addition to the name, gender, year of generation, health status and a record to document the cases in which citizens go to hospitals or health care centers [46].
- Connect the directorate of personal status in the governorate, with the database; so as to facilitate the issuance of personal documents to citizens as well as to make the registration of births and deaths have been automatic.
- Connect the police directorate in the governorate and police stations associated with this database, so as to facilitate reference to the information concerning the suspects or criminals.

- Connect the directorate of education in the governorate with the database for easy reference to the data of students and children who have reached the age of entry to the school in addition to know the number of males and females to provide schools and school supplies to them.

- Connect the directorate of labor and social affairs in the governorate with the database to record the disabled and people with special needs and provide salaries and supplies of their own.

- Create pages on the official website of the government institutions and must be simple in design and understood by the citizen.

- Design a mini electronic portal special for the governorate; contain links to government institutions and information needed by the citizen to complete his official transactions, so as to facilitate the entry of citizens to the portal and official pages of government institutions in the governorate.

- Connect the governorate council with the electronic gate, where discussing government projects or important decisions that belong to the governorate to be voted on by citizens in order to promote the concept of electronic democracy [47].

- Prepare a mechanism for electronic payment through the use of smart card or the use of mobile applications, so as to accustom the citizens to use these methods in financial transactions [48].

After the success of this experiment, we can move it to another governorate where we can connect more than one province, through a unified database and then we circulate this experience on the throughout of Iraq.

If we look at the security realistically in Iraq, we note that the southern governorate are the most safety among Iraqi governorate, therefore, we can apply this idea to any one of those governorate, it could be the governorate of Najaf or Maysan governorate, is the most suitable for the application of this project, where it possesses the necessary infrastructure as it is eligible for these types of experiments.

CHAPTER 5

CONCLUSION

E-government is not limited to the use of information and communication technology to deliver services to citizens, but it is a sophisticated thought, which reformulate institutions in a new view with administrative, social and political, it is also not limited on the provision of electronic services to stakeholders, but rather represents electronic methods to accomplish all the work being completed inside and outside the institutions, the democracy is one of the main goals of e-government, and that the government represents a new contract between the institutions and stakeholders where the conversion of the beneficiary from a recipient of service to participant in the decision-making. This thesis has resulted to the following conclusions and recommendations:

1- The application of e-government requires initially restructure government institutions to suit the requirements of the e-government, That's where the application of e-government project with the presence of the old institutions structure will lead to project failure.

2- The application of good governance principles in government institutions before starting the process of information automation is very important thing to ensure continued smooth flow of work properly.

3- The need for rehabilitation and training of staff for the use of e-government applications, by providing specialized training centers within government institutions.

4- Lack of awareness among some citizens and employees about the concept of e-government and the importance of its application.

5- The need to develop appropriate legislation to implement e-government project in addition to the adoption of electronic signature in official transactions.

6- The importance of the vertical integration within a single institution and the existence of horizontal integration between the multilateral institutions to ensure complete transactions quickly and easily.

7- The need to study the obstacles to the application of e-government project in the experiences of developed and developing countries to learn from their mistakes and take advantage of their successes.

8- The implementation of e-government project in the whole of Iraq has many challenges, so we suggest the application of this project in one of the ministries or one of the governorates and measure the success of this mini experiment, after that roll out to the rest of the government institutions.

9- Because of the difficulty in delivering e-government services to all parts of the country we suggested the use of alternative technology, such as the mobile government or the Web 2.0.

10- Due to the lack of readiness of the Iraqi citizens to use e-government applications, an electronic service centers could be provided in towns and villages where there are employees trained to use e-government applications to be able to provide services to citizens.

11- The use of mobile communications companies in Iraq to encourage citizens to use mobile phone applications related to e-government project, in addition to encouraging them to conduct electronic voting by mobile phone, and the delivery of alert messages for bills or other things needed by the citizens in their daily lives.

12- To draw a roadmap for successful e-government project in Iraq, citizens must cooperate with government institutions because this project cannot succeed with the presence of one of these two parties without the second party.

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APPENDICES

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