



**THE CHALLENGES TO APPLY ELECTRONIC GOVERNMENT TO  
GAIN THE PASSPORT SERVICES**

**CASE STUDY: IRAQ**

**SAMID HASSAN HADI AL-BAIATY**

**AUGUST 2017**

**THE CHALLENGES TO APPLY ELECTRONIC GOVERNMENT TO  
GAIN THE PASSPORT SERVICES**

**CASE STUDY: IRAQ**

**A THESIS SUBMITTED TO  
THE GRADUATE SCHOOL OF NATURAL AND APPLIED  
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**BY  
SAMID HASSAN HADI AL-BAIATY**

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Thesis title: **THE CHALLENGES TO APPLY ELECTRONIC GOVERNMENT TO GAIN THE PASSPORT SERVICES CASE STUDY: IRAQ**

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I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Science.



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This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Science.



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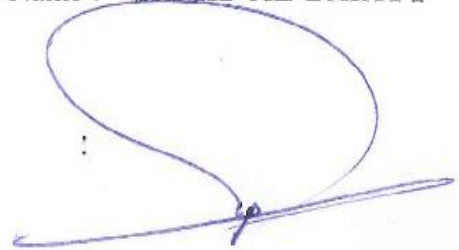


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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct, I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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Signature :

A handwritten signature in blue ink, consisting of a large, stylized loop followed by a horizontal line with a small flourish at the end.

Date : 21.08.2017

## **ABSTRACT**

### **THE CHALLENGES TO APPLY ELECTRONIC GOVERNMENT TO GAIN THE PASSPORT SERVICES**

#### **CASE STUDY: IRAQ**

**AL-BAIATY, SAMID HASSAN HADI**

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It is well known that Iraq after 2003 goes to investment in e-government to provide services to citizen, and one of the important service is the passport issuance service, while the Iraqi passport is the most important document for Iraqi citizens. This study prepared to address the challenges in the process of obtaining a passport in Iraq. The importance of this study is that it involves field work, and data obtained from Iraq. In the beginning, the researcher visited the General Directorate for nationality in order to better understand the process and procedures for obtaining this document. After that, a questionnaire form was prepared and analyzed by using a statistical approach to understand the hurdles faced the citizens who interested in getting a new passport. The questionnaire form contained four questions regarding the difficulties and possible solutions, and was distributed to 219 random citizens.

Briefly, the results show that there are two kinds of challenges in the process of gain the passport; the first ones are the challenges faced by the employees of the passport directorate, and the second ones are faced by the citizens who have to go through long waiting periods.

In conclusion, the researcher present a summary of all the challenges faced both of the general directorate for nationality employees as well as the citizen, and he have been able to identify a set of recommendations for the implementation of electronic government, and its effective role in the elimination of all these challenges, which contributes to improve and develop Iraqi passport services.

**Keywords:** challenges of e-government, e-government, Iraqi passport, General Directorate of nationality, statistical analysis.

## ÖZ

### **PASAPORT HİZMETLERİNDE E-DEVLET UYGULAMALARINDAKİ ZORLUKLAR**

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2003 yılından sonra Irak' ın vatandaşlarına hizmet götürme adına e-devlet uygulamalarına yatırıma gittiği iyi bilinmektedir ve sağladığı önemli hizmetlerden birisi de, Irak pasaportu Irak vatandaşları için en önemli belge niteliğinde olduğundan pasaport hizmetleridir. Bu çalışma, Irak'ta pasaport edinimi konusundaki mevcut zorluklara değinmek üzere hazırlanmıştır. Bu çalışmanın önemi, Irak' tan alınan saha çalışmaları ve verilerden kaynaklanır. Başlangıçta, araştırmacı, bu belgeyi elde etmek için öngörülen süreç ve prosedürleri daha iyi anlayabilme amacıyla Vatandaşlık İşleri Genel Müdürlüğünü ziyaret etmiştir. Bu aşamadan sonra, yeni pasaport almak isteyen vatandaşların karşılaştıklarını sıkıntılarını kavrayabilmek için istatistiki yöntem kullanarak bir anket çalışması hazırlanıp analiz edilmiştir. Bu anket formu, mevcut zorluklar ve olası çözümleri üzerinde dört soru içermekte olup rasgele seçilmiş 219 vatandaşa dağıtılmıştır.

Özet olarak, elde edilen sonuçlar pasaport edinimi sürecinde mevcut iki tür zorluğu ortaya koymaktadır; bunlardan ilki pasaport müdürlüğü çalışanlarının yüz yüze geldiği zorluklardır ve ikincisi ise uzun bekleme sürelerine maruz kalan vatandaşların çektiği sıkıntılardır. Sonuç olarak, araştırmacı, vatandaşlık işleri genel müdürlüğü çalışanları ve aynı zamanda vatandaşların katlanmak zorunda kaldığı tüm zorlukların bir özetini sunmuş ve aynı zamanda e-devlet uygulaması için bir dizi tavsiye oluşturmayı ve aynı zamanda Irak pasaport hizmetlerini geliştirilmesi ve daha ileri noktalara taşınabilmesi için tüm bu zorlukların üstesinden gelebilecek şekilde üstlenmiş olduğu rolü tanımlamayı amaçlamıştır.

**Anahtar kelimeler:** e-devlet' in zorlukları, e-devlet, Irak pasaportu, Vatandaşlık İşleri Genel Müdürlüğü, istatistiki analizler.



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Finally, I dedicate this research to my parents, especially my father who supported me and my family all the time. I ask God to have mercy on him. With all thanks to my wife and my family for continuous encourage and support throughout this years.

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## LIST OF ABBREVIATIONS

CCST	Citizen Centered Service Transformation
EISI	Egyptian Information Society Initiative
G2B	Government-to-Business
G2C	Government-to-Citizen
G2E	Government-to-Employee
G2G	Government-to-Government
GIF	Government Interoperability Framework
GIS	Geographic Information System
HCI	Human Capital Index
ICT	Information and Communication Technology
MoCIT	Ministry of Communications and Information Technology
MPM	Modernization in Public Administration
NCITP	National Communications and Information Technology Plan
NIS	National Information System
OECD	Organization for Economic Co-operation and Development
OSI	Online Service Index
TII	Telecommunication Infrastructure Index
USAID	United States Agency for International Development
UTAUT	Unified Theory of Acceptance, and Use Technology

## **CHAPTER I**

### **INTRODUCTION**

#### **1.1 Iraq**

The State of Iraq, founded in 1920 is a Federal Parliamentary Republic. It consists of 18 Provinces ruled by their respective governors who highly independent from the Central Government in certain branches of decision-making. It is located in the Middle East and its capital city is Baghdad located in the center of the state. Iraq shares borders with Turkey in the north, Kuwait and Saudi Arabia in the south-east, Syria and Jordan in the west, and Iran in the north-east. In addition, it is strategically overlooking the Arabian Gulf [1] (Figure 1). The area of the Republic of Iraq is about 438,317 square kilometers. The country is composed of many ethnicities as well as religious communities and sects. The population was estimated to be nearly 38 million in [2]. Because Iraq is a large state, the government has two branches offering different services as explained above, the central services in Baghdad and other branches spread in the other governorates. One of the most important identification documents used in Iraq is The Iraqi Passport, which is issued from the General Directorate for National, a branch of the Ministry of Interior [3].



**Figure 1** Iraq Borders [3]

## 1.2 Purpose and scope

The purpose of this dissertation is to identify the challenges that hinder the use of E-government application in Iraq around the stable and unstable conditions.

The first scope of this thesis is to deeply study E-government and its advantages, especially on services related to citizens' basic needs (G2C).

The second scope is to explain its usage in the process of application for Iraqi by the citizens of this country.

The conclusion and results are related to the challenges faced by Iraqis to get their passports and possible feasible solution for the government.



### **1.3 Motivation**

The researcher is an employee in the Office of the Inspector General, and as a result was charged with monitoring and evaluating the services in the respective ministry.

By carrying this study, it is hoped that a better system for passport services will be developed by listening to both, the challenges faced by the citizens and employees, as well as their recommendations, and putting them in a practical framework to build a high-performance system that will ease the lives of people, and serve as a model for other services in the country. In this way, the services offered in Iraq will be comparable to those offered in other developed countries.

### **1.4 Thesis Tools**

The data collection was carried out based on the recommendations of the supervisor, and the questionnaire form was designed to best represent the needs of the citizens when they apply for a passport. In addition, a statistical analysis tools were used to analyze the data and get the results.

### **1.5 Obtaining Data**

Since the author of this research works for the Office of the Inspector General, he was able to get real insights of the process by getting an official approval for visiting the Directorate of General Nationality / Directorate of Passport Affairs. He was able to closely follow all the process and procedures involved in applying and getting a passport. These steps include application by the citizens through the respective website, reviewing of the request by the authorities, printing of the document and handing it over to the citizen.

### **1.6 Research Methods**

At the beginning, the researcher spent a lot of efforts to review the respective literature and avoid plagiarism. The organization of this thesis is as follows:

Firstly, a review is done in order to clearly understand the application of e-government, its types and the services offered, with a focus on the process of passport application. Then, The General Directorate for Nationality which is responsible for passport services was visited and questionnaires were handed to workers and citizens to collect their responses about the challenges faced during passport application. Based on those responses, a referenda was designed to take all the responses into account and analyze the data for reaching meaningful results. Finally, data were analyzed by statistical analysis tools and some solutions were proposed to serve as recommendation to the Iraqi government to improve this system in the future.

### **1.7 Research Question**

The question addressed by this thesis is as follows:

What challenges are faced to get an Iraqi Passport, and what could the e-government do to improve these services based on the experiences of other neighbor countries?

### **1.8 Limitations**

In this thesis we considered following limitations:

1. As we know, the e-government services of citizens include all the scopes of life, but in this thesis, only the Iraqi passport services were chosen as a case study.
2. A questionnaire form containing 4 questions (as we show in chapter 3) was used, which was distributed among 219 people to collect their challenges to get the Iraqi passport. The sample size could have been bigger to gain a better understanding.
3. A statistical analysis approach was used to analyze the results.

## **CHAPTER II**

### **BACKGROUND AND LITERATURE REVIEW**

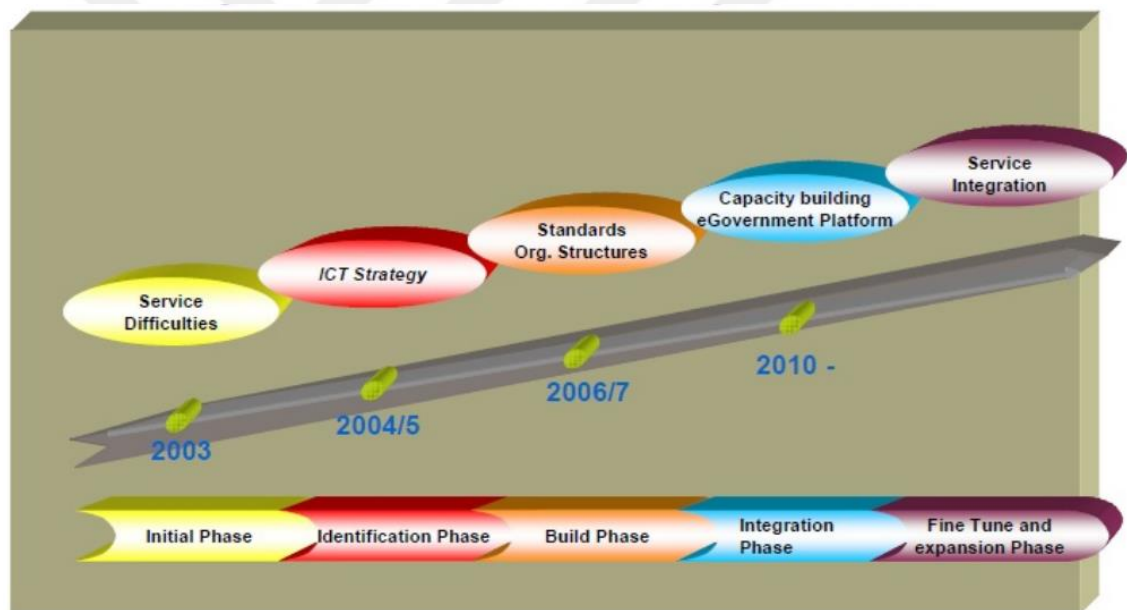
As explained before, this thesis will analyze the challenges faced during application for a passport by using e-government services. In this chapter, some essential basic concepts about the workings of the e-government, the procedures to obtain the Iraqi passport, and some literature review about the experiences of some other countries in the usage of e-gov in passport services are explained.

#### **2.1 Electronic Government**

No one imagined twenty years ago the huge developments in the following three sectors: computer technology, communication technology, and programming would reach to where they are now. Information has spread on a large scale and at tremendous speed, easing decisions-making in all areas. Internet was previously used to access and exchange information, but today it has become ubiquitous in every area, including that of education. Internet applications are contributing to simplifying various people's needs by providing, among others many public services [4]. One of these applications is E-government. E-government offers many advantages for governments when applied successfully, because it increases the efficiency of the performance through the speed and accuracy of the transactions for citizens of different segments of society without discrimination based on race, gender or ethnicity [5]. In other words, successful governments use information technology and communication tools to serve their own citizens, in order to reduce their living costs, and gain their confidence by

increasing the interaction between them. In addition, they make all the necessary information available for all, so as to guarantee the reach of those services for all and make them more flexible [6].

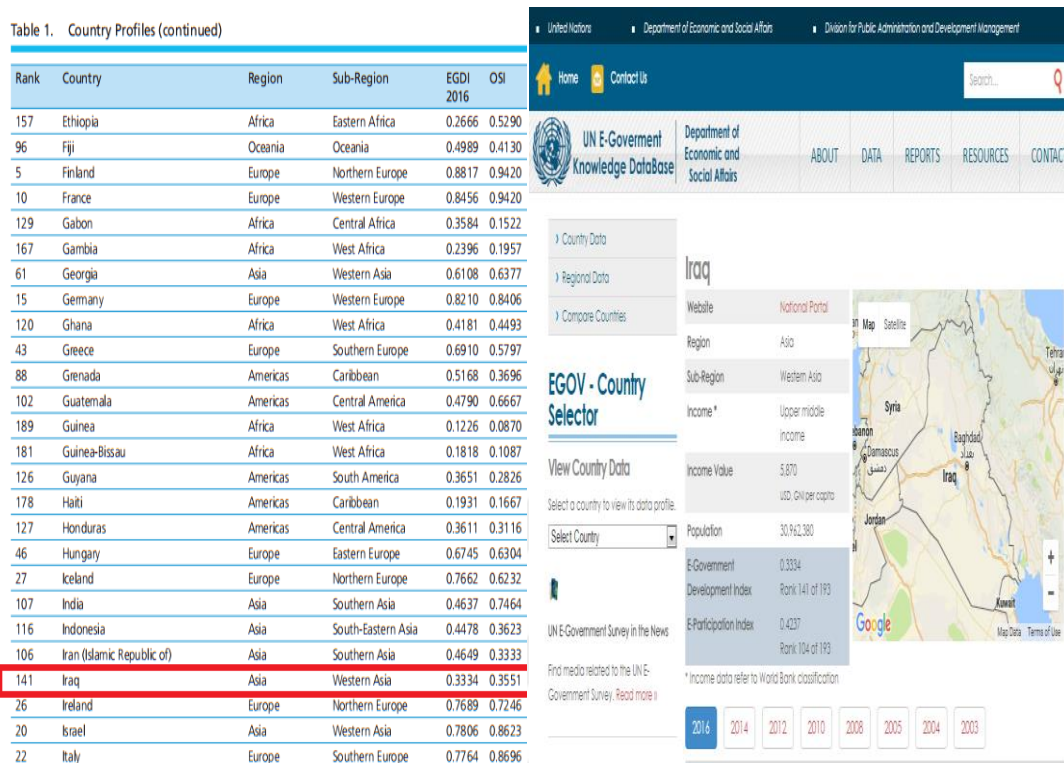
In 2003, Iraq started to apply E-government project with the assistance of Italian government, and as a result reserved a seat among the world ICT society. The Ministry of Science and Technology started sharing with the United States Agency for International Development (USAID) a plan to apply and use the electronic government by putting together all the pieces between the years 2007-2010, as shown in figure (2) [7]. But this transformation to modern technology, especially about the government services was to face several challenges, and those challenges became difficult and huge for a country like Iraq, which has to deal with continuous security issues daily.



**Figure 2:** Pathway to E-Government in Iraq 2007-2010

Before starting to describe shortly about e-gov term, it is necessary to review the Iraq's ranking on e-gov. Iraq's E-Government still can be classified as a primitive project, and is difficult to evaluate its effectiveness until now, because of the unstable situation in the country since 2003 [7]. As a result, Iraq is facing more challenges to develop and implement the electronic government as compared to other countries, thus the poor ranking on a global scale. As shown

in figure 3 below, the rank is 141 out of 193 countries, according to the united nation e-government service index [9].



**Figure 3: Iraq Rank of E-Government Service**

There is no specific definition of E-government, due to the technical, administrative, commercial, and social dimensions that are affected by it [10]. In 2002, the United Nations defined the E-government as: "The use of the electronic media and the global network to send government's information and services to citizens" [8]. Also, in 2003, the Organization for Economic Co-operation and Development (OECD) defined it as: "E-government is the use of ICT, especially the Internet to reach the better governments' environment" [11]. in addition, several researchers defined it as: "A means of using modern technologies (communication, network, internet) by the government institutions to develop intimacy with the citizens, and obtain their trust through online interaction to give them services with easy methods and at lower costs" [8]. Finally, "It is the use of Information and Communication Technology (ICT), to serve citizens with ease, perfected by the use electronic media (E-mail internet, Fax, and Smartphone)" [10].

E-government focus on the end user, so it can be classified in four models as: Government-to-Government (G2G), Government-to-employee (G2E), Government-to-Business (G2B), and Government-to-citizen (G2C), and all these models have many applications to support them [12].

- Government-to-Government (G2G):

This model allows governmental institutions and their departments to provide the information and transfer it electronically among each other's, in this way helping and enhancing the services provided [13]. For example, in Turkey, when a person wants to change his address, he must go to the civil registration office, or he can do it through Turkish E-government portal. Therefore, this process does not require informing all the departments, because his new address will appear in all of them as a result of data sharing [14].

- Government to-employee (G2E)

This model offers an online interaction through immediate communication tools between government units and their employees. For example, salary payment can be done online, and the employees can check their salaries online as well. Another example, the organizations can apply an online training for employees to improve their abilities to work efficiently [14].

- Government-to-Business (G2B)

This model helps the business sectors to improve and enhance their production by making an online interaction between government and commercial business, as well as reduce costs, and increase competition. For example, if government wants to buy or sell some materials, it would publish the specifications of it on the official website, and the companies can compete in dealing with this government [15].

- Government-to-citizen (G2C)

The (G2C) model is used to provide services from government, meaning that citizen can collect and get information from governments such as forms. This interaction is made possible through internet. For example, in payment services the citizen is able to pay a tax through the government tax website without the need to go to the tax office [15].

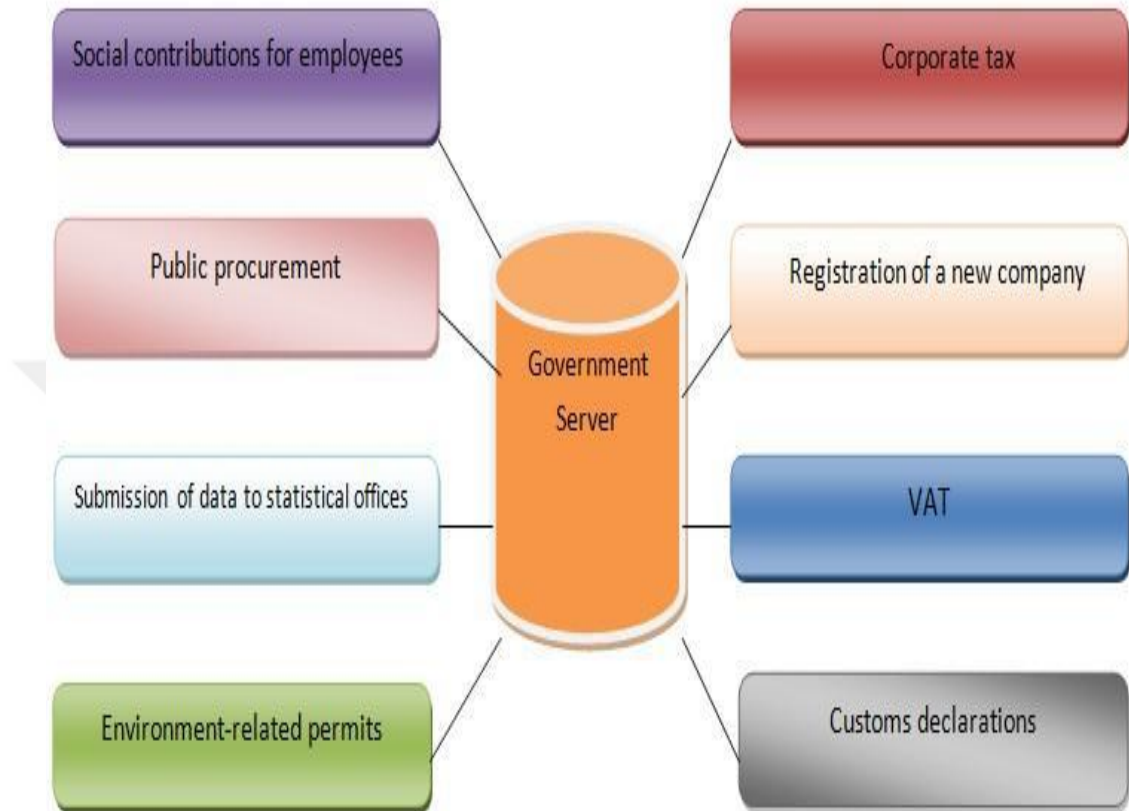
E-government provides 20 common services, 8 to business and 12 to citizens.

**Services to business are [15]:**

- Social contribution for employees, watching their earnings and previous debts. For example, insurance payment system allows payment to the employees who work in general or private departments.
- Corporate tax. For example, e-tax site allows login to pay taxes.
- Registration of new company. For example, any organization can register new companies electronically.
- Vat (value added tax). For example, organizations can submit and pay electronically.
- Submission of data to statistical offices. For example, the legal entity of public law carries out its activities independently. It is an institution established to produce the statistics and disseminate the statistical information.
- Customs declaration, statement showing goods being imported and which duties will have to be paid. For example, to fill in a customs declaration form.
- Environment- related permits. For example, if the company makes a project, it can obtain a permission electronically through the internet

- Public procurement. For example, if a college wants to purchase 10 computers, it can buy through e-marketing to a lesser cost.

Figure 4 below, shows services to business [16].



**Figure 4:** Business Services

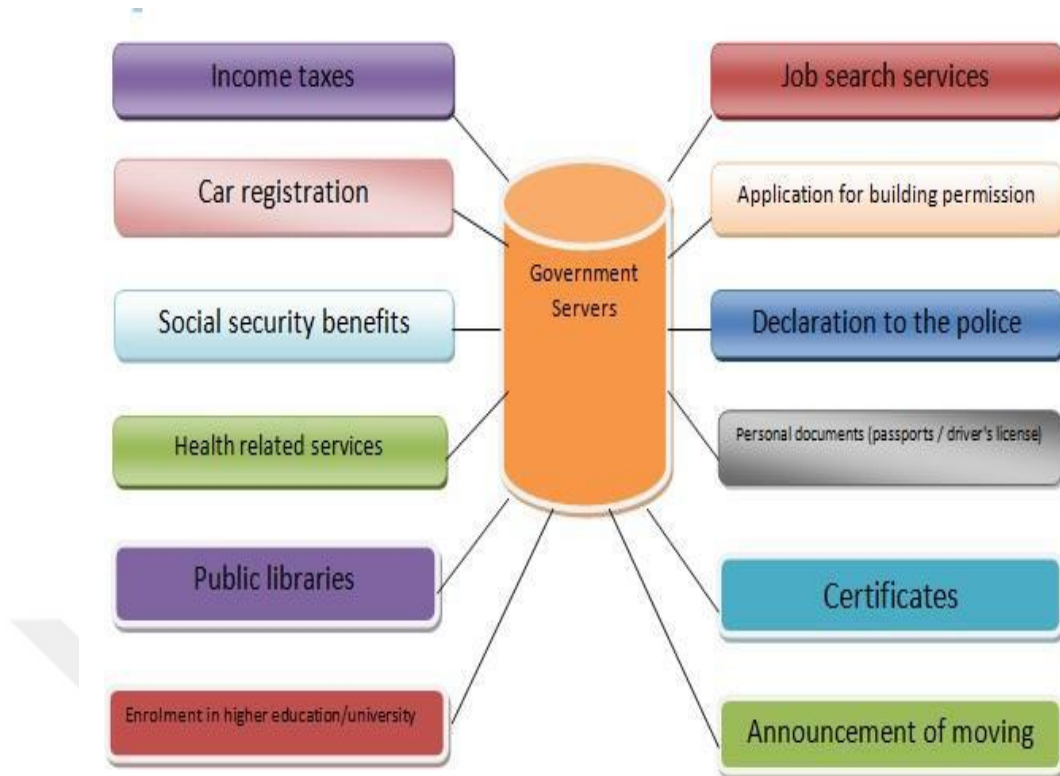
**Services to citizens are [15]:**

- Income taxes: this service enables citizens to pay taxes electronically whenever they want.
- Job search services: this service enables citizens to search for jobs online and know the requirements of each job.
- Social security benefit: this service is about the social issues of citizens. It is a payment given by the government to those people cannot find a job.



- Personal documents (passports/driver's license): this service enables citizens to submit their documents and required papers via internet electronically.
- Car registration: this service enables citizens to register their new car through the internet.
- Application for building permission: this service enables citizen to have a permission for building electronically.
- Declaration to the police: by this service citizen can declare to the police illegal issues via the internet.
- Public libraries: this service enables citizen to search for books online, and download pdf files of the books.
- Certificates: by this service citizen are able to request the delivery of birth and marriage certificates.
- Enrolment in higher education/university: this service enables students to register in courses in universities and supply to the student grades.
- Announcement of moving: in this service citizen are able to report for changing addresses electronically.
- Health related services: this service helps citizens to get information about hospitals and doctors, as well as make an online appointment with doctors [15].

Figure 5 below, shows services to the citizens [16].



**Figure 5: Citizens Services**

As was shown above, e-government is a powerful application which can improve the business process, in addition to the feasibility of the services offered to the citizens. A list of the advantages of e-government in all sectors of life is shown below [17].

- Quality of service delivery to businesses and customers.
- Increase the capacity of government.
- Enhancing the quality of decision making.
- Reducing costs and efficiency gains.
- Network and community creation.

## 2.2 Statistical Analysis

Statistical analysis is a type of data analysis, and it involves collecting and securitizing a sample of specific or random data.

The steps of statistical analysis can be consist of to describe the nature of the data to be analysis and to explore the relation of the data. In addition, to recommend an optimal scenario that improve the future view of the work.

The most command methods for statistical analysis are mean and standard deviation. In this thesis, the mean will use to show the percentage of some answers [46].

### 2.3 Procedure of Iraqi Passport

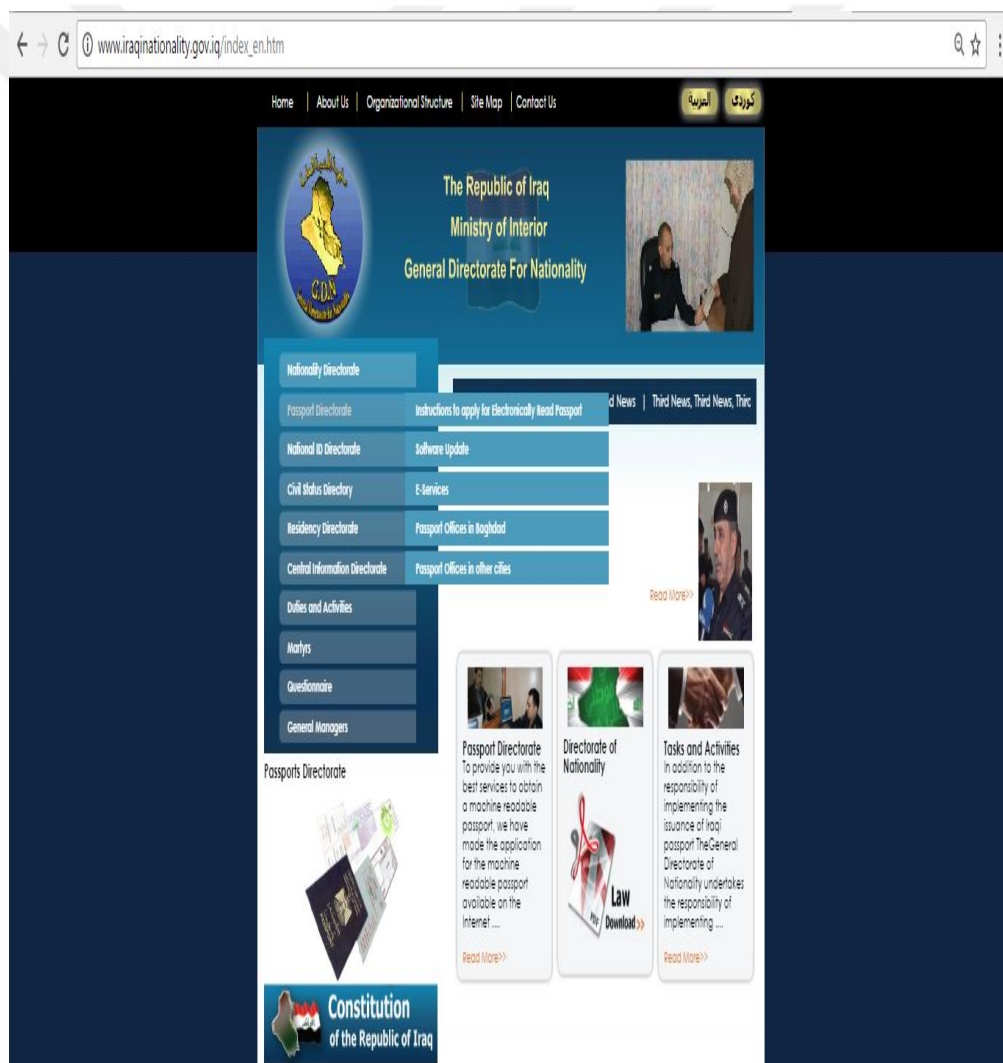
As we shown in chapter 1, section 1.1, the Iraqi passport is the most important document to be used outside Iraq. The Ministry of Interior and the General Directorate for Nationality are responsible to provide this document to Iraqi citizens. The procedure of this service is like the procedures followed all over the world. There are some requirements and conditions to provide a passport. In this section, those procedures and conditions are described in more details [3]. It should be emphasized once again that as mentioned earlier in Chapter I-section 1.5, the researcher personally obtained the following procedures, conditions, and structure figures from the General Directorate of nationality.

1. **Requirements:** any Iraqi who wants a passport has to have four official documents as listed below:
  - ❖ **Identity card:** it is an important official documents given at birth which contains the basic information like name, surname, date of birth, and Physical specifications. In addition, the information of the partners if married.
  - ❖ **Iraqi citizenship certificate:** This is the second important document, and also contains the same information but in addition this document proves its owner is Iraqi.
  - ❖ **Residence card:** this document contains the information about the personal address
  - ❖ **Ration card:** contain the information about whole family.

❖ **Bank Check:** with value of 25000 Iraqi Dinars.

All these documents have a unique number used to fill the forms. In addition, a bank check with a value of twenty five thousand Iraqi dinars must be available. Missing any document will not allow the person to go on the second step.

2. **Submission:** after collection of all documents, Iraqis start to submit their documents. This procedure is divided into two step. First step is login to the official website of the General Directorate of nationality (<http://www.iraqinationality.gov.iq> ) to fill the form of submission. Figure 6 and 7, shows the official website and how to choose this service [3].



**Figure 6:** Official of General Directorate of Nationality [3]



**Figure 7:** Choose Passport Services [3]

When people start to fill it according to their information, it is important to fill all the fields since there is no optional field. The system will check the information and modify it if there is any mistake. After checking all the information, the system will accept the submission form, and print it with two-dimension barcode. This form and previous requirements make the person ready to stand up at the passport offices to finish the submission. Figure 8 and 9 show the submission form that obtained from the official web site of the General Directorate of Nationality, this form is in Arabic language, because it is not available in English [3].

Some other conditions put by the passport office are:

- Do not allow the persons to submit this form in other area.
- The submission date and time are saved, so they cannot be changed to another date after the application.



Figure 9: Cont. Submission Form [3]

Figure 10 shows the structure of **service office** describing the filling of the form and first step of submission.

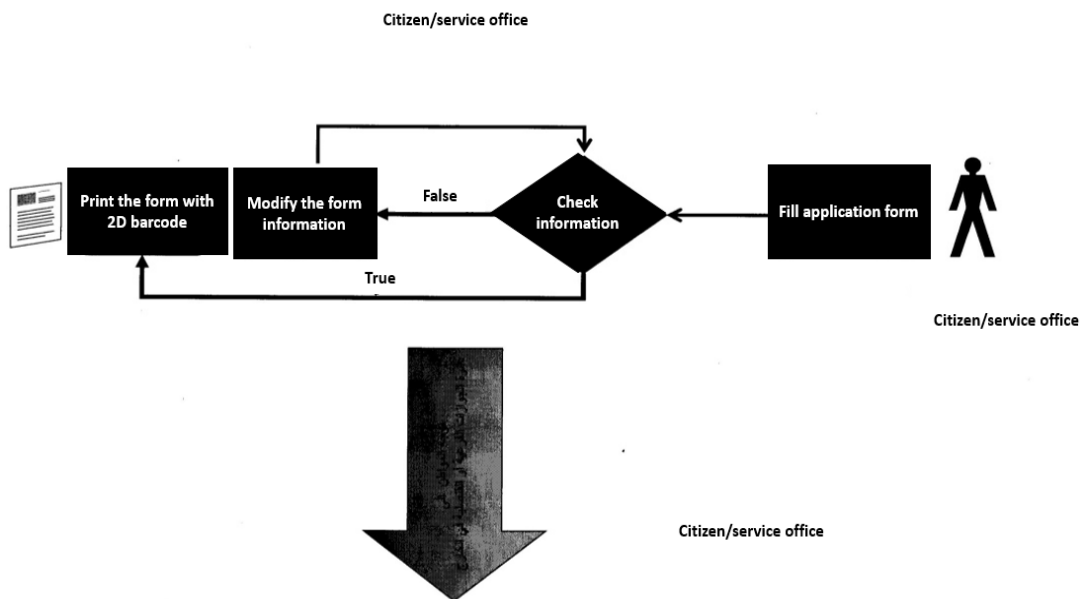
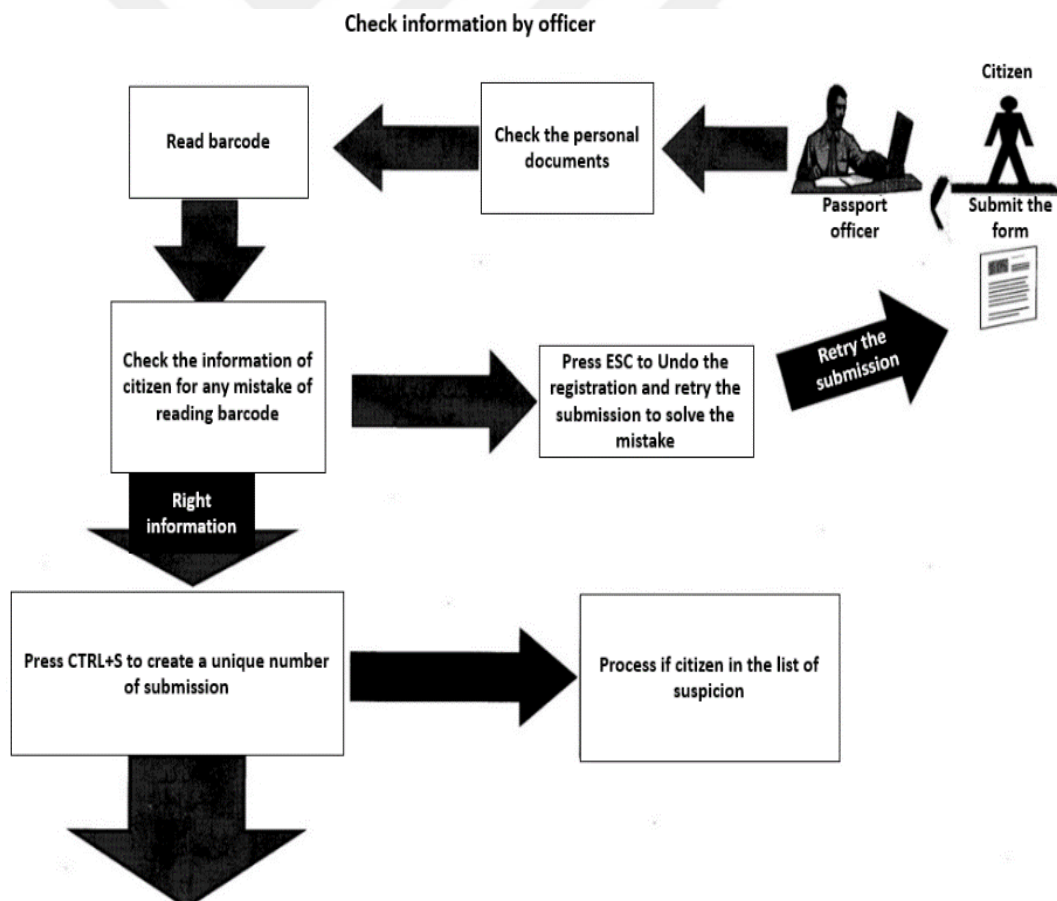


Figure 10: First Step of Submission [3]

The second step of submission is to stand up at passport office. The officer checks all the original documents and forms according to the barcode by using a barcode reader. All information will appear to the passport system, and if everything is as required, the officer clicks save to accept this submission. Some objections can sometimes occur, for example:

- The application form is unclear or the barcode reader does not recognize the barcode, then the citizen must refill the form
- Prohibition of issuing a passport for any reason. Here the passport officer gives the citizen an official paper for the prohibition department in The General Directorate of nationality, which is the main center to ask and verify him about his case.

Figure 11, shows the structure of second step of submission.



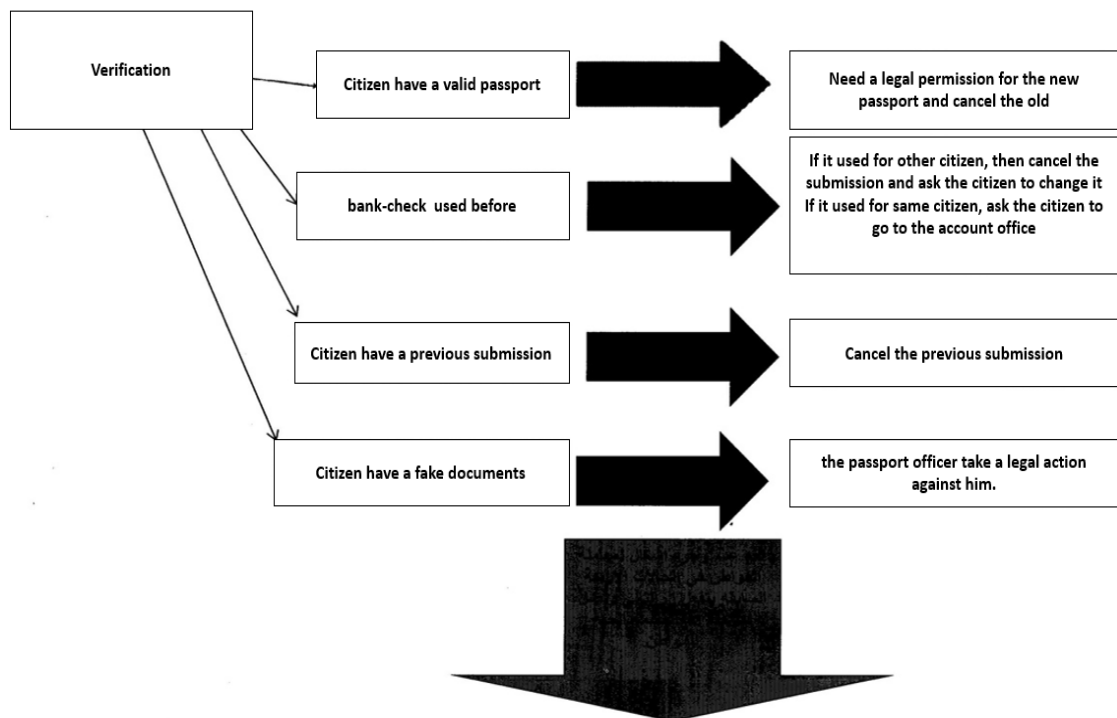
**Figure 11:** Second Step of Submission [3]



**3. Verification step:** after finishing the submission step, the passport officer will start to verify this submission according the following cases:

- The citizen has a valid passport: in this case, the citizen needs a special permission from the legal department of The General Directorate of nationality to cancel the old passport.
- The bank-check was used before: there are two cases here. If the check was used from another person, the passport officer cancels the submission and the citizen will have to retry the new submission (new form and bank-check). Second case, if the bank-check was used twice by the same person, the passport officer asks person to get new check.
- The citizen has an old submission: in this case, the passport officer cancels this submission.
- Citizen documents are fake: in this case, the passport officer take a legal action against him.

Figure 12 bellow shows the verification step.



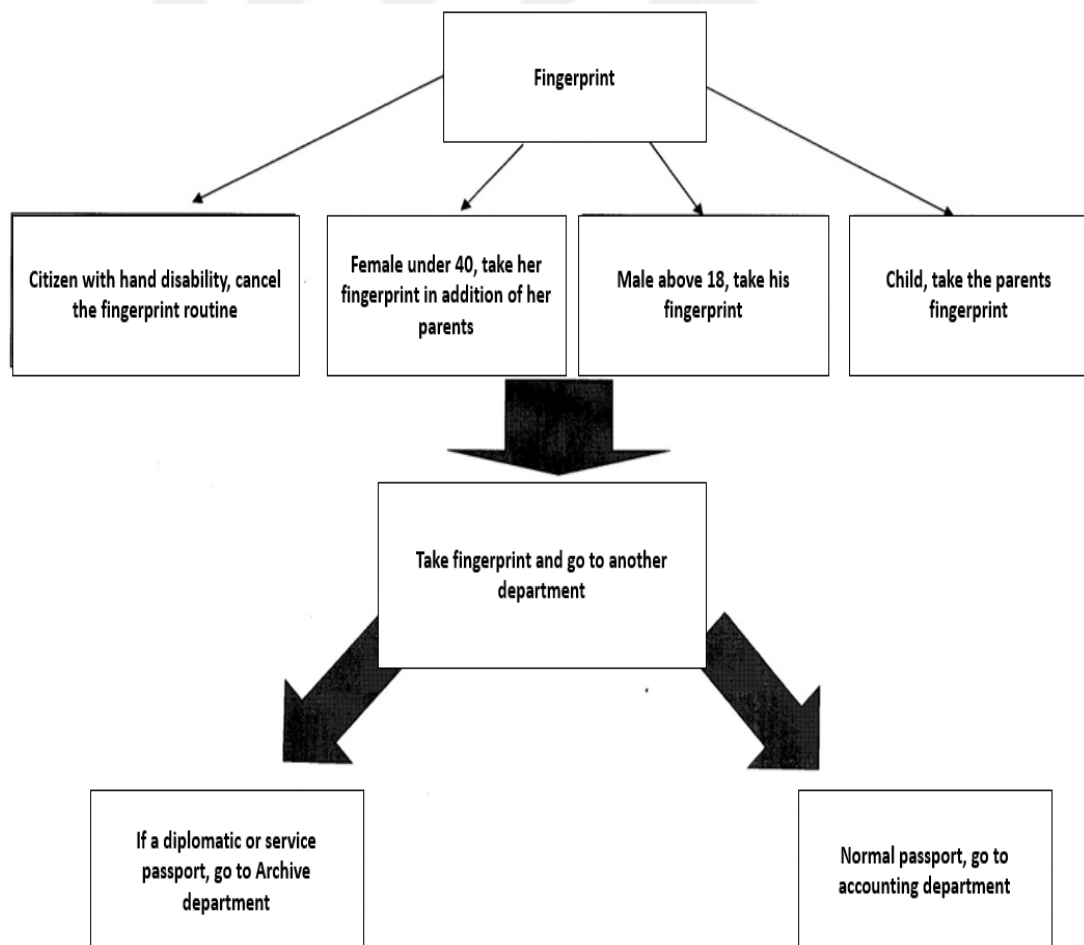
**Figure 12:** Verification Step [3]

**4. Fingerprint step:** now the person must give their fingerprints according to the following cases:

- If the applicant is a child, his parent's fingerprints will be taken.
- If the applicant is male and up of 18, his fingerprints will be taken.
- If the applicant is female and under 40, her and her guardian's fingerprints will be taken.
- If the applicant has a deformity of the fingers, there is an option saying "without fingerprints".

After finishing the fingerprint step, there are two choices: if the applicant is of the diplomatic body, the submission will pass to the archive department, otherwise the submission passes to the accounts step.

Figure 13 bellow shows the fingerprint step.



**Figure 13:** Fingerprint Step [3]

**5. Accounts office:** in this step, the officer checks the checks, and gives the citizen a paper of delivery of the passport in few days.

**6. Delivery step:** after few days, the citizen can get his passport according to accounts paper.

All the above steps are the initial steps. In addition, there are some details not mentioned in this thesis.

## **2.4 Literature Review**

In this section, a brief literature review about the e-government, its application and challenges is presented.

Any review about any government corporation will show that the citizens face many problems because of complex bureaucracy and traditional transactions. All these cause citizen grumbling and dissatisfaction, and embarrass the government, as well as press it to present better services within a short time. Hassan [18] saw that the electronic government consists of sectors, and he categorized them according to their nature as:

- Government-to-government (G2G).
- Government to-business (G2B).
- Government – to- citizen (G2C).
- Government to- employee (G2E).

The author discussed the challenges faced in implementing the electronic government system in Iraq, and he listed the challenges faced as follows: Infrastructure, security, human resources, lack of education, the lack of marketing the computerized devices, bad public policy, digital divide, illiteracy, physical disability, trust, privacy and confidence, security, interoperability, records management, and workforce issues. He found there are 11 million people in Iraq using the internet, and

it's a similar number to those who are present on Facebook, and ask the responsible workers of electronic government to take care about this point to encourage people using electronic government and its applications. Finally he concluded by giving recommendations in order to eliminate these challenges and to increase Iraq's current position in the UN's electronic government ranking.

The interactivity with the government by people and businesses, in addition to the information and the responsible of services presented is known as the front office. Abdulwahida [19], displays the way that the front office works in Iraq electronic government, and shows some of problems and risks faced by online services in Iraq, as well as encouraging people to deal electronically to get their needs and requirements from the government. He saw that the front office operates in a process involving two steps:

- Online services.
- Citizen correlation.

The researcher started to obtain data from various categories of Iraqi people by asking them if they wanted to temporary use a computer or not. He also asked some employees in ministry of science and technology, and ministry of communication to get good outcomes. Then he designed a portal of electronic government to find out what the problems faced by the electronic government front office in Iraq were, and to identify the elements which effected his design. The author concluded that the trust between citizen and government leads to increasing rate of applications by using electronic government, and this protocol helps to increase the trust between citizens and the government.

The geographic information system (GIS) can provide an integrated database system that can be utilized by every electronic government. GIS is not used only for administration of geographical data, but also for more popular means. Jamel [20] saw that it is necessary to use and apply GIS systems in the electronic government projects to enhance the provision of services to the citizens. In addition the GIS does not cost much. The researcher explained that the goal of his study is to apply GIS systems in the healthcare sector of Iraq, such as in Erbil, and that will enhance Iraq's

electronic government applications. He displayed some services that are possible to be given by electronic government to citizens, such as:

- Income taxes.
- Job search services.
- Social security benefits.
- Personal documents (passports / driver's license).
- Car registration.
- Application for building permission.
- Declaration to the police.
- Public libraries.
- Certificates.
- Enrolment in higher education/university.
- Announcement of moving.
- Health related services.

The author listed three steps needed to create an electronic government project in Iraqi healthcare sector using GIS as below:

1. Collecting clean and clear data
2. Recording the data in a central database.
3. Updating the data timely.

Lastly he concluded that the Iraqi electronic government applications can be improved by using GIS systems in many services, such as healthcare, which is considered as one step of electronic government building.

Another use the GIS application in the transport system is Al-Tameemi Haitham [21]. He use Dijkstra algorithm to calculate alternative shortest paths for transfers buses and walking to enhance the transportation system. He used Ankara as a case study with the purpose of enhancing the Iraqi transport system by building roads through the shortest paths from any source to any destination. He explained some problems faced of transport system like:

- How to calculate the shortest path: he used C++ code with GIS application to calculate it.
- Detect the nearest bus stop for source and destination: he used a circle function in MapInfo application to detect it.
- If there is no direct path: they make a connection between paths by using a walking transfer.

Finally he concluded that the Iraqi government can enhance the transport system by building a modern system and use the shortest path algorithm. The problems faced can be solved by building new bus stops, adding new buses with new technologies, building a system to monitoring, and also organizing workshops for drivers and employees to manage this system.

The people, process, technology and resources are the challenges to develop and implement an electronic government in Iraq. Al-Dabbagh [7], focused on Iraqi electronic government project to find the challenges hindering effective implementation of this project. He collected data regarding by conducting interviews with several employees in ministry of science and technology of Iraq, and concluded that the Iraqi e-government has not reached its aims until now because Iraq is still in the first step of government-wide systems development, and its useful to look forward to how government services can be improved with the input of Iraqi citizens.

The fact of the implementation of Iraqi electronic government project, and why it is not completed till now, together with the problems faced and some ways to solve them, were discussed by Ibrahim [22] in his study.

He designed figures that illustrate the Iraqi ministries and explained the relationships between these ministries. He then listed some of these ministries with the services that are given by them such as:

- Ministry of Interior.
- Ministry of Finance.
- Ministry of Trade.
- Ministry of Higher Education.
- Ministry of Education.
- Ministry of Industry.
- Ministry of Human Rights ,
- Ministry of Justice.
- Ministry of Labor and Social Affairs.
- Ministry of Environment.
- Ministry of Electricity.
- Ministry of Communication.
- Ministry of Housing and Construction.
- Ministry of Culture.
- Ministry of Foreign Affairs.
- Ministry of Science and Technology.
- Ministry of Transportation.
- Ministry of Oil.
- Ministry of Health.

- Ministry of Defense.
- Ministry of Migration and Displacement.
- Ministry of Religious Affairs.
- Federal Board of Supreme Audit.
- Central Bank.
- High Electoral Commission.

The author pointed out the mobile government and its services like: (G2G), (G2C), (G2B), and (G2E), then he displayed some of countries experiences with electronic governments such as, Japan, United States of America, Australia, India, and Turkey . He listed the challenges accompanying the Iraqi electronic government application project, and proposed some ways to solves them, such as: Political, infrastructure, security, social, legal and legislative, and readiness. He also saw that the electronic government project process must be applied in multiple steps and needs ongoing reviews to diagnose and avoid problems that occurred in many countries. Finally the author concluded with some results and listed with them recommendations, some of which are listed in this study.

The use of WWW, and the internet are methods used by electronic government to contribute to the progress and prosperity of the countries. Electronic government makes a lot of changes through the region. Most of works and businesses transfer from handwork, to new way of using the technical and communication means of internet in doing businesses. Al-Taie [13] tries to display the hurdles facing the digital government formation and creation in addition to the status of digital government with its major items. He listed the factors below as the most important hurdles and risks that may face the digital government: Inefficient technology, bad internal situation, lack of training, lack of learning and education, lack of expertise and skills, lack of numbers of persons who invest in technical aspects, security difficulties, the absence of efficient ICT systems, the gaps between the professional people and their managers, and poor infrastructure. Lastly he concluded that the Iraq needs a lot of technical infrastructure, as well as enhancement of the internal security



to offer high performance in giving services with digital governments, and he thinks that the outcomes of this research can contribute to the success of electronic government in Iraq.

There are not many studies talking about women issues and their role in professional life through the big revolutions in the economics and the technology that the whole world is being witnessing, in the Arab world in general, and Iraq in particular. Sabah [23], showed that economic, social, technology, and the security problems are making female presence less felt in all practical aspects of life. As a logic result of the ability of the electronic government to increase communication between all citizens with the government, will be better representation of women in both economic and political life as well. ICT leads to enhancement of the country's economy, development of work based on principles of human rights, shorter the time and lesser effort, to put it simply, it touches all aspects of the life.

In the Arab region, ICT is the best and most efficient way for people, particularly women, in facilitating their engagement with all categories of the society, as well as allowing them to freely express their opinions and personalities. The researchers used a survey to show the hypothesis outcomes, and it was clearly indicated that 50% of the world people are women, and they are having a clear impact in all economic aspects and different life activities. But, in spite of the progress that the whole world is witnessing, many of Arab states are looking at the women as primitive and backward creatures, leaving them totally dependent on men at least on the part of technology area. Therefore it is possible to cause a dividing gap when it comes to using the digital technology between men and women. In general, the whole Arab world is witnessing a small presence of women who are using the internet, and as a result, as well as Iraqi women participation in the government or even in electronic government somewhat slim or confused. Finally, the author concluded after specifying most of the hurdles (which include women participating in all institutions of society) facing electronic government that it will be able improve and make the participation of women more efficient and productive for the society.

Iraq suffers from significant lack of experience as well as skills in many aspects, especially on communication and technical sectors, because of lack of awareness, weakness of rules and country laws, and the internal unstable security situation.

Halal [24], believes that the ratio of only 10% of leaders and those who are in top positions in Iraq are having some knowledge of ICT usage and utilities, which causes a big problem for the country. In order to deal with this phenomenon, there must be a lot of efforts, strategies, and work to do to face this big challenge and the great danger in order to use and apply electronic government. Unfortunately in spite of the big progress in technology all over the world, Iraq is still in the first steps as a result of the lack in expertise and skilled professionals. On the other side, many governments in the developed countries support and invest in ICT to guarantee electronic government success. The researcher suggested a strategy which includes, entering and engaging with different categories of employees of state institutions in training programs which contain lessons and training for developing the workers skills in ICT applications and principles. According to estimations, this will take about 3 years to complete, and from the researcher's perspective, it includes the following steps:

- Enroll leaders and decision makers in training courses.
- Raise the skills and knowledge by teaching and educating.
- Push the employees in training courses.

The author concluded with some recommendations for the government to follow in order to build up digital government strategies. Some of them are as follows:

- Allocation of funds to support ICT events.
- Build up exam centers for ICT application.
- Create ICT expert teams with all power to put and develop plans.

There are many and a lot of sectors and variables (changes) impacts and prevents the adoption of government services. Al-Matari et al. [20], focuses on the variables (changes) that lack the use of electronic government services with assistance of the Unified Theory of Acceptance, and Use Technology ( UTAUT ), and study three separated variables such as, effort expected, performance expected, social expected, also study and discuss the service amount of electronic government by collecting data from Iraq. Many studies tried using UTAUT theory, but no one applied it at the

reliance on electronic government especially in Iraq. Therefore, the research relies on that theory for measuring the level of electronic government dependency in Iraqi institutions, and it is based on four forecasts: effort expected, performance expected, social expected, and simplify conditions. The author indicates that UTAUT model is a universal model, and it proves that the electronic government dependency leads to provide more advantages to the citizens in matters such as getting passports, personal documents, driving licenses and q-card. Then he used the survey on G2C services such as social and economic services from different regions in Iraq (south, central, and north), and about 75% of responses were positive. The author concluded that the outcomes of the research will help the Iraqi government to make decisions that encourage dependence on the digital government technology.

As we know the needs and requirements of people are increasing with the great progress that the world is witnessing, in addition to the developments in all areas and aspects of the whole life, and because of that besides all governments' complex routines, as well as a lot of traditional transactions, all that leads to make the citizen feel dissatisfaction and embarrass the government in the same time then make it facing significant pressures, thus force it to move and walk towards the change, and follow new methods in the ways of giving and delivering all services quickly with very short way and time, by taking advantage of the big progress in ICT technology in the whole world witnessing, and which became one of the most important and major factors of all factors of government possibilities and capabilities, as well as its ability to control the relationships between the different categories, including customers. All that has been mentioned above force the government to make the necessary changes and move towards using and applying the digital government technology in order to give better services to the citizen like the rest of the world. Iraqi government is interested in creating and using the electronic government, but it is facing significant hurdles and challenges, the greatest of which is the refusal of the government to adopt changes in accordance to the modern times.

Al-Khafaji et al. [25], discuss the impact of the refusal of the change for electronic Government in Iraq from the perspective of the government employees, and government institutions agencies. The researcher makes several interviews with the highest level of Iraq management to explain the impact of refusing the change on

electronic government, specific in Dhi-Qar, government institutions where electronic government in Iraq first launched, with the help of Italy state. A lot of employees were afraid from applying digital government, but on the contrary they found it as a great threatens for them, because they were scared to lose their jobs. Therefore, the result of this resistance may cause losing the whole new organization. The author indicates that Iraq tries giving services to its citizens in simple and short ways to achieve stable internal situation, and Iraq believes that electronic government still one of the major factors to giving help, and leads to the progress in all life aspects, but there were prevent to apply this technology. This resistance unfortunately causes great failure of digital government forum.

Generally, the education in Iraq is highly centralized so far, in other meaning any decision making will be central, and applicable for all universities. After year 2003, the Iraqi higher education ministry was build more than (10) university (public universities, private universities), all these universities used the electronic government to contact with the central ministry of education, by utilizing an independence and private database for each one, in other meaning there were independency. So that any studies, plans and researches that done in one university, it won't be utilized to the rest of universities, even if this government uses more computerized and networked between its departments by enables the information sharing in one university without the others. Abdulameer [26], tries to create an architecture that uses data warehouse platform to engage the universities' databases in one common warehouse with electronic government technologies.

From the researcher perspective this warehouse will enable information sharing between all government institutions including the universities, and with the university departments itself, in addition to reduce the universities information value. All that means that it provides a benefit in all government organizations and government issues, as well as in solving social problems in that environmental. Though, the information sharing process still limited between all different government organizations and institutions. Thus, the electronic government basic issue is the weakness of information sharing among the employees which causes many challenges and risks in decision making process, more time for development and big difficulties in solving problems with inaccurate results. The author conclude

that the data warehouse keeps the stored data from deletion and update because there is a place of historical information being compared with current information to obtain useful knowledge, also it increases exchange and sharing information, as well as the interaction between the different universities in Iraq, which leads to enhance the university decision making process to choose the right decision for it. Moreover, give great and direct benefit to students. Thus, the best way for the success of electronic government is to increase the sharing of information, knowledge and ideas among all the government organizations and institutions, including universities and institutes.

The government in Iraq is strongly centralized until now. Accordingly, its central decision making in most of the internal and the external issues, then all these decisions are supposed to be binding to all Iraqi organization and institutions, but in the same time these high-central lead to poor and confuse decision making, because these decisions related and relies on general statuses. Therefore, the government should move towards decentralized managements, on other mean shift to decentralized government. Abdulameer [27], suggests establish new electronic government structure relies on decentralized management instead of centralized one, thinks the new structure enables giving better services, as well as increasing the interaction and electronically information exchange. Thus, it helps the government to distribute the responsibilities and make it applicable, then enhance planning, communicate, and decision making process. Iraq has strict centralized system, so all orders coming from Baghdad will Strictly followed without any objection or question, but this situation won't be benefit to civilized country. Therefore, most of Iraqi government employees doesn't have the experience in decision making. This general structure can be used to build new electronic government systems for the Iraqi government, which contribute to enhance the interaction between the government and its citizens. However, any development in these systems will be decentralized also. The researcher conclude establish a general electronic government decentralization structure for the Iraqi government, to replace the established centralized electronic government system, this structure involves the vertical level which provide services to different government levels, and the horizontal level who give services to government units under the same level, and he

add that the Iraqi decentralized government must be connected from top to bottom to solve problems that the local authorities may face.

Briefly, the electronic government enhance public service delivery from the researcher perspective, by using (ICT) technologies such as, the internet. Electronic government execution differs from state to another according to number of challenges for general administrators, and the overall internal situation of those states, as well as the hurdles and risks that may face these states. Cloud computing is the perfect solution for enhancing the electronic government implementation and development. Wahsh, Muntasser A., and Jaspaljeet Singh Dhillon [18], presents a quantitative research including 234 IT experts from Iraqi ministry of science and technology to confirm the significance of the identified factors that impact on the implementation of electronic government using cloud computing, the outcomes indicates to some factors which has a great impact on the adoption of cloud computing for electronic government implementation in Iraq, as in blew: Security, higher management support, IT education, Combinational and Complication. The findings founds that confidence and willingness technological factors have no significant effect on electronic government implementation by cloud computing. The researcher believes this Investigation will help the government's decision makers, in addition to public sectors which intends to take advantage from cloud computing to overcome the challenges faced, and he displays some of these challenges, which involves: infrastructure weakness, political statuses, poor resource management and corruption, in addition to other challenges such as: lack of education, lack of communication, infrastructure, information, and legal situation. However, refusing to change by government employees slows down or destroy the whole electronic government project. The researcher depend on ask three questions, he believes its drive the research as in below:

- Which factor impact on the adoption of electronic government implementation in Iraq?
- Which factors are more important, the technological or non-technological factors?

- What are the challenges that may face electronic government implementation by using cloud computing?

The researcher advise the decision makers with several recommendations:

- Facilitate shifting towards cloud computing by making the processes and procedures very easy.
- Support this project.
- Create educated and expert group who able to manage moving to the cloud computing.

Finally, the author conclude deployed a quantitative approach to improve theoretical model represents the factors which has big impact of cloud computing for electronic government implementation. Hence, the results proved that non-technological factors are more important to treat, and then the technological factors.

Wael Jabbar [19], pointes that's because of Iraq war in 2003 many of Iraq development plans have come to a halt. Therefore the challenges that hinder the progress must first be thoroughly understood, and in the case of Iraq, the identification of individual citizen is in a great need for improvement. The operation and information handling at General directorate of nationality depends on manual and paper-based processes. The manual paper based system includes many disadvantages such as: takes up a lot of physical storage which leads to difficulty in ensuring its security as well as to difficulty information sharing among multiple ministries.

Figure 14 below shows states the situation.



**Figure 14:** Illustrating the Condition of Documentation of the National Identification in Iraq

The author saw that the perfect way forward in the improvement of the Iraq citizen identification card is to implement a single database to reduce forgery and would allow the application to ‘work across multiple Ministries’, and because this poor citizen identification system is a big challenge to successful implementation of electronic government, also he mentioned that Iraq at present, in under the e-government initiative, the proposed identification by the Government Interoperability Framework (GIF) version 0.9 in 17/12/2011 has determined the citizen schema as shown in the following Table 1 [19].

**Table 1:** The Citizen Data Schema [19]

1.	Civil Affairs ID	11.	Address – City
2.	Citizenship Certificate ID	12.	Mother’s Name – 2 parts
3.	Resident Card ID	13.	Gender
4.	Ration Card ID	14.	Birth Date
5.	Name – 3 parts / 4 parts	15.	Place of Birth
6.	Marital Status	16.	Biometrics –Photograph
7.	Name of Spouse	17.	Biometric – Fingerprint
8.	Address – House No	18.	Biometrics – Iris
9.	Address - Street Name	19.	Still Alive
10.	Address - own/Village		



Lastly he conclude that the political, technology, people, and infrastructure are most important challenges faced in developing the system must be addresses to bring Iraq out of this unstable situation brought by the war.

Information and Communication Technologies (ICTs), affect the interaction between citizens, governments and businesses among themselves, which has become one of the most important applications and technologies of peoples and digital economies. Therefore, the main objective of E-government is to make governments able to provide a wide range of public services to citizens in an easy, fast, and also effective manner, as well as helping to increase transparency and legal accountability. Al-Khourri [28] showed the aim of his study is to show the obstacles related to the successful implementation of e-government programs as well as examining the problems that accompany the application of E-government programs. The researcher believes that government policies should enable governments to make fundamental changes in organization and management such as strengthening services, reducing costs, providing training workshops and promoting business, as the public and private sector are always competing and challenging each other, increasing public sector computing improves the balance between these two sectors. In the Arab countries, E-government is the best way to improve the economy and a new way to enhance public confidence, although the issue of confidence-building represents the most important challenges of E-government due to widespread concerns about the potential of the digital network to influence privacy and public security. The E-government program in the United Arab Emirates was launched in 2001, and the first service was provided at the federal level, namely electronic card, which was issued to collect electronic service drawings. Recently the United Arab Emirates announced the implementation of a strategic framework for E-government transformation, and this framework includes the conversion and electronic delivery of all electronic services through various channels. Finally, the researcher concluded that the traditional trust process is currently insufficient and there is a need to develop new capabilities to identify electronic identities. The UAE government has decided to adopt a new strategy to improve identification by providing secure and unique electronic identities to its citizens to achieve security, as well as to eliminate duplication of databases and facilitate the exchange of information between trusted

partners, thus integrating systems across the public and private sectors and increasing the opportunities for government support and E-commerce.

Saeed define e-government as representing a qualitative shift in the way the public sector works in terms of structure, culture and performance of government duties towards the citizen [29]. It uses the great potential of ICT as the main reason for change. The Kingdom of Saudi Arabia has already begun to apply the concept of E-government, which is called "Yesser" in all governmental activities and transactions. The word "Yesser" means in Arabic (make it easy) or (simplifying). Saudi Arabia believes that the simplification of information and communication technologies, and make it easier will lead to increased interaction and communication between Saudi citizens and government institutions as well as between government institutions themselves. The researcher aims from his research to study the activities of E-government in Saudi Arabia, and study the challenges and problems facing the implementation of the government program, to show the benefits obtained from that program. Saudi Arabia began to implement the E-government program in 1998, and since then has started to transform the E-government program, especially between 2005-2008, focusing initially on large cities such as Medina, Riyadh and Makkah. Although the (Yesser) program guarantees all citizens of the Kingdom the enjoyment of various electronic services, there are analyzes indicating that there is slow implementation of the program. Studies indicate that the reasons for the slow adoption of E-government is due to many problems and challenges, most of which are related to the citizen and the government. The researcher mentioned that there are several benefits for E-government, and the main objective is the ability to enable companies, governments, and citizens to access various electronic services 24 hours, in addition to the following: economic benefits of citizens, economic benefits of government agencies, democratic reforms, and transparency. The researcher concluded that the implementation and adoption of E-government requires great cooperation between the public and private sectors and government, in addition to the role of E-government practitioners, and this could lead to the creation of a system that ensures the provision of better government services and improve the relationship between government with the public and private sectors.

Many countries, both developed and developing, use E-government as a powerful driver to speed up operations and provide better services to citizens and organizations, as well as reducing costs and increasing transparency. Al-Mushayt [30] defines E-government as a special type of E-business, where the Internet-based technology is used to provide various services to citizens, companies and governmental organizations in order to raise the economic level of countries, and the researcher used (Meta synthesis) which is a method used to integrate multiple studies to reach a more accurate result on the subject of study or research. The researcher concluded that his study helps to enhance the understanding of electronic governance in Saudi Arabia as well as in improving the current status of E-governance in the Kingdom, and thus improve the services provided, and also included the proposal of the maturity model of E-government with the use of the qualitative meta synthesis approach.

Different governments around the world are competing for the best position in the implementation of E-government, as they are a new way to modernize and provide public sector services better to bring these governments closer to their people, as defined by Al-Khouri [31]. Therefore, all these governments used modern methods to provide services to citizens and try to improve these services in order to gain their confidence. The researcher reviews the E-government in the Arab countries, and he presented a road map consisting of (6) stages (catalogue stage, transaction stage, vertical integration stage, horizontal integration stage, ... etc.), that Arab governments should consider to support the promotion of the public sector and support the emergence of Arab states as a bloc, and a strong revolution in governments that focus on serving the citizen. The researcher concluded that his research included several recommendations that include improving the performance of the public sector in the Arab world by presenting a plan that includes (6) stages to improve the performance of E-governments in the Arab countries and enhance the transformation of business in government offices instead of the blind operation efforts at present. The proposed roadmap helps Arab governments move towards building central systems whose main focus is the Arab citizen.

The main objective of the application of E-governance, is to support and simplify governance to the government, citizens and companies, and in order to achieve this

goal there must be great cooperation between the government, citizens and other stakeholders. Al Athmay points out that E-governance in developing countries aims to increase and improve transparency, accountability [32]. Among people, companies, and government institutions. He added that there are a number of challenges that affect the adoption and implementation of electronic governance in the Arab countries to help policy makers in the Arab countries to better understand the participation of citizens, and companies in simplifying governance through the use of ICT as a means of communication. The most important of these challenges are:

- Lack of access to government information.
- Awareness and marketing of the public sector.
- Lack of coordination and cooperation within Arab governments among themselves.
- There is no clear evaluation of the E-government plan in most Arab countries.
- Employee resistance to change.
- Lack of electronic participation that further enhances transparency.

The researcher believes that most of the concentration of E-government in most Arab countries includes limited interaction on the Internet, so the issue of confidence in the E-government services provided through the Internet is a little because of the instability of the political, and economic systems in the Arab countries, and the lack of laws that contribute to the protection of personal data of citizens and companies, after the researcher conducted several interviews, which showed low confidence between governments and the public, so governments must work closely with citizens and companies to provide the best services and information to them. Finally, the researcher concluded that the promotion of the concept of e-governance in the Arab countries and explained some of the most important challenges facing the implementation of e-governance in those countries, was adopted in his study on two types of data (primary and secondary data). Primary data, came through interviews conducted by the researcher face-to-face with professional expatriates and university

students, as well as the researcher revealed a set of challenges, and problems that impede the implementation of E-governments so that the policy makers in Arab governments can study them and use them to develop E-government programs, as well as to urge people to use E-government services that should be useful, and the need to provide marketing campaigns for citizens to raise awareness about the level of services and benefits provided by E-government.

The successful of e-government based the number of citizen that use it. And there are many factors can infect to use e-government [33]. The trust between government and citizen is the important factor to apply and use e-government application by citizen. So promote the trust is needs before and during the changing to use e-government. For example, in Turkey UTAUT model used to enhanced the trust between government and citizen. They made a survey of 529 from different region in Turkey. Then they concluded that the factors to enhance the trust to use e-government based on the performance expectancy, social influence, facilitating conditions, and trust of internet. This results can be useful to enhance and popularizing the e-government services in the future [34].

## **2.5 Country experience to use e-gov in passport services**

### **2.5.1 Turkey**

Although the internet introduced in turkey in 1993, however turkey doesn't use until 1998. The first services is a Tax office Automation Project (VEDOP) was established and used, and after two years later the Central Civil Registration System (MERNIS) started to work, and in 2001 the European Commission invited Turkey to the e-Europe Action Plan [35]. After that the State Planning Organization (Ministry of Developing now) has a responsibility of policies of e-government, and it made a short term action plan work for 2003 and 2004, this plan include 23 service must establish in cooperation with public enterprises and civil society organizations. In 2005, a second short plan for e-Transformation Turkey 2005 Action Plan was establish with 50 services. On 2006 the National Information Society Strategy putted a plan of an e-government strategy of Turkey between 2006 and 2010, which contain

two concepts Citizen Centered Service Transformation (CCST) and Modernization in Public Administration (MPM) [36]. And according the United Nations E-government survey in 2014, Turkey ranked 71st among 193 according to “E-Government Development Index”. E-Government Development Index has three main components which are Online Service Index (OSI), Telecommunication Infrastructure Index (TII) and Human Capital Index (HCI). And according the last United Nations E-government survey in 2016, we can see Turkey raised his ranker to 68 [37].

### **2.5.2 Japan**

In 1972 Japan was plan to use the information technology, and after two decades developed a basic role of a communication technologies, and by the year 2000 Japan establish the first information law in the world. Therefore, the e-government plan is one of the most interested for them, and they built it to achieve all his goals. So we can see the increasing the number of online applications for e-government that useful to reduce the cost, effort, and time of applications [38]. And according the last United Nations E-government survey in 2016, we can see Japan get the rank 11 [39].

### **2.5.3 Egypt**

in the middle of 1980s, started to provide an information and services through the Information and Decision Support Center to support the IT industry and governmental decision support infrastructure, this center was successful to implement many It projects such as: legislative reform, public sector reform, human resources development, etc. [40]. One year before Second millennium, the ministry of Communications and Information Technology (MoCIT) was founded to create an information community that aim to build an infrastructure of information in all scopes [41]. After that this Ministry create the Egyptian National Communications and Information Technology Plan (NCITP), which in turn was established to make the Egyptian Information Society Initiative (EISI) which involve a seven services as followed [42]:

- E-Readiness: Equal Access for All.

- E-Learning: Nurturing Human Capital.
- E-Government: Government now Delivers.
- E-Business: A New Way of Doing Business.
- E-Health: Increasing Health Services.
- E-Culture: Promoting Egyptian Culture.
- ICT Export Initiative: Industry Development.

E-government in Egypt challenges like these in the developing countries, the capability of all of developing countries challenges are around the barriers in the legal, social, economic, and politics. For example, the legal and regulatory challenges are lack of e-signature Mechanism and security and Privacy; the cultural, Social and economic challenges are e-payment, computer Illiteracy and low Internet penetration rate, and there is no trust about automation actions [43, 44].

#### **2.5.4 Jordan**

In 1980s the National Information System (NIS) in Jordan was established to gather and organize national information. But in the beginning of this millennium, Jordan has seen a rapid revolution of computerize and information technology. The principles and strategies for building an information society in Jordan as follows [45]:

- Developing the information and communication sector.
- Creating applications to use the Information and Communication Technology (ICT), such as: e-learning, e-health, e-Government, ecommerce and e-business.
- Developing human resources skills through improved education and training.
- Providing proper funding.

- Cooperating with other countries.
- Providing universal access to information.
- Developing efficient, secure and reliable information and communication.
- Infrastructure.
- Developing and changing legislation laws related to the new issues of an information society.

The challenges faced to apply e-government in Jordan as follows:

- The gap between communities.
- Lack of national policies about education and science.
- Lack of information technologies applications.
- Lack of information and communication infrastructure.
- Weak of ICT sectors.
- Lack of human resources.



## **CHAPTER III**

### **CHALLENGES FACED IN GETTING AN IRAQI PASSPORT**

As we know, Iraq is facing many unusual situations as compared with the neighboring countries and the rest of the world. In the end of the second millennium, Iraq was in a devastating war with Iran, and after 2003 came the US occupation that changed the regime. All these events contributed to increase challenges in all Iraqi's sectors. One of the most important solutions to these challenges is to apply the e-government system. As the current research shows, the general directorate for nationality in Iraq is facing lots of challenges in applying e-government. The General Directorate for Nationality in Iraq was visited by the author for two reasons: first reason was to study the procedures of obtaining an Iraqi passport (mentioned above in section 2.3), and the second reason was to study the challenges faced by the passport officers who are trying to apply e-government. Those challenges are represented in the following sections under two categories.

#### **3.1 Challenges facing the passports' staff**

According to visit The General Directorate for Nationality in Iraq, the challenges that collect as following:

1. **Weakness of infrastructure:** The Directorate of Passports has big challenges when it comes to infrastructure. For example, they lack physical systems like transportation, buildings, communication, water and electric systems. In addition, they have challenges in technical

systems, such as networking equipment and servers. These force people to share or move the data by using traditional ways.

2. Lack of equipment and resources: passport systems always need equipment and resources that guarantee continuously of the process such as: special printing machines, blank documents and papers, passport checker devices, fingerprint device, etc. In addition, spare parts of hardware are necessary in case of malfunction.
3. Lack of computer specialists: In spite of continuous attempts to select employees with enough experience in computer and IT, until now the directorate of passport needs specialists with high experience in dealing with computers, maintenance, and software applications.
4. Lack of a modern system: although the passport system was designed in 2009, it still does not meet the requirement, so it needs a new system to be upgraded over the time.
5. Lack of alternative system and backup: every system needs an alternative one to use it in emergency case. In addition, backup processes are required to guarantee continuously flow of the data.
6. Unable to open a new terminal of passport services: in emergency and special situations such as wars and Natural disasters, a new terminal of passport services or a mobile system for passports is needed, like the case of northern of Iraq (Mosul) to provide this services for all people.
7. Lack of e-payment transactions: this challenge is related to other scope, and it leads to unable the pay the passport fees electronically.

### **3.2 Challenges facing the Citizens**

A questionnaire form was designed by the researcher and supervisor to collect opinions of citizen who wants to have a passport for addressing

the challenges. This form was distributed to 219 people and include 4 questions:

1. What is your impression about getting the Iraqi passport service?
2. What is the degree of problems that faced to obtain the passport?
3. Do you have a proposal to improve and develop the Iraqi passport services?
4. If you miss one document. What is your opinion about the possible facilities to get the passport?

Figure 15 below shows the questionnaire form that handed to the citizens. Questions 1 and 2 were designed according to a grading system from good to bad, while 3 and 4 were designed to get written opinions from the citizens about possible solutions to the problem.

<b>1</b>	<p>What is your impression about getting the Iraqi passport service?</p> <p>ما هو رأيك وأنطباعك عن خدمة اصدار ومنح الجواز العراقي؟</p>	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>Bad سيء</td> <td>Med. متوسطة</td> <td>Good جيد</td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </table>	Bad سيء	Med. متوسطة	Good جيد	<input type="text"/>	<input type="text"/>	<input type="text"/>
Bad سيء	Med. متوسطة	Good جيد						
<input type="text"/>	<input type="text"/>	<input type="text"/>						
<b>2</b>	<p>What is the degree of problems they faced to obtain the passport?</p> <p>ما حجم المشاكل والمعضلات التي تصاحب عملية الحصول على الجواز؟</p>	<table border="1" style="width: 100%; text-align: center;"> <tr> <td>Big كبيرة</td> <td>Somewhat لوعا ما</td> <td>Without بلا مشاكل</td> </tr> <tr> <td><input type="text"/></td> <td><input type="text"/></td> <td><input type="text"/></td> </tr> </table>	Big كبيرة	Somewhat لوعا ما	Without بلا مشاكل	<input type="text"/>	<input type="text"/>	<input type="text"/>
Big كبيرة	Somewhat لوعا ما	Without بلا مشاكل						
<input type="text"/>	<input type="text"/>	<input type="text"/>						
<b>3</b>	<p>Do you have a proposal to improve and develop the Iraqi passport services?</p> <p>هل لديك مقترح يساهم بتحسين وتطوير خدمات منح الجواز العراقي؟ أذكره</p>							
<b>4</b>	<p>If you miss one document. What is your opinion about the possible facilities to get the passport?</p> <p>في حال عدم تقديم إحدى الوثائق الثبوتية الخاصة بالحصول على الجواز -أو- في حال التعرض لطرف طارئ وغير متوقع وبسببه لم تستطع الذهاب الى مكتب الجوازات في المنطقة . برأيك ماهي الحلول المقترحة لتسهيل عملية حصولك على الجواز؟</p>							

Figure 15: Questionnaire Form for Citizen

### 3.3 Analysis of the Results

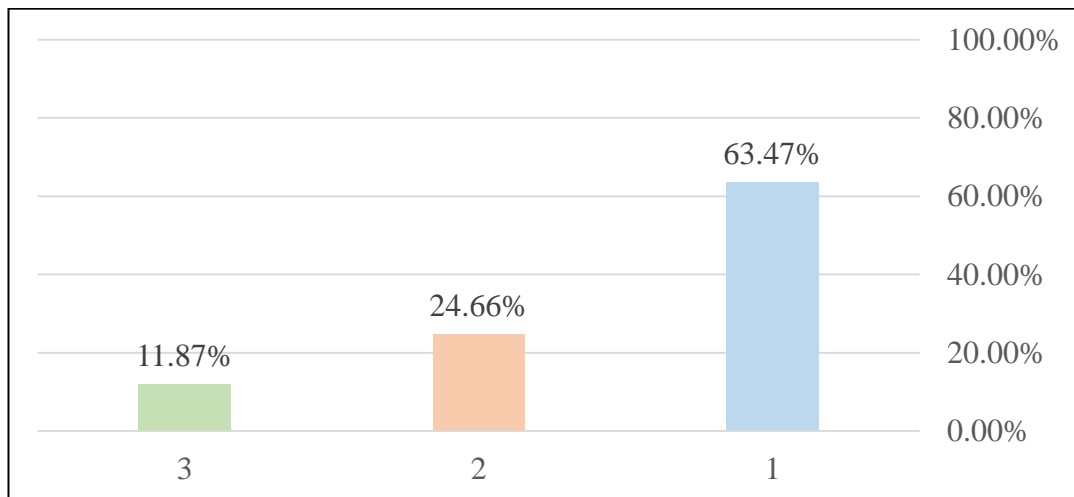
The valid copies of this questionnaire is 219 forms which distributed to a large sample of the employees who work in the Iraqi passports offices and related areas. The tool which used to analyze this questionnaire is Microsoft excel.

- **What is your impression and what do you think about Iraqi passport issuance and granting service?**

This question will evaluate the participants' impression and thoughts about the Iraqi passport issuance and granting service. Table 2 shows answered, evaluated and explained it. Figure 16 explains details and percentages of it.

**Table 2:** The Impression about the Iraqi Passport Issuance and Granting Service

The Type of granting service	No. of answer	Percentage of answer
bad	139	63.47%
medium	54	24.66%
good	26	11.87%
<b>Total of participant</b>	<b>219</b>	<b>100.00%</b>



**Figure 16:** The Impression Percentage about the Iraqi Passport Issuance and Granting Service

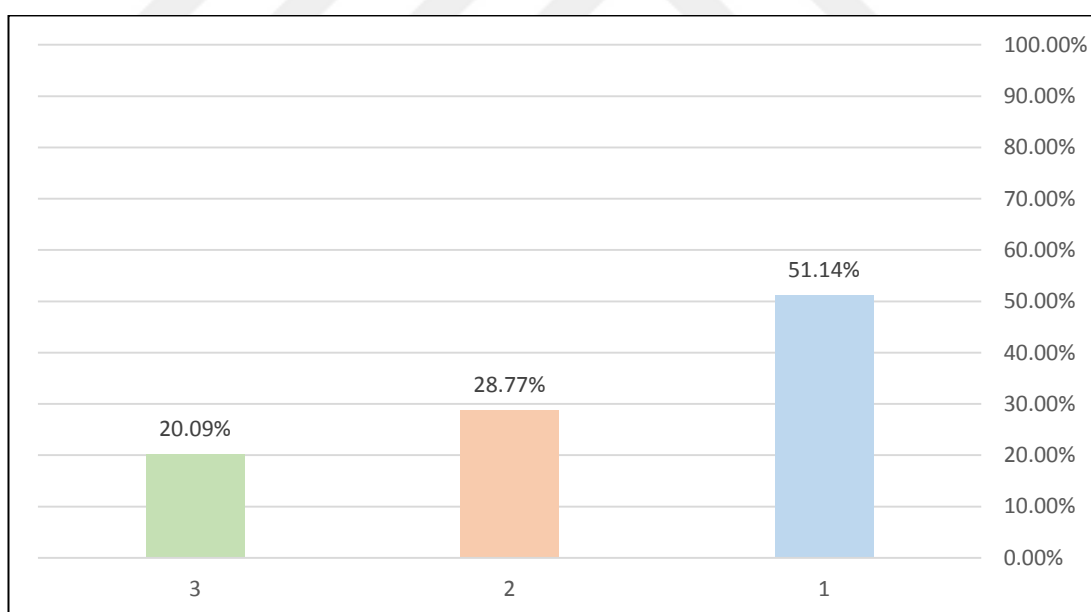
As shown in Table 2 and Figure 16 that a large percentage of the participants stated that the granting services is Bad with percentage of 63.47% and there number is 139 participant.

- **What problems magnitude faced on obtaining the passport?**

This question will evaluate the problems magnitude that the participants face during obtaining the passport. This question has been answered, evaluated and explained in Table 3. Figure 17 explains the detailed answer and the percentages of the answer.

**Table 3:** The Magnitude of Problems Faced by the Participants When Obtain the Passport

The magnitude problem	No. of answer	Percentage of answer
big	112	51.14%
somewhat	63	28.77%
without	44	20.09%
<b>Total of participant</b>	<b>219</b>	<b>100.00%</b>



**Figure 17:** The Percentage of the Problems Volumes Faced by the Participants

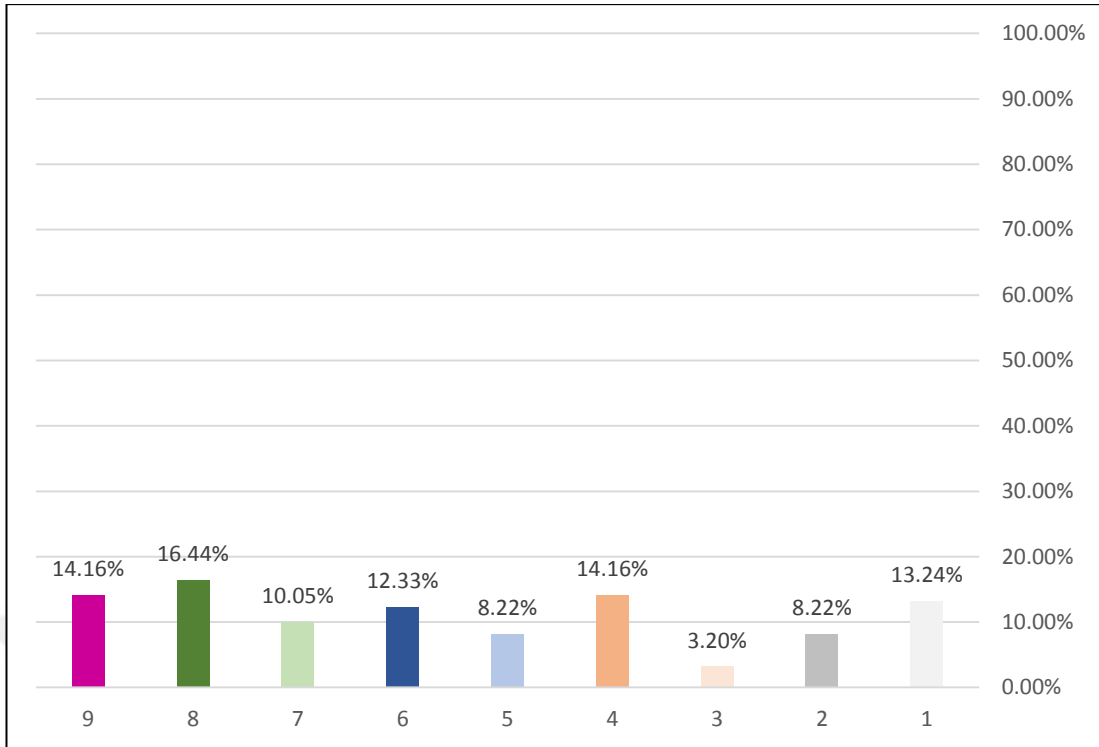
As shown in Table 3 and Figure 17 that the large percentage of the participants stated that they face big problems when obtaining the passport. This big problems is about 51.14% and there number is 139 participant.

- **Do you have a proposal to improve and develop the Iraqi passport granting process?**

This question will evaluate the type of proposals solutions stated by the participants to improve and develop the Iraqi passport granting process. This question has been answered. The answers drawn from the similarity of the participants' opinion will show in Table 4. Figure 18 explains the detailed answer and the percentages of the answer.

**Table 4:** The Proposed Solutions Stated by the Participants to Improve and Develop the Granting of Iraqi Passport

<b>The proposals to improve the Iraqi passport granting process</b>	<b>No. of answers</b>	<b>Percentage of answer</b>
Make a file or electronic record for each citizen and dispense the four documents	29	13.24%
The Dependence on the information of ministry of trade and ministry of planning	18	8.22%
I think it is already good	7	3.20%
Make the submission process centrally	31	14.16%
Serious service without complexity	18	8.22%
I have no suggestion	27	12.33%
The dependence on finger print, eye print or both	22	10.05%
Increase the passport offices in the governorates	36	16.44%
The dependence on the electronic government	31	14.16%
<b>Total of participant</b>	<b>219</b>	<b>100.00%</b>



**Figure 18:** The Percentage of the Proposed Solutions Stated by the Participants

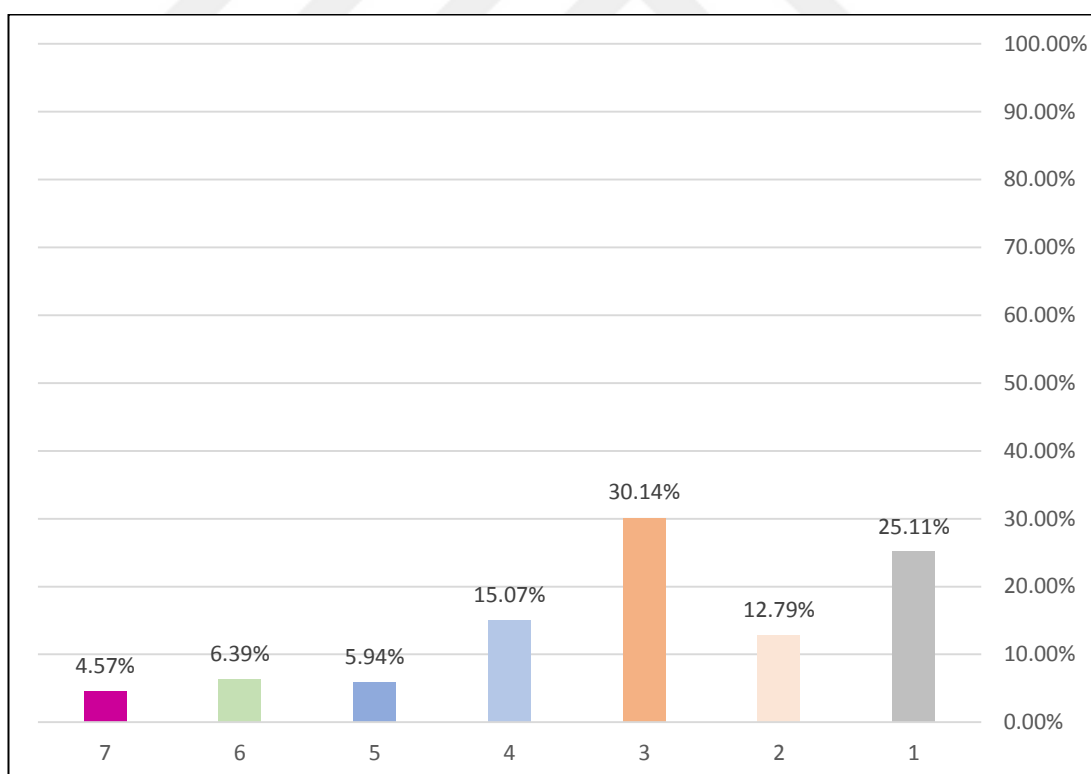
As shown in Table 4 and Figure 18 that there are about 16.44% and there number is 36 participant stated that the solution is to increase the passport offices in Baghdad and the other governorates while there are about 14.16% and there number is 31 participants stated that the solution is to depend on the electronic government.

- **What are the proposed solutions to facilitate the passport obtaining process in case of emergence?**

Question 4 will evaluate the type of proposals solutions stated by the participants to facilitate the Iraqi passport granting process in case of emergence. This question has been answered. The answers drawn from the similarity of the participants' opinion will show in Table 5. Figure 19 explains the detailed answer and the percentages of the answer.

**Table 5:** The Proposed Solutions to Facilitate the Passport Obtaining Process in Case of Emergence

The proposals to improve the Iraqi passport granting process in case of emergence	No. of answers	Percentage of answer
In case of lack of one of the documents, it must be depend on the rest of documents	55	25.11%
Make the business process electronically	28	12.79%
Send by the mobile phone and depend on the electronic print	66	30.14%
Send again by relative person	33	15.07%
The dependence on the electronic print	13	5.94%
Increase the passport offices as possible	14	6.39%
I have no idea	10	4.57%
<b>Total of participant</b>	<b>219</b>	<b>100.00%</b>



**Figure 19:** The Percentage of the Proposed Solutions Stated by the Participants



As shown in Table 5 and Figure 19, there are about 30.14% and there number is 66 participant stated that the solution is to send by the mobile phone and depend on the electronic print while there are about 25.11% and there number is 55 participants stated that the solution in case of the lack of one of the documents is to depend on the rest of the documents.

After collecting the results of questionnaire form, a statistical analysis approach was used to analyze these results and reach the following conclusions:

1. Lack of applying the uniform identification number (ID) in government, in addition to the lack of an integrated electronic system with a central database for Iraqi citizens.
2. The complexity of the procedures to get the Iraqi passport.
3. Adopt 4 personal documents for the citizen as a condition to get passport, despite the fact that each document needs a difficult procedure to be obtained.
4. Lack of trust between government and citizen.
5. The citizens cannot get the passport from any office outside their regions.
6. The lack of adequate passport terminals in all regions.
7. Having similar names is one of the biggest challenges faced by citizens.
8. Lack of awareness on the side of the employees to provide these services.
9. Traditional process leads to loss of the documents.
10. Long duration to get these services.

### **3.4 Results and Recommendation**

As it was shown in literature survey in section 2.4, and case study about getting an Iraqi passport in chapter 3, there are many potential challenges underlying this process. In this chapter, the whole results representing these challenges are summarized, followed by solutions and recommendations to eliminate the obstacles and improve the system.

#### **3.4.1 Results**

The potential challenges faced during the process of getting an Iraqi passport are as following:

1. Lack of fixed procedures required from the citizen to obtain the passport.
2. Lack of trust between government and citizen, where the citizen must submit (4) personal documents as a condition to start applying for a passport.
3. The procedure does not apply the uniform identification number (ID) for citizens, leading in increasing of all potential challenges, especially similar names challenge.
4. No citizen information central database is used, as each ministry or government institution in Iraq has its own database which is different from the databases in other ministries or government institutions.
5. Lack of enough devices and equipment to perform the necessary work, as measured to the volume of work and services to be provided.
6. Lack of computer specialists with expertise, especially in the field of software and maintenance, and as a result there are no backup processes or other alternative systems available for emergency usage.
7. Lack of offices and stations of passport services in all regions, and inability to open new terminals or other outlets for emergency cases. In

addition, compelling the citizens to start applying for a passport from the passport office of his residence only.

8. Weakness of documentation because they depend on taking pictures to those documents.
9. Using traditional payment process.
10. Weakness of awareness of employees who provide these services.

### **3.4.2 Recommendation**

As was shown in the results section and the previous studies of some countries' e-government systems, the following recommendations were drafted for the Iraqi passport services:

1. Determine, organize and clarify the required procedures for the citizen to obtain the Iraqi passport, and officially announce it in the media, social networking sites and official newspapers.
2. Enhancing citizens' trust in official governmental institutions by simplifying the procedures for obtaining various services, including passport services, by requiring only one personal document in addition to the residence document.
3. Create a uniform identification number (ID) for all citizens, to eliminate the challenges of similar names and fake documents.
4. Bringing together the databases of Iraqi government ministries and creating a unified central database for the Iraqi government which is to be used in all government institutions, especially the service ones, and build strong relationships between these institutions to ensure the completion of citizens transactions in real time, and provide the services they need at a lower cost and less time in order to serve them better and gain their confidence.
5. Updating the current passport system or building a new one that adopts the unified ID number of the citizen, be more flexible with one alternative

system, and activate continuous backups to take advantage in the event of an emergency or the interruption of the system. In addition, providing equipment and devices necessary to carry out the work with spare parts and other maintenance requirements.

6. Select specialized staff to work in the Directorate of passports or other service institutions in the field of computers, software and maintenance after testing them in those specialties. In addition, regular workshops should be organized to qualify them to work according to the latest technologies.
7. Increase the number of offices and stations of passport services in all areas, and try to open alternative passport services terminals for use in special situations and emergencies, or built a mobile passport system. In addition, citizens should be able to apply for a passport from any passport office, without relying on his residential area.
8. Addressing the traditional way of saving documents, and using the electronic method for archiving them.
9. Using an electronic payment methods based on the unified identification number (ID) of the citizen instead of the traditional way that leads to the loss of documents as well as time is essential.
10. Increase awareness of employees working in the Passports Directorate and other government service institutions through education, and informing them that their main role and the primary purpose is to serve the citizens and gain their confidence.

## CHAPTER V

### CONCLUSION AND FUTURE WORK

After the data were analyzed and recommendations were proposed as shown in chapter 4, the conclusion to address the main question of this thesis as well as future work that will benefit Iraq in order to improve the e-government services to the people are discussed.

#### 4.1 Conclusion

Collect the challenges faced to get the Iraqi passport are useful to address all potential challenges to get this document. As we shown in chapter 3, there are many challenges faced by citizens who want to get this document. Also In chapter 3, the role of e-government to improving services to the citizens was shown.

The main question of this thesis was:

**What are the challenges faced to get the Iraqi passport, and what is the role of e-government to improve the provision of these services based on the experiences of neighboring countries?**

As we showed, the researcher can address the challenges facing the employees of passports and challenges facing the citizens.

In addition, the researcher concludes the role of e-government to improve these services according to his surveyor of some research papers, neighbors experience's and his recommendation. As well as, it must be mentioned that the researcher used the mean value in statistical analysis approach to address the challenges of the factors that distributed in these sections.

Finally, based on the questionnaire form, the researcher can address the relationship between question one and 3, and between question 2 and 4. This means the effective procedures to submit this documents can useful to ensure the satisfaction of citizens and vice versa.

## **4.2 Future Work**

E-government projects are continuous national projects, as they are important for providing services to citizens as well as to business sectors. Therefore, e-government projects are continuous and depend on the development of society.

There are two important future research projects that we would like to introduce here:

1. The impact of e-government in the developing the society in neighboring countries.
2. Smart e-government project that allow providing pro-active services to citizens and the business sectors.

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**APPENDIX A**  
**CURRICULUM VITAE**

**PERSONAL INFORMATION**

**Surname, Name:** AL-BAIATY, SAMID

**Date and Place of Birth:** 1 July 1971, Baghdad

**Marital Status:** Married

**Phone:** +905357278876

**Email:** samid\_iraqi@yahoo.com

**EDUCATION**

<b>Degree</b>	<b>Institution</b>	<b>Year of Graduation</b>
M.Sc.	Çankaya Univ.	2017
B.Sc.	AL-Mustanseriya Univ.	1993
High School	Baghdad College	1989

**WORK EXPERIENCE**

<b>Year</b>	<b>Place</b>	<b>Enrollment</b>
1992-2003	Ministry of Defence	Officer
2003-until now	Ministry of Interior	Officer

**FOREIGN LANGUAGES**

English

## APENDECIES B

### QUESTIOANIRE FORM

#### FIELD REFERENDUM AND RESEARCH STUDY ABOUT IRAQI PASSPORT GRANTING SERVICE

#### إستفتاء ميداني و دراسة بحثية حول خدمات إصدار و منح الجوازات العراقي

1	What is your impression about getting the Iraqi passport service? ما هو رأيك وأنطباعك عن خدمة اصدار ومنح الجواز العراقي ؟	<table border="1"><thead><tr><th>Bad سيء</th><th>Med متوسط</th><th>Good جيد</th></tr></thead><tbody><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table>	Bad سيء	Med متوسط	Good جيد	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Bad سيء	Med متوسط	Good جيد						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
2	What is the degree of problems they faced to obtain the passport? ما حجم المشاكل والمعضلات التي تصاحب عملية الحصول على الجواز ؟	<table border="1"><thead><tr><th>Big كبيرة</th><th>Somewhat نوعا ما</th><th>Without بلا مشاكل</th></tr></thead><tbody><tr><td><input type="checkbox"/></td><td><input type="checkbox"/></td><td><input type="checkbox"/></td></tr></tbody></table>	Big كبيرة	Somewhat نوعا ما	Without بلا مشاكل	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Big كبيرة	Somewhat نوعا ما	Without بلا مشاكل						
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
3	Do you have a proposal to improve and develop the Iraqi passport services? هل لديك مقترح يساهم بتحسين وتطوير خدمات منح الجواز العراقي؟ اذكره							
4	If you miss one document. What is your opinion about the possible facilities to get the passport? في حال عدم تقديم إحدى الوثائق الثبوتية الخاصة بالحصول على الجواز -أو- في حال التعرض لظرف طارئ وغير متوقع وبسببه لم تستطع الذهاب الى مكتب الجوازات في المنطقة . برأيك ماهي الحلول المقترحة لتسهيل عملية حصولك على الجواز؟							

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