

# Status of E-Government in Iraq and What the Challenges of Development and Implementation

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**Abstract:** After the large developments in various aspects of economic, social, political and cultural life, where it was to increase the awareness of citizens the major role in affecting performance of organizations and institutions, so taken various possible means and employed in order to provide its services with speed, precision, efficiency and effectiveness. Once the network Internet appeared even accelerated many of the countries to benefit from this spider network in the performance of its functions and tasks, which emerged into being what is known as e-government. The concepts of e-government has taken to development as a result of utilization of information and communication technology applications, where the traditional offices dealings became backward in all aspects of life, prompting the governments of developed countries to take advantage of information technology and harnessed in the process of providing services for its citizens. In this paper, researcher addresses the concept and the sectors of e-government then discusses the status of e-government around world and in Iraq, finally studies what are the problems and challenges which facing the development of e-government in Iraq under the current circumstances.

**Keywords:** E-government, Index, Challenges, Iraq

## 1. Introduction

The evolution of information communication technologies has resulted for many of changes to the approach of things are done around the world. These changes are different the spectrum; the path governments supply services to their citizens, the method universities and institutes to do things, the way in which private companies to do business and the way in which they interact with stakeholders in general.

Any visit or dealing with the government agencies is a issue or trouble; it is described by long queues, many paper work, routine and bureaucracy, tight spaces and a lot of disappointments and frustrations. With the increasing requests of citizens and changing regulations and rules, governments are facing pressure and stress to provide at the suitable time and quality. Governments are seeking to tackle and face the request by way rearrangement their methods and finally ICT play and a strong role in the next proposed solution.

ICT duly used, ICT has the chance to give citizens to face development challenges, support the democratic institutions and solve social issues. However, for a any country to take from the benefits of ICT, the technology should be performed and implemented effectively. The conversion to use of ICT to present services through government.

E-governance, that is a radical transformation over the old classic approaches in Public management, ways presenting of government services and information to the citizen using electronic methods. This new model has resulted a jump in the quality of service delivered to the citizens. It has provide time due to present of services over single window; supports transparency; best record and office management; simplification of steps lack corruption; increased attitude; increased job and behaviour working capacity of the dealing stuff [1]. E-government is a project planned by (Al Gore is former U.S. vice president), within his idea of connecting the

citizen to the different departments of government for obtaining all types of government services in an automatic and automated means, as well as to reduce costs, the government working itself depending on information and communication networks, progress of performance, efficiency of implementation and speed of delivery.

E-government program aims to obtain greater effectiveness in government performance, during increasing the level of performance of services for citizens and investors from all types of society efficiently, easily and accurately, to be a new kind of performance of governmental transactions and official governmental.

E-government services or online services may contain such utilities as version petitioning, paying, grant licensing or information query. There are still a variety of levels for online interactive services and implementation quality [2].

### 1.1 Definition of E-Government

E-government such as other modern concepts there are multiple definitions among researchers, some of them can be defined Electronic government as government use of information communication technologies (ICT) to deliver services for citizens and businesses the way to interact and conduct business with government by using various electronic media like Smartphone, pad, computer, fax, smart cards, self-service kiosks, e-mail Internet, and Electronic data interchange [3]. It mean government can organizes itself: its administration, rules, regulations and frameworks specific to implement service delivery and to coordination, communicate and integrate processes within itself.

United Nation's was given Another definition of E-government by its website that: "E-government refers to the use of information and communication technologies (ICT) - such as Wide Area Networks, the Internet, and mobile computing - by government agencies". While the

Organization for Economic Co-Operation and Development (OECD) consider that the concept of Electronic government refers to the use of information and communication technologies (ICT), and especially the Internet, as a way to get better government [4]. Other way to identify concept of E-Government (electronic government, also known as E-government, digital government, online government or in a certain context transformational government) that mean governments employ the information technology (IT) to exchange services, information and other means of government with citizens and businesses [5].

E-government refers to various things according to different levels of people. Some Specialists see e-government from where specific works: using a government portals for send job information to government agencies, saving for social security services during web-site and providing public database to various agencies. Other Specialists refers to e-government in general like automating the services that provided by government for citizens . whereas visions of e-government that vary widely [6]. E-government could help people to connect and receive services from the government (or state and local governments) in 24 hours a day, 7 days a week. Some Specialists of e-government initiatives refer to service delivery could be more suitable, comfortable, reliable, responsible, and less expensive.

Finally, e-government is tactic in the first stages of development in developing countries. Initial ideas of e-government initiatives have mainly goals on saving and improving access to basic services and information. In spite of the fully variations impacts of e-government still not achieved yet now, however the fast development in interests and resources which dedicated to e-government projects may give a chance into fast changes.

## 1.2 Sectors of E-Government

E-government includes a broad area of actions and actors. However, four various sectors can be pointed. These sectors include government-to-government, government-to business, government-to-citizen and government to-employee [6]:

- Government-to-Government (G2G): G2G e-government includes sharing data and doing electronic exchanges between governmental agencies.

In many aspects, this sector considered the backbone for implementation and develop e-government. Some specialists refer to government whether (federal or local) should support and develop their own systems and steps before implement exchanges electronic transactions with their citizens. G2G sector includes conducting electronic exchanges between governmental agencies. That contains all intra- and inter-agencies exchanges transaction in the federal level and local level. There are a points of forces that driving G2G e-government initiatives:

- 1) There are a diversity of regulations and laws that are working to achieve the initiatives of e-government.
- 2- A second power for encouraging the Government to Government (G2G) initiative is attention in increased efficiency.

- 2) One of the positive benefits of ITs which frequently referred by supporters is reducing the cost achieved by raising the transactions' speed , decreasing the personnel basic to accomplish a task, and getting better the consistency of outcomes. As attention to efforts to control the increase of the centralize budget has raise, so has benefit in employing information technology solutions to simplify procedures and reduce costs.

- 3) This point addresses a other motivational force that refer to efficiency benefit, the increasing attention being played an important role to raising the management of government information technology and public resources. The steps and measures that exerted to identify and implement better actions from other entities of the private and public sectors have encouraged in uphold and development of e-government actions. federal and local governments are mostly considered as an application for e-government initiatives because their importance in presenting services to their beneficiaries.

- Government-to-Business (G2B): This sector contains two levels both the sale of surplus government goods to the customers, and the procurement of services and goods. G2B sector has a great deal of attention and importance, due to the rising enthusiasm of the commercial sector and the ability for decreasing costs by enhanced the procurement actions and raised competition.

There are two of forces motivating G2B e-government sector:

- 1) The commercial community. most of industries, the use of electronic ways to implement several activities, such as procurement, sales, and contracting become common.
- 2) The another force motivating benefit in the G2B sector is the increasing request by policy makers for cost reducing and increasing in efficient procurement.. like to the benefit of efficiency which is assisting citizens G2G sector, numbers of G2B initiatives are declared on their possibility to simplify and enhance the consistency of employees tasks.

- Government-to-Citizen (G2C): this sector is designed to helps interaction of citizen with government., Which is what some specialists considered to be the major aim of e-government. The initiatives of this sector seek to do transactions like paying the taxes and invoice, applying for benefits and renewing certifications and licenses, decreasing in the loss time and easier and suitable to implement. In many time, the initiatives seek to improve getting to public information by the use of online advertising tools, like web sites.

Other benefit of G2C initiatives is lessening the effort and time to the government agencies, benefit in G2C sector is driven through a mixture of two factors.

- 1) Desire of citizen, especially through way younger citizens and those usually employing electronic transactions in own live such as banking.
- 2) The losing time: As citizens expect, they have grown requirements that designed on their time, so they may

change the traditional ways to minimize time that spent in queue and management the administrative tasks.

One way to do this tasks by using online transactions. like to G2G and G2B sectors, G2C initiatives are also has force by an benefit in "better government" by enhance efficiency and raise outcomes.

### 1.3 Benefits of E-government

E-Government considered as a factor in reduce huge cost for both governments and citizens, raise transparency and limit corrupt approaches that submit by public service. Public service which delivery to citizens was classified by previous studies into three categories: publishing, interacting, and transacting [5]. E-government can overturn traditional challenges and makes new possibilities for economic development purposes, similar to what was done by companies and institutes in the industrial world. ICTs provides the ability not only to collect, store, process and disseminate massive amount of information at lower cost, however also to network, communicate and interact through the world. The most important benefits of E-Government as mentioned by [7] are:

- 1) Cost limitation for both sides (government, businesses and customers) and raise efficiency.
- 2) Increase the quality of service that present and saving time and effort
- 3) Transparency, accountability and less corruption
- 4) Increase the capacity (time, space and money) and ability of government
- 5) Creation and improvement the development community
- 6) Quality improvement in the decision making process
- 7) Support to using tools of Information Communication Technologies in other society's sectors.

## 2. Status of E-Government

E-government has evolved considerably of the world, where this development associated the amount and efficiency of the services they offer. There are index measures the utility of this service for the beneficiaries of which is called E-government Index. as pointed in the [8] E-Government Index defines as a factor that " identifies and weighs the significance of the predefined conditions that enable a country to achieve a sustainable government environment. This is done by measuring the country's official online presence, evaluating its telecommunications infrastructure and assessing its human development capacity".

The outcome of the E-Government Index show how the country's economic, social and democratic level are develop.. The E-government index is very important due to provides feedback and rethink to governments for look mightily into their far-term strategies and the short-term policies for rapid performance. The results are expected to lead a main role in enhancing the provision of public services and also enabling the governments to react to vast group of challenges [9]. It has been observed that communities and their citizens that have a best participatory connection with their governments, sufficient resources, excellent reach to

information that located in rank well in the global e-government index [10]. There are three major of international e-government indexes that widely used since the first days of e-government until now that are [11]:

- 1) Accenture Index: is a universal management company of consultants in technology, outsourcing and consulting that has made yearly valuations for efforts of e-government for more than 20 countries around world. The mostly are located in Europe, information gathering is made through local Accenture staff in the countries that have its.
- 2) Brown University Index: since 2001, this index is results yearly by checking for wide scope of public web sites.
- 3) The United Nations Department of Economic and Social Affairs (UNDESA): since 2002, it's evaluated the ability of e-government readiness among its member nations.

### 2.1 The E-Government Readiness Index

Among the many indexes which seek to examine the various parts of e-governance around world is the E-Government Readiness Index (ERI) that represents a more specialized way of research within the wide groups of e-governance studies. It has been driven by the need to setting a universal scale to evaluate and examine the readiness of different countries for doing transformation to e-governance [12]. The E-Government Readiness Index seeks to evaluate the e-government readiness for the 192 countries relating to index that including communication infrastructure, website evaluation and human resource grants. it found a lot of countries provide Information and Communication Technologies (ICTs) applications and E-government Initiatives for their citizens to better improve the governance systems and public sector services to upholding sustainable development.

E-Government Readiness Index used four major standards Index to estimate its value in order to assess countries' strength to achieve the requirements that provide by e-government [8], these standards are:

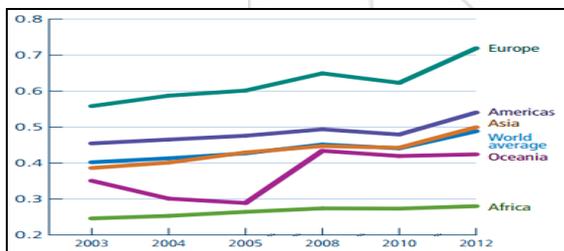
- 1) Online Service Index: It includes four levels 1, 2, 3 and 4 that illustrate the strength of development .
- 2) Telecommunication Infrastructure Index: It consists the number of persons that use internet via 100 inhabitants on area , number of persons that have classical phone lines over 100 inhabitants on area, number of persons that use mobile phone over 100 inhabitants,
- 3) E-Participation : It refers to use ICTs tools to increase and assurance political participation on way which allows citizens to communicate with Politicians and government
- 4) Index and Human Capital Index: It refers to every things that linked humans by government such as the literacy, Physical disability, Trust, Privacy and Confidence, Corruption and lack of Transparency ,Interoperability and etc. practically, E-Government Index represents a weighted average of three indexes, they are: Online Service Index, Telecommunication Infrastructure Index and Index and Human Capital Index.

Each of these groups of indexes is itself a complex measure which can be extracted and analyzed independently.

E-Government Development Index (EGDI) = ( $\frac{1}{3}$  \* online service index) + ( $\frac{1}{3}$  \* telecommunication index) + ( $\frac{1}{3}$  \* human capital index) all of these indexes refer to what and how are the countries readiness in the area of participation of peoples in decision making and provide human resource, provide communication infrastructure and effects of e-government services. As mentions in the survey on E-Government that done by the United Nations in 2012 [13], the growth of e-government averages result that Europe Occupies the first rank with E-Government Readiness Index is 0.7188, Americas comes at second rank with 0.5403, Asia at third rank that has 0.4992, Oceania has 0.4240 at fourth rank and in the end Africa with 0.2780.

Through the last decade, the universal movement for E-government was supported. from the time when 2003 the world have gradually enhanced their e-government development where European countries clearly increasing in global classification specially from 2012 as illustrates in figure bellow. Despite the fact that a number of countries have high position significantly more than others, Asia as a complete progressed at a leaner rate till 2010 – approximately in line with the advances with the global average – and after that go ahead.

With an almost flat curve for the period 2003-2012, e-government offerings in Africa advanced minimally, with the region as a whole still remaining least e-ready. With an roughly smooth curve from 2003 to 2012, the chart of e-government in Africa increased simply, compare with world average. still remaining least e-ready.



**Figure 1:** The growth of e-government in world

related to countries, there are 192 countries in global classification, South Korea is the best world country which has e-government index in (0.9283) , at second rank comes Netherlands with (0.9125), the United Kingdom with (0.8960) at third rank, followed by Denmark (0.8889) at fourth rank, United States with (0.8687) followed by France, Sweden Norway, Finland, Singapore, Canada and other [13]. In accordance with UN survey, these countries seek to reach ideal maturity especially, the transactional phase for e-government and delivery services for citizens, such as South Korea which has boosted its rank in fields transactional e-services, and regarding to the Arab countries the next table illustrates its rank.

**Table 1:** E-government development index

Country	Globally rank	Arab rank	Index value
United Arab Emirates	28	1	0.7344
Bahrain	36	2	0.6946
Qatar	48	3	0.6405
Kuwait	63	4	0.5960
Oman	64	5	0.5944
Lebanon	87	6	0.5139
Jordan	98	7	0.4884
Tunisia	103	8	0.4833
Egypt	107	9	0.4611
Morocco	120	10	0.4209
Syrian Arab Republic	128	11	0.3705
Algeria	132	12	0.3608
Iraq	137	13	0.3409
Sudan	165	14	0.2610
Yemen	167	15	0.2472

## 2.2 The Internet usage and E-Government Readiness Index for Iraq

Before discussing the Iraq classification at the global level there are some facts about the usage of the Internet in Iraq [8],[14] :

- 1)It was only in late 1999 that Internet access became available to the general public through limited Internet centres/cafes.
- 2)In 2000 the number of users was 12,500 with population 26,628,187, as a constitutes less than 0.1% of the total estimated population of Iraq.
- 3)In 2002 the number of users was 25,000 with population 28,095,283, as a constitutes less than 0.1% of the total estimated population of Iraq.
- 4)In 2008 the number of users was 275000 with population 28,221,181, as a constitutes less than 1.0% of the total population of Iraq.
- 5)In 2009 the number of users was 325,000 with population 29,671,605, as a constitutes more than 1.0% of the total estimated population of Iraq.
- 6)In 2010 the number of users was 300,000 with population 28,945,569, as a constitutes approximately 1.1% of the total estimated population of Iraq.
- 7)In 2012 the number of users was jumped to 2,211,860 with population 31,129,225, as a constitutes approximately 7.1% of the total estimated population of Iraq.
- 8)Until 30-Nov-2015 the number of users was 11,000,000 with population 33,309,836, as a constitutes approximately 33.0% of the total estimated population of Iraq with facebook account is 11,000,000.

According to UN report, Iraq located in rank 137 in 2012 has index value is 0.3409 with online service component's value is (0.2876), telecommunication infrastructure component's value is (0.1201) and human capital components value is (0.6151). Iraq occupied the location 151 over world in 2008 with index 0.2690. In 2010 it jumped to 136 with index 0.2996 and that refers to the apparent progress on a global scale. From the first outlook, Iraq advance in this classification, unfortunately the truth is not so; in 2012 it retreated to 137 globally and it occupies the 13 position among the Arab countries ahead of Sudan and Yemen as shown in table above, except that all Arab and regional

countries that surround Iraq, got a progress in rank. This mean that Iraq has not have ability to keep pace with world countries in e-government development in spite of the progress made in the value of the index, this report shows that Iraq has serious steps in the e-government development, however not at the required level. we can see that Iraq is still in late ranks of e-government development and this is a key issue of the researches and what are the challenges that faced E-government development in Iraq.

### 3. Challenges of E-Government

Challenges that have faced or may face implementation of e-government in Iraq can be summarized as follows:

#### 1) lacking to Infrastructure

The officials about implementing E- government have tried to develop a basic infrastructure to take benefit of new technologies and communications tools. But, do not have the infrastructure necessary to deploy E-government services throughout Iraq, where connecting to the Internet in Iraq until now considered expensive, very slow and unreliable because of the weakness in telephone communications and not enough power supply, note that Iraq still depends partly on neighbouring countries to supply electricity (around 6.7 billion kWh) [15] , [8].

#### 2) Law and Public Policy

Adoption of ICTs for government may faces legal or policy barriers. Responsible for legislation shall ensure that laws are updated to recognize electronic transactions and documents. Especially within current circumstances experienced by Iraq of political bickering, difficult to make modern government laws and controls that required to organize the relationship between the public and private sectors. According to there are a few stakeholders who are willing to investing and provide support in technology sectors [15], because of routine and extortion by some parties or influential officials in government.

#### 3) Digital Divide

The term "digital divide" refers to the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to both their opportunities to access (ICTs) and to their use of the Internet for a wide variety of activities [16], that mean, there are different levels among people which have ability to internet access from one side, and from another side those have not have any opportunities to access it. Those people that have not ability to access cannot gain primary computer skills, information inaccessible that can save economic opportunities, and cannot taking the benefits of E-government. In Iraq, there are large numbers of older people (by age over 60 years) do not have the ability to use new technologies because of the Iraq cut off from the external environment and scientific developments and mutations that occurred at the end of the last century.

#### 4) Illiteracy

That means marginalized set who are not afford to use ICTs because these groups are not have computer's literate. during

the information revolution in world, there is a awesome idea, that the world may be split into the "information rich" and the "information poor." E-government has two ways that either get equalizing access to E-government and its services such as the development countries or growing the barriers and challenges.

#### 5) Physical disability

Sometime physical disability (disabled people: those who are blind, deaf or otherwise handicapped) represents an obstacle to access to the Internet and taking benefit from the electronic government.

#### 6) Trust

E-government projects should create a trust in agencies and governments, between agencies, and businesses and Non Governmental Organizations NGOs with people. In Iraq, There some people have skills and knowledge to access and use the technologies means, but they follow the traditional ways.

#### 7) Privacy and Confidence

These concepts refer to one of the most important challenges that faced e-government in Iraq, where some citizens have concern or worry from loss the privacy when use E-government, [17]. Iraqi Government should be responsible of the huge quantities of personal information they own. It must have large amount of data on citizens across everyday transactions. Save the citizens' personal information which stored on databases during efficient use of the information which in them considered a very significant issue.

#### 8) Security

This issue considered one of most key challenges in E-government for the reason that some of developing countries do not have sufficient skill to present it for citizens when apply the e-government, on the contrary we note that developed countries pay great attention to this aspect. Security is expensive process, so should be addressed carefully when design E-government framework, as security failure or breakdown can destroy community trust in E-government.

#### 9) Corruption and lack of Transparency

Corruption and lack of transparency one of issues facing people in developing countries especially in Iraq, where the Government transactions and regulations do not apply to all citizens the same level, but interfere with nepotism and the relations, especially in jobs. Citizens too rarely understand how government decisions are ended. These reasons hinder application E-government, if we know that Iraq is classified among the developed countries of corruption where 12% all Iraqis who had contacts with civil servants gave a bribe, 95% of bribery incidents go unreported [14]. Also a lack of transparency can cover graft that caused by favoritism or bureaucrat.

#### 10) Interoperability

Interoperability is a concept refers to the capability to allow independent systems contact and exchange information with each other. According to [18], Interoperability is defined as "the capability of two or more systems or components to

exchange information and to use the information that has been exchanged". Interoperability is one of critical issues that facing government which need to getting information from multiple source systems. E-government officials in Iraq should plan standard systems and put record formats that work together and through legacy and modern systems sections.

### 11) Records Management

good skills for information management can assist officials to classify and deal problems for more efficient government. An information management framework is basic to build meaning of available data. lacking framework, makers of strategies could not gain useful analysis and in quickly sufficient to response for economic and social developments. In Iraq there is no information management like in development countries because of political interference for the selection of managerial positions.

### 12) Lack education and marketing

Absence of a strong willed to learn new techniques and a lack marketing in what the benefit of E-government for citizens, where, the ratio of persons which have the private computer is around 12% of the population [14], as well as the lack of access on the other cultures considered one of the factors to increase the barriers for implement E-government.

### 13) Workforce issues

Lack a human resources that be structured and managed with E-government goals, where Lack of qualified IT staffs, as many IT skilled people have migrated Iraq to other countries for better living chances. which about 20% of the Iraqi ministries lack the necessary skilled IT staff and therefore, they still proceed with their daily works in the traditional [8], [15].

## 4. Conclusion

This paper addresses as well as the concept of e-government, the rankings of countries, especially Iraq, and what are the issues and challenges that have faced or may face implementation and the development of e-government in Iraq. Also found that the number of people who use the Internet in Iraq about 11 million people and this number is the same for those who have accounts on facebook, this indicates that most who use the Internet will certainly browsing their accounts on facebook or use Internet only for facebook. This point must be taken into consideration by those officials on the government exploit it to promote for e-government and urge people to use their applications. As well as, the officials of the e-government program should increase their activities and provide better online services to the Iraqi people to improve the rank of Iraq in globally classification.

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