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E-Government Challenges and Opportunities:

A Case Study of Jordan

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Abstract

Electronic government (E-Government) is a national project par excellence. Responsibility of the success of this project is the responsibility of all individuals, public, and private sectors. E-Government is a huge automated project uses the Information and Communication Technologies (ICTs) to promote more efficient and effective of government, facilitate more accessible government services, and make government more accountable to citizens.

Through the implementation of E-Government, there are more challenges and difficulties faced by the project, at the same time there are more opportunities that will help us to accelerate the application of E-Government project.

This paper will be introduced some of these challenges and opportunities for developing a successful E-Government in Jordan. So, we distributed one thousand questionnaires to the main sectors such as private, public, and educational sectors to explore the Jordanians needs of E-Government services. Important issues will be discussing in this paper like trust, e-security, and e-payment.

Keywords: *E-Government, Information and Communication Technology (ICT), trust, e-security, e-payment.*

1. Introduction

E-Government can be defined as the ability of different sectors of government to provide government information and services to citizens by electronic means quickly and accurately, with minimum costs and less effort at any time and through a single site on the Internet. E-Government as a huge program seeks to achieve greater efficiency and effectiveness in government performance, through raising the performance of services for beneficiaries [1] such as individuals, institutions, businesses, and societies.

Based on this definition, the government seeks, through the application of the concept of electronic government is to re-invent itself in the performance of its functions effectively to its citizens through simplification of procedures and presented in a clear and transparent through the World Wide Web (WWW). Therefore the concept of E-Government is a radical shift from traditional methods that used before, which the main results is to review of all procedures in accordance with the application of the concept of E-Government.

And as it is known, the application of E-Government is not paved with roses, there are a set of weaknesses represented by challenges, difficulties, and obstacles that must be overcome. At the same time, there is a set of strengths represented by opportunities and other positive points that must be enhanced and built upon, these points what this paper tries to concentrate on.

2. Major Categories of E-Government

Several major categories fit within this broad definition of E-Government: Government-to-Citizens (G2C), Government-to-Business (G2B), Government-to-Government (G2G), Internal Efficiency and Effectiveness (IEE), and Government-to-Employees (G2E) [2].

2.1 G2C

The G2C category includes all of the interactions between a government and its citizens that can take place electronically [3][4]. The basic idea is to enable citizens to interact with the government from their homes. G2C applications enable citizens to ask questions of government agencies and receive answers, pay taxes, receive payments and documents, and so forth. For example, citizens can renew driver's licenses, pay traffic tickets, and make appointments for vehicle emission inspections and driving tests. Governments also can

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disseminate information on the Web, conduct training, helps citizens find employment, and more [2].

2.2 G2B

Governments seek to automate their interactions with businesses, we call this category G2B, and the relationship works two ways: government-to-business and business-to-government [2]. G2B refers to e-commerce in which government sells products to businesses or provides them with services as well as to businesses selling products and services to government [5]. Two key G2B areas are e-procurement and the auctioning of government.

2.3 G2G

The G2G category consists of Electronic Commerce (EC) activities between units of government, including those within one governmental body [2]. Many of these are aimed at improving the effectiveness or the efficiency of the government.

2.4 G2E and IEE

G2E is an E-Government category that includes activities and services between government units and their employees [2]. Governments employ large numbers of people. Therefore, governments are just as interested as private-sector organizations are in electronically providing services and information to their employees. Because employees of state governments often work in a variety of geographic locations, G2E applications may be especially useful in enabling efficient communication. While the internal initiatives provide tools for improving the effectiveness and efficiency of government Operations like E-payroll, E-records management, E-training, Enterprise case management, integrated acquisition, integrated human resources, One-stop recruitment.

3. The goals of E-Government

State and Government seeking through the concept of E-Government to achieve a set of goals and objectives that will benefit for all individuals, institutions and societies, the following highlight some of these objectives [2]:
1- Raise the level of IEE for processes and procedures within the government sector, through:

- Improve the level of efficiency in the use and employment of information technology.
- Construction the government agencies, internally and externally of the electronic transformation.
- Reduce the time spent in the performance of procedures within each department.
- Take advantage of the best experiences (Best Practices) in the performance of the business.
- Accuracy in the completion of various functions.
- Facilitate the electronic payment system.

2- Reduce the costs of category G2G, through:
- Improvement and development and engineering of business processes.
- Construction the government agencies, internally and externally of the electronic transformations.
- Facilitate the flow of business and entry into high transparency and easy.
- Reduce the procedures and avoid duplicate information within the chain business seminars.
- Promote coordination and cooperation between state institutions and establish the concept of integration.
- Encourage the exchange of automated data.

3- Raise the level of satisfaction of the beneficiary for services provided to them G2C, through:
- Facilitate the use of government services.
- Reduce the time it takes to get the beneficiary on the service they need.
- Provide accurate data in a timely manner as needed.
- Strengthen the confidence of citizens in dealing with E-Government through the assured him in privacy, confidentiality, security, and e-payment issues.

4- Support economic development programs G2B, through:
- Facilitate transactions between sectors of government and business sectors.
- Reduce the costs of coordination and continuous monitoring.
- Increase career opportunities.
- Increase the profitability of the revenue transactions with government business sectors.
- Encourage the building of infrastructures and the dissemination

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of technical information for high efficiency.

- Open new opportunities for private sector investment information.
- Achieve a high degree of integration between government and private sectors to serve the national economy.
- Provide some services of interest to a large segment of the public and investors on the Internet or on the phone line or mobile phone.
- Provide accurate and updated information to decision makers and investors.

4. The Statement Problem

One of the major categories of E-Government is Government-to-Citizens. The G2C category includes all of the interactions between a government and its citizens that can take place electronically [3][4].

We believe that the application of E-Government will grow and prosper if it has achieved the requirements of users, also, the services are provided through E-Government must be consistent with the needs of citizens. If the citizens achieve their needs, the level of satisfaction for E-Government will increase.

To find out the opinions of citizens about the E-Government, we have distributed a 1000 questionnaire to target audiences, in order to determine their views and sense on many issues.

Where they were asked a series of questions related to the use of government, questions about the extent of their knowledge of the E-Government, and what are the services provided by them, and whether there visit the website of E-Government or not, have you obtained any of the services provided electronically, as was addressed to the question about the extent trust in dealing with them, and also the questions of their opinion about safety, security, funding, and confidentiality, and many other questions were asked. The questionnaire also presents a list of preferred services to the citizens.

5. Literature Review

E-Government is concerned with not only providing public services but also value added information to the citizens. It also enables government organizations to work together efficiently and effectively.

E-Government means the services available to the citizens electronically. It may provide opportunity to citizen to interact with the government for the services that they required from government. ICT plays an important role to providing the easy services by the government to the citizens. The government should treat their citizen as consumers or customers and provide services though internet and networks.

5.1 Pakistan

The main challenges facing the application of E-Government in Pakistan were as follows [6]:

- ICT Infrastructure: We are lacking basic ICT infrastructure. People are unaware of use of technology. Many companies are lacking basic technology. Inter organization communication is yet in discussion phase. No concept of online culture.
- Low ICT Literacy: IT literacy is very poor. People do not believe in technology. Many companies have computer and they claim that they are using information technology. They don't have the concept, what technology is?
- Professional workforce: We have outclass and strong business and legal professionals, we lack mix of technology based business and legal professional. Old guys hesitate to get training in ICT. It's a big challenge for us.
- Resistance Handling: Hierarchical structure is disturbed while using eservices. Everyone is depending on IS department. Sometime, they are targeting IS people.
- Collaboration: Collaboration is necessary in our business. We need information from different departments. We are efficient on our side, we are lacking cooperation.
- Top Leadership Commitment: E-services initiative is taken by organization themselves, government supports this project in financial terms. Some time we are lacking finance.

5.2 India

While in India the main challenges facing the application of E-Government were as follows [7]:

- Making a policy choice in favor of computerization to overcome radically the even if it requires huge investments for the purchase of hardware and software.

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- Serious efforts would be required to mobilize resources for this arduous job. One way to deal with the situation could be that governments enter into arrangements for leasing of computers.
- Establishing complete connectivity between various ministries and departments so that transfer of files and papers could be done through Internet thereby choosing efficacious speed as an alternative to manual labor.
- Supplying information to the public in a language that they understand and are comfortable with, and generally, it is the local language.
- Changing the mindset of the government employees who are used to working only in the manual mode.
- Making cyber laws available to the public as early as possible so that the IT systems and information documents stored in the systems has the same legal validity as the documents stored today on paper.
  Build supporting infrastructures of power and all weather surface transport system to bridge the digital divide between the rural and urban India.

6. Overview of Jordan E-Government Initiative

In Jordan, E- Government is a National Program initiated by His Majesty King Abdullah II. The purpose of this program is to enhance the performance of the traditional government in terms of services provision, efficiency, accuracy, time and cost effectiveness, transparency, high level of customer satisfaction, cross- Governmental integration, and much more of others to the Government [8]. E-Government will drive the Government transformation and will use communications and Information and Communications Technology to achieve the ultimate goals.
The Ministry of Information and Communications Technology (MoICT) was assigned to take the lead in coordinating efforts of implementing the E-Government Program, facilitating and providing support whenever needed to Government entities participating in the E-Government Program implementation. MoICT has established a Program Management Office (PMO) and staffed it with subject matter experts in the areas of project management, change management, technical management

and support services, risk management, quality management and other competencies, to enable MoICT achieve the required success in its mission while implementing the E-Government Program.

7. Research Methodology

We defined s case study as an empirical inquiry that investigates a contemporary phenomenon within its real life context [9], it may be used to discover the study [10]. So, we are using the questionnaire approach as a methodology technique to elicit the information from citizens. A quick informal questionnaire distributed is a low-cost and low-effort way to get some sense of what the citizens think. The empirical study that generates statistically significant results or engages carefully selected focus groups tells the reality of what the public thinks. It also costs a lot more, and all methods are limited by the way the questions are constructed and asked. All these approaches are worth considering.
For this purpose we distributed a 1000 questionnaire to public, private, and students sectors, face-to-face. The study relied on five hypotheses; these hypotheses formed the heart of study. Based on that, the questions have been formulated for the questionnaire to be consistent with the hypotheses study.
This input from citizens was gathered in several ways. We asked a few open-ended questions related to the use of government services and, what services government should provide electronically? Including their opinions about quality of services, confidence in results, funding for E-Government, security of information, and whether they would like to find these services.
The questionnaire produced three classes of citizens, the first type, a supporter of the application of E-Government, so their answers indicate they have heard and know about E-Government, have expressed their desire for the completion of their transactions through E-Government, the second type is opposed to the application of E-Government, so they see this project the burden on the state, it is also unreliable, unsafe, and not essential, while the third type is neutral for the application of E-Government, this kind stands on the fence, does not have a problem to completion his transactions manually, at the same time does not mind to completed electronically.
A questionnaire presented a list of services and asked the citizens to pick the services they would be most willing to use. Some questions focused on how the citizen would like to access

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the government services and information, and asked what people thought about the benefits, which the government gains from implementing E-Government. Other questions asked if they are willing to use these services in future and the reason why if not?

8. Challenges and Opportunities for E-Government in Jordan

Governments must make a serious efforts to complete the construction of E-Government project, the government overcome all challenges and at the same time enhancing the strengths points, our study found a set of challenges and opportunities, the results were are as follow:

1. First hypothesis: the readiness of public sector employees and citizens to deal with E-Government in terms of age and qualification.

Table1 and Table2 have shown the results that obtained from the questionnaire:

Table1: Age Factor

Age	Sector	Ratio
31-45	Public	86%
18-30	Private	40%
31-45	Private	43%
18-30	Student	77%

Table2: Bachelor Degree

Degree	Sector	Ratio
Bachelor	Public	71%
Bachelor	Private	43%
Bachelor	Student	98%

From the results we have obtained, as shown in Table1 and Table2 the youth category is the most prominent, so that the largest percentage are limited to those aged between 31-45.

The survey results are very encouraging for the application of E-Government in terms of age and qualification. For example, 86% of public sector employees are limited to the ages between 31-45, who are also holders of Bachelor's with 71% see Table1 and Table2. In addition to that, the governmental sector is the biggest sector, where the employees depend on computers in their operational work.

Also considered the results of the private sector encouraging results and without doubt they will contribute to the implementation of E-Government. The study shows that, 83% of the age group between 18-45. This category holds a Bachelor's degree by 43%, while the rest of them hold a diploma or high school.

Community college is a community of young people, so that combines between academic qualification and the appropriate age group.

This is evident by the results we have obtained, see Table1 and Table2. It is hoped this age group in achieving the desired success in the application of E-Government.

The result we have obtained indicates that public sector employees, private sector, and educational sector are ready and will contribute significantly to success the E-Government project. This hypothesis is very important opportunity that must be enhanced and built upon.

2. Second hypotheses: citizens Express their desire of obtains their services through E-Government in conjunction with not feeling full trust.

Jordanian citizens show from this study, strong tendency in using E-Government for getting information and services rather than conducting transactions manually. This means that policy makers and information technology providers is facing the challenge how to make citizens trust their E-Government service at the level where it completes the traditional services.

From the viewpoint of citizens, the lack of trust in E-Government is due to the following three reasons:

(1) 22.3% of them claim the lack of security of information.

(2) 20.6% of them claim the fear of paying for services.

(3) 19% of them claim the lack of confidentiality.

Again this request from the policy makers and information technology providers to develop systems that meet citizen's expectations for trustworthy, secure E-Government, free E-payment, and more confidential.

These issues trust, security, paying, and confidential are major challenges that facing E-Government, therefore, decision makers must take these issues into account and develop appropriate solutions

3. Third hypotheses: Citizens believed that the E-Government will have a set of benefits.

Jordanian citizens think that the main benefits (ordered according to the citizen's choice) of E-Government is to:

   a. Improve the efficiency and effectiveness of government functions.
   b. Speed retrieving of information for futures plans.
   c. Increase the government revenue through new taxes.
   d. Use the new revolutionary opportunities of new

communications technology in the world.

e. Make government more transparent to citizens.

f. Encourage implementing new technologies for promotion of Jordanians.

g. Save time and efforts of citizens.

h. Reduce the pressure of the employee of governmental departments.

The government, private, and students sectors use computers in its operations with 45%, 41% and 50% respectively. Therefore employees should have the skills and experiences in using new technologies, which speed the transformation process in Jordan.

4. Fourth Hypotheses: employees and citizens using the Internet at work to complete their transactions.

As the results obtained from the questionnaire, the public, and private sector do not using the internet in their work, This is clear from the ratios that we have obtained, the ratio of public sector 43% while the ratio of private sector 54%, this high ratio because the possible explanation for the low usage for public sector is the limitation number of the governmental web sites, in addition to the lack of marketing and awareness strategies of the existing web sites. While the students sector have a high ratio of using the internet in there studying, 80% of them using internet, this is because the student using the Internet in an e-learning tool, to help them in their study.

This hypothesis makes a challenge to the E-Government team. The policy makers and other related staff must raise the level of awareness of E-Government project.

5. Fifth Hypotheses: Citizens know about the E-Government and they want to deal with it.

From our obtained data we found that 55% of citizens in Jordan do not know about the Jordanian E-Government project. This means that the government should improve the marketing strategies of the E-Government initiative, and the policy maker must develop awareness programs to achieve all citizens.

41% of Jordanians expressed their strong interest in using E-Government services for both information and transactions. This means that the Jordanians have the willing to adopt the E-Government.

Awareness is a challenge that facing the E-Government. The team of E-Government must develop and improve their programs to achieve all citizens.

9. Conclusions

To achieve successful implementation of E-Government in Jordan it should be taken into account some important issues like trust, security, payment, privacy, and confidential. Also, there are some obstacles facing the application of E-Government, most notably the literacy of electronic, digital divide, and poor communications infrastructure. Policy makers must develop and improve suitable systems that able to solve the following obstacles:

1. Trust, the E-Government project must increase the level of trust among the citizens.

2. Confidential, the E-Government project must Increase the level of confidence in dealing with government.

3. Security, the E-Government project must increase the level of security and confidentiality.

4. E-payment, the E-Government project must encourage citizens to use E-payment.

5. Employee skills, Develop appropriate programs for training and rehabilitation of public sector employees.

6. Awareness, the E-Government project must increase the level of awareness for all citizens about E-Government project, through development appropriate programs.

It's important to identify priorities and provide the necessary financial resources and obtain the support of top management and the provision of infrastructure for communications and information to ensure the right of all segments of society to use and provide minimum services to all areas and to review the prices of those services to be accessible to everyone. We hope after identifying these obstacles and challenges to help decision-makers to work to overcome and address all these challenges.

10. Future Works

In order to achieve complete and success e-Government, the government must solve all problems, particularly creating a new cultural concerned with the Informatics and the extent of the benefits gained from their use, and to

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achieve this it must be work of educational programs that would promote the reliability of using the technology, and at the same time to reduce the margin of fear among the citizens in financial transactions via the Internet.

Must also work to reassure the citizens in dealing with e-government, especially e-payment and maintain the privacy of the citizen. In case of verification of these issues the level of safety and security will rise and will increase customer numbers of E-Government. Research is still open for researchers to solve all these issues.

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