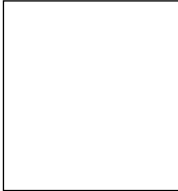


E-Government in Islamic Republic of Iran: Identifying the Obstacles of Implementing and Strategies for Improving E-Government



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Abstract

To improving efficiency and transparency of government services, government authorities may increase the frequency of interaction between citizens and government as well as improving the quality of the government services and trust. Electronic government (E-Government) as the solution in definition is the delivery of government services to citizens, businesses, and government organizations through internet, web based applications, and Information and Communication Technologies (ICTs). Like the developing and developed countries, Iran also has been processing the various aspects of ICT, IT, and e-Government. But, in order to implement and improve e-Government; Iran has faced with some obstacles. Therefore, the purpose of this paper is to study and identify the obstacles of implementing and improving e-Government in Iran. In this paper, based on a comprehensive review of the relevant literature, various obstacles were identified. Therefore, as a result, e-Government of Iran is said to be in the transactional stage of the United Nations' e-Government maturity stages. In addition, establishing more reliable, efficient, and accurate e-Government initiatives, plans, guidelines, and strategies will extremely enhance e-Government maturity status of Iran. On the other hand, the needs of the citizens should always be under consideration when implementing and improving e-Government services; because citizens are considered to be at the core of every e-Government services and the responsibilities of the authorities.

Keywords: ICT, E-Government of Iran, Obstacles, M-Government, E-Payment

1. Introduction

One of the basic policies for democratic governance around the globe is to decrease the administrative size and costs and to increase the functionality of government body. Based on this fact, the target point for governments can be considered as proper use of information and communication technology in public administrations combined with an organizational change and new skills in order to improve public services and strengthen support to public policies. This will lead us to e-Government concept which is considered as a proper basis of good and efficient governance, keeping in mind that e-Government is more about government than about electronics (Sarpoulaki et al. 2008). E-Government has attracted the attention of politicians, scientists, and statesmen of the world in the recent years and hence has been extensively approached by governments in many countries, many of whom have devoted considerable efforts and resources for its implementation (Sharifi and Zarei 2004).

During recent years government of Iran is moving its governmental information and activities into the online world. Issues such as those which are associated with information privacy – the ability for individuals who are the subjects of information to exercise some control over what information is collected, how it is being used, with whom it is being

shared, and to whom it is being disclosed. Protecting information privacy in the context of e-Government is critical to achieve the potential benefits promised by e-Government. The traditional model of government of Iran is not working any longer (Sarpoulaki et al. 2008). In fact, Iranian leaders have started to realize the vital necessity of modernization in order to make improvements and strengthen and sustain their position in the global competition (Ahmadi et al. 2007). New business models are needed to replace the traditional ones, experiences of which could be traced in other e-Based technologies such as e-Government (Huggins 1997).

Moreover, government and citizens' private information and data are supposed to be secured and the quality of the government services given to citizen should be increased. For this, ICT is playing a critical role in the daily lives of citizens and functionalities of government in enhancing and revolutionizing the government services to government and citizens in doing businesses. ICT applications are made to promise to enhance the delivery of public goods and services to citizens not only by improving processes and management skills and style, but also by redefining and reforming the traditional style and concepts of citizenship and democracy (Sharifi and Zarei 2004, Nikkhahan et al. 2009).

Nowadays, governments all over the world are embracing e-Government features to improve the public services and governmental tasks. Almost all countries and global and local governments are placing their critical information online and automating their processes so that the information would be fully available and reachable to citizens and governments (Chen 2002). Also Iran as a developing country is now encouraging its government organizations to get more interaction with citizens and governments to improve businesses and citizen focus needs.

Therefore, this research paper aims to answer to the following research question:

What are the obstacles of implementing and strategies for improving e-Government in Iran?

Through a comprehensive review of the relevant literatures, and using both the qualitative and quantitative research approach I have answered to the research question of this paper. To get the theoretic connection I have also studied other literatures in the subject field.

2. E-Government Maturity Stages of United Nations

The terms "maturity" and "immaturity" are often used to characterize the state of a given level in a continuous process (Gottschalk 2009). When it comes to e-Government, it is the level of sophistication in which countries are using the Internet to deliver quality information, varies considerably (Ghasemzadeh 2001 and Safari 2002).

United Nations (UN) has proposed five maturity stages when implementing e-Government (Ghasemzadeh 2001 and Safari 2002). Here, I will briefly discuss these five stages.

Emerging, enhanced, interactive, transactional, and seamless are the five e-Government maturity stages of UN. E-Government is said to be in the emerging stage when the amount of information is very limited, basic, and static and users can do very basic interaction with government through these websites (Ghasemzadeh 2001 and Safari 2002). In the second stage government increases the number of government official sites, therefore, information are now becoming more dynamic and information is updated with greater regularity (Ghasemzadeh 2001 and Safari 2002). In the third stage, service users can then download forms, contact with authorities and officials, and make request for an appointments all

through these government sites. E-Government moves from interactive to transactional stage when the service users can deal with payment issues. The last stage is when e-Government is considered to be in the seamless stage. This is when a total and complete integration of e-Government functions and services are fully available to the users.

3. Obstacles of implementing and Strategies for Improving E-Government

Through a comprehensive study of the relevant literatures, I have found that government authorities of Iran realized many obstacles toward implementing and improving e-Government in Iran. Nine different categories are mentioned in table below. It is however important to mention strategies that have to be defined in order to solve all the existing obstacles. Obstacles that have been solved are shown by having “(Over)” at the end of the item.

Obstacles Categories	Obstacles	Strategies
IT infrastructure	<p>Low internet connection, and no fast and easy accessibility to internet (Fallahi 2007)</p> <p>Insufficient PCs of citizen and government organizations. Still in use (Sarpoulaki et al. 2008)</p> <p>Limited and sometimes unavailability of government websites (Over) (Ashrafologhalaiea 2005)</p> <p>Limited accessibility of citizen to internet networks in which result decrease the users' motivation to expand the browsing experience (Fallahi 2007)</p> <p>Lack of efficient banking system for having e-Payment (Sarpoulaki et al. 2008)</p> <p>Telecommunication infrastructure for connecting schools and universities to the national internet and network is not satisfactory (Sarpoulaki et al. 2008, Fallahi 2007)</p>	<p>More IT activities in IT department of the organizations (Ahmadi et al. 2007)</p> <p>More accessibility and availability of servicing citizen and businesses through government and company websites (Fallahi 2007, Sadeghnezhad 2008)</p> <p>Access to more expert IS analyst, IT, and network employees (Sarpoulaki et al. 2008, Kumar et al. 2007)</p> <p>More and easier website availability to business promotion (Kumar et al. 2007)</p> <p>Increasing the quality of internet connection, and connectivity to network (Ahmadi et al. 2007)</p> <p>Increase the sufficiency level of the personal computers (Ahmadi et al. 2007)</p> <p>Improve the efficiency of banking system for e-Payment (Ahmadi et al. 2007)</p>
Lack of IT skills, education, and knowledge	<p>Shortage of computer literacy among the citizen and government employees (Fallahi 2007)</p> <p>Lack of IT and ICT education centers for citizen and government employees (Over) (Fallahi 2007, Sadeghnezhad 2008)</p> <p>Unfamiliarity of citizen and government employees in English</p>	<p>Increase awareness toward IT and ICT (Ahmadi et al. 2007, Fallahi 2007)</p> <p>Allocate budget for establishing IT and ICT education centres and courses (Ahmadi et al. 2007)</p> <p>Diversity of employees IT and ICT educational qualifications and skills (Ahmadi et al. 2007,</p>

	<p>language (Sarpoulaki et al. 2008)</p> <p>Inadequate understanding of citizen and government employees of the usage of e-Government (Ahmadi et al. 2007, Fallahi 2007)</p> <p>No fresh, young, and knowledgeable university graduate in placed of the old and outdated government employees (Sarpoulaki et al. 2008, Fallahi 2007)</p> <p>Lack of government authorized representative to observe and evaluate the IT, and ICT training Labs (Sadeghnezhad 2008)</p>	<p>Ashrafologhalaiea 2005)</p> <p>Increase the availability of online sources and information for self study and self training (Sharifi and Manian 2010)</p> <p>Observing and evaluating functions of the IT, and ICT training laboratories (Ahmadi et al. 2007)</p> <p>Increase the Farsi language websites for more training (Kumar et al. 2007, Sadeghnezhad 2008)</p>
Legal	<p>Lack of strong security policies and laws to support e-Government implementation (Fallahi 2007)</p> <p>Lack of knowledge of copyright law, and its application (Sadeghnezhad 2008)</p> <p>Government weakness in financing training courses for the government employees (Sadeghnezhad 2008, Ashrafologhalaiea 2005)</p> <p>Unavailability of people to have a personal private credit cards (Over) (Sarpoulaki et al. 2008)</p> <p>Lack of vast investment needed for the establishing more ICT centers and applications in addition to banks systems in order to establish efficient e-Payment (Sarpoulaki et al. 2008, Fallahi 2007, Sadeghnezhad 2008)</p>	<p>Secure and strong rules, regulations, and policies (Sadeghnezhad 2008)</p> <p>More secured ways of guaranteeing the privacy of the citizen, businesses, and government data (Sadeghnezhad 2008)</p>
Security	<p>No security of citizen information in e-Government (Over) (Ahmadi et al. 2007, Fallahi 2007)</p> <p>Lack of adequate codification of the critical information and using digital signature (Ahmadi et al. 2007)</p> <p>Lack of enough security facilities such as login, filtering, and authentication (Over) (Ahmadi et al. 2007)</p> <p>Lack of citizen and government employee's network security experience (Ahmadi et al. 2007)</p>	<p>Increase the level of user satisfaction toward the user data security (Ahmadi et al. 2007)</p> <p>Codification of information and using digital signature (Sadeghnezhad 2008)</p> <p>Increase the citizen, businesses, and government organization awareness regarding to obtaining network security (Fallahi 2007, Sadeghnezhad 2008)</p>
Social and	<p>Lack of confidence in dealing with e-Government services and</p>	<p>Increase the attitude toward IT and ICT (Fallahi 2007)</p>

cultural	<p>transactions (Fallahi 2007)</p> <p>Unwillingness of supreme management to accept new initiatives for e-Government (Over) (Sarpoulaki et al. 2008)</p> <p>Lack of high level managers for making an adequate atmosphere and environment for implementing e-Government (Over) (Ahmadi et al. 2007)</p> <p>Resistance of the government employees against the changes, especially with new concepts (Sarpoulaki et al. 2008)</p> <p>Lack of enough government employees and managers' ability dealing and accompanying with the high speed of IT changes (Fallahi 2007, Haghghi 2007)</p> <p>Citizen traditional ways of claiming their government services (Over) (Ahmadi et al. 2007)</p> <p>Government employee's paper based habits and resistance against paperless jobs (Fallahi 2007, Sadeghnezhad 2008)</p>	<p>Confidence-building through education and promotion of managers' culture and awareness (Fallahi 2007)</p> <p>Announcement of a clear vision of IT, ICT, and e-Government development in Iran (Sharifi and Manian 2010)</p> <p>Increase the use of mass communication channels to increase the awareness of the citizen about the benefits of IT, ICT, and e-Government (Ahmadi et al. 2007, Sadeghnezhad 2008)</p> <p>Holding seminars and workshops about the advantages and benefits of IT, ICT, and e-Government (Sadeghnezhad 2008)</p> <p>Increase users' innovativeness which means "acceptance of a new idea" (Kumar et al. 2007)</p> <p>Increase the customer engagement to benefit from financial services through the internet "innovation in retail service delivery" (Kumar et al. 2007)</p> <p>Positive perception about use of technologies (Ahmadi et al. 2007)</p> <p>Upgrading the employees about the IT and ICT advancement and the new technologies (Sharifi and Manian 2010)</p>
ICT applications among government agencies	<p>Still, there is lack of ICT master plan in some agencies (Nikkhahan et al. 2009)</p> <p>Lack of enough and adequate web-based applications (Sadeghnezhad 2008)</p> <p>No large and suitable shared database and supporting tools (Over) (Ahmadi et al. 2007)</p> <p>Improper IT responsible body in organizational chart of agencies (Over) (Ahmadi et al. 2007, Atashak and Mahzadeh 2008)</p> <p>Lack of appropriate support for the information which are provided on the agencies' website (Over)</p>	<p>Using variety of software and ICT applications in the agencies (Ahmadi et al. 2007)</p> <p>Applying different databases in the agencies (Ahmadi et al. 2007)</p> <p>Existence of Local Area Networking (LAN) in the majority of government agencies (Ahmadi et al. 2007)</p> <p>Existence of Wide Area Networking (WAN) in some agencies</p>

	(Ahmadi et al. 2007).	
Economy and society	High cost training (Ahmadi et al. 2007, Fallahi 2007) High cost of hardware and software (Ahmadi et al. 2007) The lack of training facilities in rural and urban areas (Over) (Ahmadi et al. 2007) Lower national income compare to the developed countries (Ahmadi et al. 2007)	Youth tendency to use computer and internet (Ahmadi et al. 2007). Equal distribution of income among the society (Ahmadi et al. 2007) Increase the national income (Ahmadi et al. 2007) Increase national communication in order to exchange technology and knowledge (Kumar et al. 2007, Ahmadi et al. 2007) More national transactions and businesses connections (Ahmadi et al. 2007)
Workforce	Low salaries for the IT and ICT expert people (Ahmadi et al. 2007) Expert immigrants and educated graduates leaving Iran to abroad (Ahmadi et al. 2007)	Increase the salary in IT and ICT areas (Ahmadi et al. 2007) Admission of more IT students (Ahmadi et al. 2007) More IT and ICT experts in the businesses, and government organizations (Ahmadi et al. 2007)
Software and hardware market, export and import	Lower quality of in-house hardware due to the lack of technology, and hardware ingredients exchange (Ahmadi et al. 2007, Fallahi 2007, Sadeghnezhad 2008) Lack of essential expertise among in-house hardware producers (Ahmadi et al. 2007) No affordability of government to purchase costly expert systems and software (Ahmadi et al. 2007) Lack of adequate importing and exporting hardware and software (Ahmadi et al. 2007)	Increase the budget and foreign currency to import software from abroad (Sadeghnezhad 2008, Ashrafologhalaiea 2005) Lower the computer hardware and software accessories cost (Ahmadi et al. 2007) More hardware technicians training and more brand branches (Ahmadi et al. 2007)

Table 1. Obstacles and Strategies

It can be seen that the most striking obstacles are related firstly to the lack of ICT skills, education, and knowledge of government authorities, employees, and citizens, and secondly to legal issues within the country and so on. Therefore, strategies are being defined regarding the as means to implementing and improving e-Government.

4. Discussions

4.1 Proposed Maturity Status for E-Government of Iran

According to the United Nations five maturity stages and also the relevant literature studies, It can be proposed that e-Government of Iran considered to be in the transactional stage. However, still many websites are not fully functioning with these level characteristics, but significant achievement will be fulfilled.

4.2 Issue of Trust

To be able to implement and improve ICT, IT, and e-Government in Iran, government authorities should first build trust. When trust is established, government authorities should be then fast approachable when a citizen is willing to share comments and feedbacks or reporting any drawbacks. So, government authorities should be trusted, available, easy accessible, and open to every comments, feedbacks, requests, ideas, and drawbacks. They should also be fast in responding. Furthermore, E-Mail should be the formal channel of communication between authorities and citizen because; text can be made as an official document.

4.3 People and Technology Advancement

It seems like many young people are now trying to be more technological. Many young people in Iran are having their own laptop, internet connection, and some devices that are closely related to the new technology. High amount of money is being spent on updating and upgrading devices. More people are becoming increasingly aware of benefits of ICT, IT, and e-Government in their life. Besides, majority of young people are now willing to do all their tasks online. Hence, more services will be available online. Effective, efficient, and reliable interaction and relationship will be formed between government, businesses, and the citizen. As a result, the maturity stage of e-Government will increase from transactional stage to the seamless stage in the near future and m-Government as the next technology.

5. Conclusions

Governments in developing countries face new opportunities and challenges on how e-government can offer effective and efficient public services and information to citizens. Iran is also facing obstacles and challenges in improving e-government. E-government initiatives should be well planned, and established to meet the satisfaction of the government and citizens. Hence, a set of strategies has been proposed in this paper to enable the Iranian government authorities to comprehensively plan and run the e-government initiatives. Furthermore, considering these strategies can lead to resolve various challenges in years to come and help to improve e-government of Iran.

6. Future Research

Government authorities should more realize the importance of e-Government research. Still some government websites are not producing enough information, and statistics about the movement of e-Government in Iran. Hence, young and fresh researchers should be assigned to do the research that produces a reliable statistic and information. Further research on the widening access of citizens to ICTs and ICT education are necessary. Moreover, this would have been a vital step toward improvement of e-Government in Iran, if more research on ICTs, effective ways of technology usability, security, and management of resources would be done in the near future.

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