A SWOT and PEST analysis of e-Government in Iran

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Abstract

The term electronic government (e-government) mainly refers to the information and communications technology (ICT) usage to modify structures and procedures of government agencies. This paper aims to evaluate the vision, the objectives and the strategic framework of e-Government in Iran. Rapidity, Reliability, Efficiency, Cost-effectiveness, Customer-orientation and Accessibility are the main guidelines for the development of e-government in Iran in order to provide quality services to users in the digital economy. In this study investigated five thrusts and six programs of e-governance in Iran. The development of e-Government involves three main relationships: Government to Citizen (G2C), Government to Business (G2B) and Government to Employees/Public Servants (G2E) and also employs the SWOT (Strengths, Weaknesses, Opportunities and Threats) analysis and PEST (Political, Economic, Social and Technological) determinants to evaluate the current state of e-Government in Iran and its preparedness. Acknowledging the necessity of utilizing the new electronic, information, and communication technologies, the movement toward implementation of e-government in Iran has recently received the attention of authorities and policy makers. Many strengths and opportunities fuel the development of e-Government in Iran such as sound economic policies, political willingness, robust educational system to generate tech-savvy future employees and low cost of phone calls. Iran has continuously improved in order to prepare to deal with new threats and challenges such as the significant increase in the number cyber crimes, security and privacy concern.

Key words: e-Government, PEST analyse, SWOT analyse

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1. Introduction

Nowadays, the information and communication technologies (ICT) have taken the consideration of government and using ICT in government processes leads to e-government concept[1]. E-Government is one of the most important applications of the Internet. It has emerged as a new platform upon which the public sector may serve the people and the nation more effectively and efficiently. E-government interacts with citizens,business and Employees [10]. These interactions form three aspects of e-government: G2C, G2B, G2E [14]. E-government means applying information and communication technologies by government agencies to communicate with citizens, business and themselves in order to prepare and deliver services effectively and efficiently [25].

The process of transforming traditional public administration to modern public management has materialized through the development of e-Government[5]. As a result, the Iranian government has changed the ways it looks, thinks and acts. However, the growth of e-Government in Iran has faced challenges and threats due to the rapid development of technology, as well as the vulnerability of the global environment[2]. Hence, there is an apparent need to examine factors affecting the development of e-Government in Iran. This paper aims to review the vision, the objectives and the strategic framework of e-Government in Iran and investigate:

1. The current state of e-Government in Iran and
2. The preparedness of e-Government in Iran for future development.

Although there are many works on e-Government in Iran there is a lack of research based on its practical dimension. This paper therefore looks at e-Government from a practical standpoint. The authors use secondary data from literature and government materials to describe the context in which the study was conducted. SWOT and PEST analyses are employed to answer the questions posited in the investigation.

2. E-Government in Iran

The progress toward implementation of E-Government in Iran has recently received the interest of the authorities and policy makers. The requirement for an adaptive approach in its development, and relevance as a recommended loom is realized. Providing an obvious explanation for E-Government in Iran to cover its cultural, social, and political characteristics, and also its actual and prospective position considering access to science and technology, will be an important measure in ensuring its success. From a theoretical point of view, e-government in Iran is perceived as a major view in the phase of rising to a new performance level, including reducing the operations cycle time; responding to intolerant and challenging citizens in receiving quality, cheap, and immediate services, and also fulfilling the government staff, whom bear the shortcomings of the systems[2].

2.1. The Vision of E-Government

E-Government is defined: the use of information and communications technology (ICTs), and particularly the internet, as a tool to achieve better government [29]. The vision of e-government indicates how it will be look like in the future. For determining e-government vision for Iran, e-government vision of other countries as well as the master plans of Iran has been studied [16], [33]. The vision for Iran is: "Becoming the first country in the Middle East by applying ICT in government processes to improve information and services delivery to citizens and business".

To set the goals, Iran situation as well as other countries e-government goals and plans have been studied [21], [22], [34], [19], [20]. Thus, the goals for e-government implementation in Iran are as follows:
• Providing convenient access for all to government information and services
• Improving public services and providing integrated ones
• Downsizing the government and increasing its flexibility
• Promoting social welfare, awareness and knowledge in the society
• Declining bureaucracy throughout government processes
• Encouraging people's participation in government
• Increasing government efficiency and effectiveness

2.2. The Objectives of e-Government

Based on studies conducted about e-government status in various countries and their rank, united nations and American Society for Public Administration standards (including the condition of websites or web presence measure (WPM), information and communication technology infrastructure Measures (ICTIM), human resource abilities), Iran had the index of 1.31 and rank of 77 that indicates low ability of implementing e-government in Iran [31].Iran has re-structured the operation of public services so that they can be delivered more effectively, efficiently, conveniently and rapidly. The objectives e-Government in Iran is to make the Government more result-oriented, efficient and citizen-centered. e-Government should enable citizens to access Government Services and Information as efficiently and as effectively as possible through the use of internet and other channels of service delivery and communication[23]. The specific objectives of e-Government are to:

1.   Improve collaboration between government agencies through reduction in the duplication of efforts, and enhance efficiency and effectiveness of resource utilization;
2.   Improve Kenya's competitiveness by providing timely information and delivery of government services;
3.   Reduce transaction costs for the government, citizens and the private sector through the provision of products and services electronically;
4.   Provide a forum for citizens' participation in Government activities

The road map and action plan for implementation of the e-Government project by different agencies was prepared by the Management and Planning Organization (MPO) and approved by the Supreme Administrative Council (SAC) [32].

2.3. Strategic Framework

According to Strategic Framework , after determining e-government implementation goals, the strategies are discussed. To define strategies, we have considered not only the goals but also the restricting and enhancing parameters. Our research show The Iranian government has developed a strategic framework with five main thrusts and six programs.

2.3.1. Five thrusts

The five thrusts of e-Government in Iran are "(i) Increasing government efficiency and effectiveness, (ii) Providing convenient access for all, (iii) Improving public services, (iv) using IT and Telecommunications to build new capabilities and capacities, and (v) Promoting social welfare, awareness and knowledge in the society."

2.3.2. Six programs

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e-Government is a long-term process that requires a strong commitment from the government to demonstrate a high level of obligation in terms of resources, policies, strategies, approaches and implementation. Therefore, the five e- Government thrusts are supported by the following six programs: (i) Central Servers; (ii) Government Data Network; (iii) National Data Services; (iv) Business Systems; (v) Security Strategy; and, (vi) Technology Experimentation.

2.3.3. Three Target Groups

The strategic framework of e-Government focuses on three main target groups: Government to Citizen (G2C), Government to Business (G2B) and Government to Employees (G2E).

First,Government to Citizen (G2C) refers to public services provided by the government to its citizens via electronic means. This strategy aims to enhance the service quality and deepen participatory democracy online[9]. Government to Citizen (G2C) that perhaps is the most important and most widespread type of e-Government application and ranges from providing people with appropriate information to online payment of bills such as telephone, water, electricity, traffic tickets, and so on [18] The second target group of e-Government is Government to Business (G2B). Government to Business (G2B) in which the government meets the specific needs of the business community via the Internet and ranges from business registration and licensing to e-procurement (online purchases of goods and services). The third target group Government to Employee (G2E), that are designed to provide information to public sector employees using a government's intranet or private network to access human resource information such as personnel benefits and retirement, news releases, and other employee related information and applications[13].

Fig 1: Three Target Groups.

3. SWOT and PEST Analysis

In this section, not only the SWOT but also the PEST [24] factors ar examined to assess the current and prospective states of e-Government in Iran by using a practical approach. SWOT analysis is employed in this article to discuss strengths (S), weaknesses (W), opportunities (O) and threats (T) of e-Government in Iran. Each of the four components of SWOT analysis is further examined according to PEST factors, referring to political (P), economic (E), social (S) and technological (T) determinants.

A SWOT analysis can help you gain insights into the past and think of possible solutions to existing or potential problems — either for an existing business or new venture. For a SWOT analysis to work well, every member of your team (your family and/or employees, lawyer, accountant, and insurance agent) should be involved in the process[27].

3.1. Strengths

The strengths of Iran to develop and maintain e-Government lie with the public policy. This is an important political determinant in the PEST model. Iran has enjoyed political stability since independence in 1980 [38]. Due to the oneparty government system, there has been little or no disruption of policy implementation, which has enhanced the

effectiveness of the delivery mechanism of public services. This stability has created well-organized institutions that help all stakeholders to adopt e-Services. These bodies have also built up a strong legal foundation with regulations and guidelines to protect copyright and intellectual rights that create a secure online environment for users[26]. Thus, the Iranian government can strengthen its relationship with the public.The government has encouraged both the public and private sectors to contribute to the growth of e-Government by introducing e-Citizen Helper 3P Partnership (People, Private, Public). This joint program provides the public with the means to adopt e-Services[6].

Regarding economics, : The modern payment instruments can be traced back to early 1990s where commercial bank of Sepah Bank launched its Aber (cash dispenser) Bank Debit Card. Since then almost all Iranian banks have provided their customers with the card payment services focusing on cards with debit function and ATM services to tackle the problem of heavy branch traffics[17]. The Interbank card switch (SHETAB) was introduced in 2002 and now all card issuing banks in Iran are connected to the center; building up a uniform card payment network where all issued cards is accepted in all acquiring terminals[30].

Socially, An advanced e-Government is an important factor in building "a knowledge society", perceived by Peter Drucker [11] some twenty years ago. Technology alone does not suffice for building such a society. What is needed and maybe even crucial for further progress and acquisition of knowledge is a regime that will encourage creativity, evoking new ideas and critical thinking. A competent e-Government could adopt the idea that developing people is the most fundamental driving power for future advancement, as was understood by P. Drucker (1993) and others.

Technologically, Iran has a high-tech based economy. Wellprepared infrastructure and the latest technology contribute to the rapid development and deployment of e-Services. Government agencies can share resources and services such as payment, authentication and data exchange. that are built-once, reuse-always. by employing available IT applications. As mentioned previously, security issues are also received much attention from the government[15].

3.2. Weaknesses
Iran still faces some political weaknesses. Traditionally, the public believe that the Iranian Government always wants to introduce new methods and new approaches to earn more from the public. This belief may cause people to hesitate in trying e-Services. Other weaknesses are the public feelings of insecurity and concern about making mistakes and being fined. These issues discourage people from tapping into e-Services[12].

Regarding economics for e-government in Iran we show some infirmity:
(i) Perception of difficult development process; (ii) Lack of sufficient funds to financeand enhance the system ; (iii) Vulnerable tax base ; (iv) Unemployment

Socially, a large portion of blue-collar workers and the older generation are still computer illiterate. Others may find it difficult to follow instructions on the Internet or may be discouraged by computer-related problems. So, although the government tries to ensure access for all [28], some people may not have the chance to access information on-line. They may have to go to e-stations to browse the Internet which can be an

inconvenience if people want to access the Internet at night or if they have to wait for sometime to use a computer.

Technologically, less IT-savvy people and the older generation are afraid of computer related problems. Some government websites are not friendly-users. Thus, these websites attract few people. Time is another issue Internet users may have to spend a lot of time on the Internet when there is heavy traffic on the Internet highway or the Internet connection is very slow. It may even take hours to download a webpage with graphics and voices.

3.3. Opportunities

In spite of the abovementioned shortcomings, there are many opportunities for e-Government to grow in Iran. The political willingness in Middle East countries to build and link countries in the region through a cyber highway creates an opportunity for governments in the region to show their commitment to e-Government[1]. With the support from different governments, resources (human capital, physical capital, etc.) may be pooled to develop strategies for planning, implementation, monitoring and the modification of G2G within and between countries.

Concerning economics, people with IT proficiency have better opportunities for employment since computer literacy is a requirement for most industries in Iran. Thus, people are motivated to learn computer skills. Time constraints are another motive to urge the public to adopt e-Services[20]. Most people who use e-Services can save time and effort when shopping for public services online[36].

Socially, if terrorist threats hinder economic growth, they may arouse the re-development of dot.com companies, as customers may prefer to shop online in order to avoid crowds. Thus, e-Users could eventually turn to e-Services to get information faster and to purchase public services[2].

Finally, the introduction of Broadband enables e-Customers to connect to the Internet faster. The development of new technology applications presents opportunities for better, cheaper and more efficient e-services.

3.4. Threats

Currently, cyber-terrorism emerges as a threat to e-Government. For example, terrorists. technological capabilities have greatly advanced and terrorists will use the web to strike critical infrastructure like water systems or power plants[37]. Iran has not been spared from such threats. These issues are crucial to Iran due to its small size and lack of natural resources. In addition, censorship, as the main approach in regulating the Internet, also complicates the investigation of cyber-terrorism. It requires a lot of time, manpower and technology to trace such cyber offences. Politically, opposition organisations may take advantage of the Internet to spread propaganda on their ideologies and to create social disorder. However, this may not be a big issue in Iran due to the tight control of the government and the weak activities of opposition parties. Security breaches are another problem for e-Government [3], [35].This will create insecurity among e-Users who then may not be so willing to go online. Where issues of copyright and intellectual property are not fully and properly addressed, businesses may hesitate to communicate and disseminate information online.

Further, an economic threat exists the United States does not trade significantly with Iran now, it must depend on other countries to reduce trade with Iran in an effort to change

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Iran's policies. In December 2005, President Bush remarked, "We are relying on others because we have sanctioned ourselves out of influence with Iran[4], [29]."

Social threats include the rapid development of telecommunication such as mobile and SMS technology. The lower cost of cell phones provides an incentive for people to switch from the Internet to SMS. Information about current affairs and carrying out some other activities is faster through cell phones rather than by using e-Services[7].

Finally, the dependence of people on technology may produce the adverse effect of people serving technology, instead of technology serving people. For example, if e-users are not well equipped with IT skills and knowledge, it can take them hours to retrieve corrupted documents[8]. Network problems are also a major barrier. Users may feel helpless when they have to deal with technological problems. The SWOT and PEST analysis is summarized in the Table 1.

Table 1: Summary of SWOT and PEST analysis of e-government in Iran

SWOT/PEST	Strength (S)	Weaknesses (W)	Opportunities (O)	Threats (T)
Political aspect (P)	* Public policy * Cooperation between the public and private sectors	* Conservation In trying e-Services	* Political willingness	* Cyber Terrorism and cyber crimes * Security Breach and copyright issue
Economic aspect (E)	* Economic policies *modern Payment instruments	*Perception of Difficult development process *Lack of Sufficient funds to financeand enhance the system *Vulnerable tax base *Unemploymnt	* IT-proficient people can have better opportunity for employment	*other countries to reduce trade with Iran
Social aspect (S)	* knowledge society *Tech-savvy population	*Workers and Older generation are computer illiterate	*online shopping, including e-Services	* The rapid Development of mobile and SMS technology
Technological aspect (T)	* High-tech Based economy * Innovation	Some government *websites are unfriendly-user * Overc-apacity of the Internet highway due to heavy traffic	* Broadband Facilitates Faster connection.	* Dependency On IT, i.e. Small technical problems will disrupt the entire networks

4. Conclusion

e-Government in Iran has been well developed with five thrusts and six programs. The five thrusts are "(i) Increasing government efficiency and effectiveness, (ii) Providing convenient access for all, (iii) Improving public services, (iv) using IT and Telecommunications to build new capabilities and capacities, and (v) Promoting social welfare, awareness and knowledge in the society." The six programs are (i) Central Servers; (ii) Government Data Network; (iii) National Data Services; (iv) Business

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Systems; (v) Security Strategy; and, (vi) Technology Experimentation. E-Government in Iran aims to deliver services to three main groups: (i) citizen (G2C), (ii) business (G2B) and (iii) employees (G2E).

Many strengths and opportunities fuel the development of e-Government in Iran such as economic policies, political willingness, robust educational system to generate tech-savvy future employees and low cost of phone calls. However, Iran also faces new threats and challenges such as the significant increase in the number cyber crimes, security and privacy concern. In general, Iran has successfully developed a strong foundation for e-Government. Iran has invested adequate resources and demonstrated commitment to improve the provision of public services online. clear objectives and strategic planning are factors contributing to e-Government success. Iran has also prepared to deal with future threats.

Further research can focus on how Iran develops Government-to-Government (G2C) to foster ties among nations in the region.

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