

Recognition of Obstacles and Providing Different Guidelines and Promotion of Electronic Government in Iran

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Abstract—Electronic Government is one of the special concepts which has been performed successfully within recent decades. Electronic government is a digital, wall-free government with a virtual organization for presenting of online governmental services and further cooperation in different political/social activities. In order to have a successful implementation of electronic government strategy and benefiting from its complete potential and benefits and generally for establishment and applying of electronic government, it is necessary to have different infrastructures as the basics of electronic government with lack of which it is impossible to benefit from mentioned services. For this purpose, in this paper we have managed to recognize relevant obstacles for establishment of electronic government in Iran. All required data for recognition of obstacles were collected from statistical society of involved specialists of Ministry of Communications & Information Technology of Iran and Information Technology Organization of Tehran Municipality through questionnaire. Then by considering of five-point Likert scope and $\mu = 3$ as the index of relevant factors of proposed model, we could specify current obstacles against electronic government in Iran along with some guidelines and proposal in this regard. According to the results, mentioned obstacles for applying of electronic government in Iran are as follows: Technical & technological problems, Legal, judicial & safety problems, Economic problems and Humanistic Problems.

Keywords—Government, Electronic Government, Information Technology, Obstacles, Iran.

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I. INTRODUCTION

INFORMATION Technology development and communications in all fields of human being life may lead to change of communicative ways of people with society, methods and procedures in which all persons are related to each other for performing their works. Due to these changes, we can name present time as the time of "Information & Communications Technology" by which human societies changed into scientific societies and citizens into users of information networks. [1]

One of the most important chances provided by modern technologies for governmental authorities and managers is the possibility of "Re-engineering of government architecture" and increasing the access and output and reliability. Any benefit from re-engineering of architecture, government and other above-mentioned facilities in governing process may cause the creation of a reality in the name of Electronic government which may lead to electronic governance both as the pre-requisite of governing on information societies governments. This means that it is impossible to govern on information societies only with traditional and expired structures and processes. Electronic government means different methods by which all governmental managers could provide relation with their citizens through digital tools such as internet positions, electronic post, video conference, audio post and internet. Electronic government may provide the following items: (1) More access to governmental information, (2) Betterment of civil partnership through enrichment of all people for contraction with governmental authorities through network relations, (3) Reliability of government through better and more clear activities and reducing of corruption possibilities, (4) Creation of developing chances in rural & deprived areas. [2]

By the way, any benefit from electronic government facilities may cause better submission of governmental services to citizens and more access of all citizens along with effective relations with involved parties and enriching of citizens and totally create a more effective governmental management. Some of the expected results of this process are reduction of administrative corruption and more clearance of affairs, increasing the responsibility rate, permanent betterment of processes, more comforts, increasing of resources and reduction of services costs. By creation of information & communication technologies there is a close relation between servicing centers and customers in which all

persons may receive their own services through personal computers. In addition, electronic government may cause an economy in time and costs of government, citizens and labors. Globalization may also make governments to establish electronic government for better selling of their own goods and services and export of culture and introducing of themselves to other cultures and civilizations. [3]

II. THE THEORETICAL BASES OF THE RESEARCH

A. Description of government

In its wide meaning, Government means different organizations with legal powers for applying in specific and determined scope of people. The government may provide its exclusive power for providing discipline in mentioned scope of powers through governmental organizations. [4]

B. Major duties of government [5]

Government must/must not do some things. Anderson has written a suitable and applicable set of general roles of government under seven titles as follows:

1. Supply of economic infrastructure
2. Supply of public goods and services
3. Settlement of group challenges
4. Keeping of competition
5. Maintenance of public resources
6. Supply of minimum goods and services for people
7. Economy fixed condition

C. Definitions of electronic government

There are a lot of definitions for electronic government as follows:

-Electronic government means easy benefiting from information technology for direct/day & night distribution of governmental services.

-Electronic government means any benefit of government and other governmental organizations from information technology and creates a change in relation with citizens, trading centers and other cases in challenge with government.

-Electronic government is a method for governments to use information technology and new technologies that provide necessary facilities for suitable access to governmental information and services, betterment of their quality and providing of wide chances for cooperation in public processes and symbols.

-Electronic government may receive/deliver the information and services easily and quickly by depending upon internet and other modern technologies with an applicable and low cost method.

-Electronic government means on time, exact and applicable information and servicing through 24 hours in 7 days of a week and all days of the year through different communicative tools such as telephone and internet.

In other definitions we have other aspects like reliability, responsibility, clearing and so on. As a result electronic government is a set of electronic relation among government, companies and citizens. [6]

D. The importance of creating an electronic government

The expectation of people about services and products and quality /manner of presentation is under changing with daily increase basis. Government should reply all these needs and expectations. They require increasing working hours of governmental institutes in order to perform their works without any long queues and receive high quality and cheaper services, therefore the most reliable form of a government for all these needs is electronic government. All governments are competing with each other for attraction of capitals, labors and occupation of professional workers and tourists then for this purpose they need new facilities which may be provided by electronic government.

As a result, electronic government may not only integrate with society but also make the government to focus on more required resources. Electronic government may develop Self Service culture in a way that all citizens could help themselves and reduce any wasting of costs and times. [7]

E. The records of electronic government in pioneer countries

Singapore (%47): A country with a population more than 3.5 million persons and internet interference coefficient of %47 follows civil services in a way that if it possible to provide any linear services it should necessarily provided on line basis. Singapore has developed a wide range of transaction services in different governmental organizations. One of the aspects may show Singapore government as a lead of electronic government is that Singapore was the first country that has used electronic transactions law with allocation of required credits and official situations for companies to benefit from digital documents. [8]

U.S.A: (%66): From 2001, USA has applied various functions for developing of electronic government. For instance, appointing a manager for information technology and electronic government, a similar position with master technology manager and a modern attitude of electronic government for focusing on citizens (Citizen focused). The real goal of government by electronic government was obtaining different ideals such as qualitative services, reducing of prices, clearer situation and easier access to electronic services especially for disable citizens. Today government considers a central entrance of www.usa.gov which has been constructed according to the needs of citizens. In addition, the government is active in parallel with development of electronic signature and creating an economic entrance of www.fdbizapps.gov with the goal of facilitating of value channel management. [9]

Australia (58%): Australia has Internet influence index (coefficient) of 58 percentages and its population is about 18 million. Federal state designated Electronic Strategy in April 2000 that it fix the position that each governmental section and organization use servicing plans on the same calendar line, that is why The National Electronic Governmental Office has the central factor role of Electronic Government and the attempt of different organization is arranged by it

along with Electronic Government Development. Among the present Electronic Government services, those services that are delivered in the fields of Taxation, Postal Services, Federal Court, Working Affairs related to Immigration and Employment, are considerable. [10]

England (%40): England has established different agreements in the field of electronic government as follows: 1. Establishment of a unique structure for development of electronic government, 2. Executive designing in private sections, 3. Effective relation with citizens, 4. Controlling & following up the supervision on progresses of electronic government.

England has prepared a program in the name of electronic officer for modernization of governmental services. The key aspect of this program is to establish an administration for electronic officer to accept responsibility of program tools including preliminaries of electronic trade & electronic government. This administration includes two groups. A policy making group responsible for strategic designing of infrastructures and operations and delivery group for performing different projects of electronic officer (like unkon.ine.gov.uk). This electronic officer would be led by electronic ministry. The other key aspect of electronic government in England is designing of executive programs through an executive online plan which provided %94 of partial proposals in 25 groups. [11]

F. Iranian Electronic Government in comparison with developed nations

Electronic government has been applied in different countries with different forms and mainly in accordance with their political/social needs. Most of developed countries are encouraged by international organizations like UN to develop electronic government. By the way most of non-developed countries are not sure about it. According to the UN report, any development and applying of electronic government may not necessarily increase the life quality in a country. But the reality is that electronic government is considered as a strategic key for benefiting from competing profit and as a central tool for governmental modifications by all countries of the world. The major property of developed countries against electronic government is social/political news. For example, Zang explains that such a description of electronic government is not a sampling of U.S.A for encouraging and enriching of democratic cooperation. [12]

Better democratic cooperation and overcoming on political alienation are two major factors with more challenges than other factors for under-progress countries with an attitude for developing of electronic government. Needless to stat that mentioned challenge is lower than developed countries with considerable democratic progress which may lead to more efforts for upgrading of operation quality of systems and users.

Iranian attitude about electronic government is in fact similar to other under-progress countries. The operation of government and its betterment are more considerable. In fact the major problem of Iranian Electronic Government is not political/ social aspects. These programs have considerable

effect on society and are under pressure of social conditions of government. Iranian Electronic government found 44th grade in 2001 among 169 countries which were under consideration and study of World Market Researches Center. Also it found %33 grades and position 107 among 173 countries in another study by UN in 2003. This tangible reduction was a result of program limitations out of political/social reactions against any changes in electronic government. Religious organizations and incorrect rules create a situation for controlling information technologies and internet and any distribution of it. [13]

In fact there is a type of hegemony for distribution of information and ideologies in some countries. Religious government is current in Saudi Arabia and Iran and as a method for maintenance of society against non-behavioral effects of internet. But it is rate these strengths could prevent from any movement towards development of electronic government but may reduce its speed and make some delays. At present it is obvious in Iran. The message of world society is completely understandable by under-developing countries for benefiting from new information & communicative technologies and reducing any gaps between developed & non-developed countries. While Kalatil & Boas explain: It has been proved that electronic government may bear a lot of benefits even for powerful regimes. [14]

G. Problems, obstacles and challenges for establishment of an electronic government

In spite of a simple meaning, electronic government has a lot of problems for governments. The major problem is not in designing method but the first item for governments is presenting of services with suitable method. As a powerful group, Governments should be able to receive digital information along with providing required technical fields for communications of different units with each other and cooperation of private & governmental sections. The other problem is mentality and culture of people. It is so much costly to change mentality and traditional culture of people. The other problems are providing a suitable space, preventing from non-suitable usages and lack of necessary specialty for quick changes in information technology.

The second basic problem of governments is providing suitable legal methods for electronic trade. Since the world is going towards digital world economy, any legal discrepancies are highlighted in international trades. In this way, governments are facing with relevant problems of tax on electronic trade and manner of controlling it, electronic signing of trade contracts and controlling of powerful coding programs.

Third problem of governments which is a potential problem is daily-increasing necessity to democracy and lack of democratic usage of digital systems. By any increase of digital economy, we will have neutralization and/or incorrect usage of technology from democratic point of view. As a result there will be no more variety and this may encourage people to benefit from new worldwide methods. Also it is necessary to consider that a lot of obstacles are on the way of creation of electronic government as follows:

- 1) Lack of necessity to electronic government
- 2) Lack of supports by master management of organizations
- 3) Disability in specifying any limits between confidential information and public information for any access of citizens and economic agencies
- 4) Expensiveness of any establishment, maintenance and development of information networks and data bases
- 5) Lack of information technology specialty in some countries. [15,16]

III. CONCEPTUAL MODEL

According to the literature of research and study of different books and papers and also interview and leading of familiar people with electronic government, it was revealed that various factors are effective in establishment of electronic government in Iran. Although there are a lot of different factors, but it is possible to divide them into five groups as follows:

- 1) Relevant problems & obstacles of economic factors
- 2) Relevant problems & obstacles of human factors
- 3) Relevant problems & obstacles of organizational factors
- 4) Relevant problems of technical / technological factors
- 5) Relevant problems of legal, judicial and safety factors

Following Conceptual model of mentioned obstacles have been presented in Figure 1:

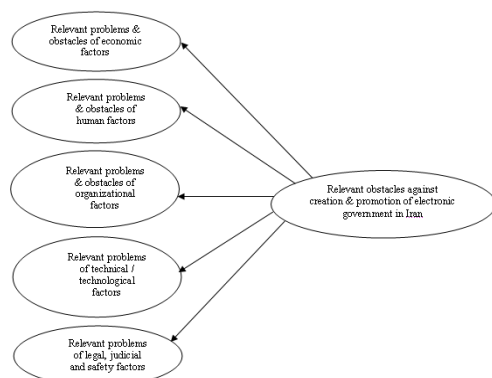


Fig. 1. Conceptual model of relevant obstacles against creation & promotion of electronic government in Iran.

IV. THE RESEARCH OBJECTIVE

The real goal of this research is recognition of obstacles and any limits of applying of Electronic Government in Iran.

V. THE RESEARCH HYPOTHESES

Followings are relevant hypotheses tested in this research:

- 1) Economic problems prevent from any creation & promotion of electronic government in Iran.
- 2) Human being problems may prevent from any creation & promotion of electronic government in Iran.

3) Organizational problems may prevent from any creation & promotion of electronic government in Iran.

4) Technical & Technological problems may prevent from any creation & promotion of electronic government in Iran.

5) Legal, judicial and safety problems may prevent from any creation & promotion of electronic government in Iran.

6) Relevant obstacles of creation and promotion of electronic government in Iran are as follows:

- A) Humanistic problems, B) Technical /Technological problems C) Economic problems, D) Legal, judicial and safety problems, E) Organizational problems.

VI. THE RESEARCH METHODOLOGY

The applied method in this paper is measuring from the point of view of time and explanatory from the point of view of the goal. Following is the methodology of this research: A) Relevant studies of theoretical bases of research, B) Presenting of proposed Conceptual model & relevant indexes of proposed model according to the obtained information from questionnaire in statistical society.

A. The statistical community

The considered statistical society of this research includes the specialists and masters of Ministry of Communications & Information Technology and Information Technology Organization of Tehran Municipality with required specialties and information in the fields of E.government and IT. Then we specified 35 persons of statistical society and asked our questions about recognition field and creation / promotion of electronic government.

B. Data collecting method

We used one type of tools for collecting of data for testing of hypotheses. We prepared a 3-questions questionnaire for recognition of obstacles against any applying of E.government in Iran which were filled by statistical society. We received about 23 questionnaires with a good return rate (about %77).

C. The research variables

We considered two types of variations in this research: A) Independent variations including economic problems, humanistic problems, organizational problems, technical/technological problems and legal problems. B) Dependent variations including promotion and applying of electronic government in Iran.

D. The validity and stability

The validity and stability are two important parameters which should be considered as well. In order to determine validity of this research, we used validity of the content and delivered our questionnaires to 9 persons of experts. It will enable us to be aware of their ideas and obtain required condition for recognition and obtaining of necessary data for confirming of validity tools of this research. The experts of our research were holders of Master of Science degrees with great records and also holders of doctrine degree occupied in ministries of Information & Communications Technology, Information Technology Organization of Tehran Municipality. By the use of Chronbakh α we could calculate about %7342 of research tools which is a high level and it is possible to claim that all mentioned tools have required stability conditions.

E. The data analysis procedure

Since the total statistic society includes 35 persons, we used explanatory statistics for testing of hypotheses. The criterion of rejection and/or acceptance of hypotheses was according to the average level with a scope of Likert 5-points criteria and average of $\mu = 3$.

VII. THE DATA ANALYSIS AND THE HYPOTHESES EXPERIMENTATION AND TESTING

A. The first hypothesis test

We considered nine partial indexes in our questionnaire as follows: Non-enough familiarity with electronic banking services, non-enough financial support of government for establishment of electronic government, non-enough investment of organizations for establishment of electronic government, lack of readiness of organizations in specifying the benefits and economic costs of establishing electronic government, low rate of benefiting from electronic trade in Iran, lack of intends of private section in investing in the field of establishing electronic government, lack of economic power of people, lack of presence of foreign partners in investing in the field of electronic government establishment, lack of abilities of private sector in investing in establishing of electronic government. Table No. I is about the obtained results of statistical data.

TABLE I
THE CALCULATED DATA OF THE FIRST HYPOTHESIS

Index	Mean	Standard deviation	Obstacle
Non-enough familiarity with electronic banking services	4.023	1.243	+
Non-enough financial support of government for establishment of electronic government	3.373	0.741	+
Non-enough investment of organizations for establishment of electronic government	4.112	1.132	+
Lack of readiness of organizations in specifying the benefits and economic costs of establishing electronic government	3.326	1.056	+
Low rate of benefiting from electronic trade in Iran	4.156	0.667	+
Lack of intends of private section in investing in the field of establishing electronic government	4.002	1.128	+
lack of economic power of people	4.013	1.206	+
lack of presence of foreign partners in investing in the field of electronic government establishment	4.562	0.492	+
lack of abilities of private sector in investing in establishing of electronic government	3.243	1.379	+

Total average of above-mentioned nine indexes is 3.923. Therefore, it is possible to conclude that first theory is confirmed. Then all relevant problems of economic factors would be considered as an obstacle against any creation and promotion of electronic government in Iran.

B. The second hypothesis test

We considered six partial indexes for testing this theory in our questionnaire. The said indexes are as follows:

Lack of intend of master managers in investing in the field of establishment of electronic government, relevant costs of personnel training, High rate of public training costs & advertisement, lack of attitude and culture among people in the field of establishment of electronic government, lack of suitable university courses in the field of establishment of electronic government, lack of information and knowledge of personnel about establishment of electronic government. Table II is about obtained results out of statistical data.

TABLE II
THE CALCULATED DATA OF THE 2ND HYPOTHESIS

Index	Mean	Standard deviation	Obstacle
Lack of intend of master managers in investing in the field of establishment of electronic government	2.452	0.937	-
Relevant costs of personnel training	2.987	1.206	-
High rate of public training costs & advertisement	3.037	0.996	+
Lack of attitude and culture among people in the field of establishment of electronic government	3.233	0.888	+
Lack of suitable university courses in the field of establishment of electronic government	3.750	0.965	+
Lack of information and knowledge of personnel about establishment of electronic government.	4.167	0.718	+

Total average of above-mentioned six indexes is 3.271. As a result it is possible to conclude that second theory is acceptable and relevant problems of humanistic factors are relevant obstacle for any establishment and promotion of electronic government in Iran. Although we rejected the relevant index of lack of master managers intends and relevant index of personnel training costs.

C. The 3rd hypothesis test

In order to test this theory we considered three partial indexes in our questionnaire as follows: Lack of support of organizations in the field of promotion of electronic government, non-enough support of people for promotion of electronic government, non-enough support of government in the field of any lack of promotion of electronic government. Table III shows the obtained results of statistical data:

TABLE III
THE CALCULATED DATA OF THE 3TH HYPOTHESIS

Index	Mean	Standard deviation	Obstacle
Lack of support of organizations in the field of promotion of electronic government	4.254	0.745	+
Non-enough support of people for promotion of electronic government	3.765	0.876	+
Non-enough support of government in the field of any lack of promotion of electronic government	4.112	0.718	+

Total average of above-mentioned three indexes is 4.044. As a result it is possible to conclude that third theory is acceptable and relevant problems of organizational factors are relevant obstacle for any establishment and promotion of electronic government in Iran.

D. The 4th hypothesis test

In order to test this theory we considered six partial indexes in our questionnaire as follows: Lack of presence a suitable telecommunication system, lack of easy access to network, lack of ability and technical profession in maintaining of confidential information, lack of supplying of advanced and suitable software, presence of low quality technology in the field of any integration of modules and lack of promotion of electronic government. Table IV is about obtained results out of statistical data.

TABLE IV
THE CALCULATED DATA OF THE 4TH HYPOTHESIS

Index	Mean	Standard deviation	Obstacle
Lack of presence a suitable telecommunication system	4.165	0.534	+
lack of easy access to network	3.876	0.739	+
lack of ability and technical profession in maintaining of confidential information	3.938	0.782	+
lack of supplying of advanced and suitable software	4.419	0.727	+
presence of low quality technology in the field of any integration of modules and lack of promotion of electronic government	4.276	0.491	+

Total average of above-mentioned five indexes is 4.135. As a result it is possible to conclude that fourth theory is acceptable and relevant problems of technical / technological factors are relevant obstacle for any establishment and promotion of electronic government in Iran.

E. The 5th hypothesis test

In order to test this theory we considered eleven partial indexes in our questionnaire as follows: Non-suitable rules & regulations for benefiting from electronic government, non-suitable of copy right rules and coding, safety worries of organizations in the field of non-development of electronic government, non-suitable rules of written & official archiving , non-suitable legal rules for benefiting from paper-less reports, any dangers of missing information and non-authorized access to information and major computers, lack of easy, simple and cheap access to internet in Iran, low speed of internet in Iran, Low quality of internet in Iran, relevant problems of internet in Organizations, relevant problems of extra-net in Organizations.

Table V is about obtained results out of statistical data.

TABLE V
THE CALCULATED DATA OF THE 5TH HYPOTHESIS

Index	Mean	Standard deviation	Obstacle
Non-suitable rules & regulations for benefiting from electronic government	4.432	0.671	+
non-suitable of copy right rules and coding	3.971	1.452	+
safety worries of organizations in the field of non-development of electronic government	4.129	0.788	+
non-suitable rules of written & official archiving	4.000	0.869	+
non-suitable legal rules for benefiting from paper-less reports	4.076	0.552	+
any dangers of missing information and non-authorized access to information and major computers	4.267	1.392	+
lack of easy, simple and cheap access to internet in Iran,	3.782	1.156	+
low speed of internet in Iran	4.000	1.302	+
Low quality of internet in Iran	4.071	1.056	+
relevant problems of internet in Organizations	3.772	0.897	+
relevant problems of extra-net in Organizations	3.789	0.897	+

Total average of above-mentioned eleven indexes is 4.026. As a result it is possible to conclude that fifth theory is acceptable and relevant problems of legal, judicial and safety factors are relevant obstacle for any establishment and promotion of electronic government in Iran.

F. The 6th hypothesis test

The relevant obstacles of creation and promotion of electronic government in Iran are as follows:

- A) Humanistic problems
- B) Technical & technological problems
- C) Economic problems
- D) Leal , judicial and safety problems
- E) Organizational problems.

We used the averages in order to test this theory and classification of the relevant factors. Classification of these obstacles has been inserted in table VI.

TABLE VI
THE PRIORITIZATION OF ELECTRONIC CITY OBSTACLES

Rating	Obstacles	Average
1	Technical & technological problems	4.135
2	Organizational problems	4.044
3	Leal, judicial and safety problems	4.026
4	Economic problems	3.923
5	Humanistic problems	3.271

As it is obvious the priority of obstacles are different from estimated priorities in sixth theory. As a result we reject sixth theory.

VIII. CONCLUSION & PROVIDING OF GUIDELINES & PROPOSALS

A. Conclusion

Electronic government is resulted from technical changes especially information technology in one side and organizational compliance with information & digital changes on the other hand. In case of accepting the strategic management thought in governmental scope, the philosophy of electronic government will be easily acceptable for agencies. The results of this research were in compliance with previous researches and confirming it. All hypotheses of this research confirmed and the only rejected one was related to classification of obstacles of electronic government in Iran. The relevant obstacles of development and applying of electronic government in Iran are as follows: Technical & Technological problems, Organizational problems, Legal, judicial and safety problems. Economic problems, humanistic problems.

B. Providing of guidelines & proposals

1. Sub-division of economic factors

- Correct designing in establishment of electronic government for estimation of activities for start up of electronic government and continuous of it
- More readiness for specifying the benefits and economic costs
- Readiness of governmental organizations in submission of electronic services.

2. Sub-division of humanistic factors

- Real efforts for upgrading the thought and culture of benefiting from ICT by government, Governmental organizations and private companies
- Encouraging of personnel to be released from previous interests and more acquisition of people with electronic government
- Submission of educational courses in schools in relation to occupation in electronic jobs
- Acquisition of managers for remote controlling of persons' operations.

3. Sub-division of Organizational factors

- Assignment of authority for enabling of personnel
- Estimation of any establishment of researching unit in the field of electronic government in different governmental organizations
- preparing required field for changing of suitable organizational culture for establishment of IT
- Writing of relevant organizational & national rules of electronic activities and performing in legal framework.

4. Sub-division of Technical & technological factors

- Creation of direct investment rule in the field of information technology
- Creation of rule for benefiting of foreign specialists
- Creation of related organizational rules to electronic activities
- Creation of consideration rules of internet violations
- Creation of rules for benefiting from digital signature.

5. The subsection of legal, law and security factors

- Providing Direct Investigation Law for Information Technology
- Generating the rules and regulation for foreign specialists' usage
- Establishing organizational rules referring to electronic activities
- Issuing inquest rules for Internet breach
- Approving the rules and regulations of Digital signature.



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