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Investigating the Effectiveness of E-government Establishment in Government Organizations

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Abstract

Due to increasing development of information and communication technology in all sections and organizations and its presence in most activities, great revolutions have been started in doing things. Information technology has made things electronic through revolutionizing how things are done. E-government as one of the sub-category of information technology, has allowed the governments to present the information and services efficiently in minimum period of time and cost through using modern information technology. In this research, the effectiveness of e-government establishment in government organizations has been investigated. The data was analyzed by means of Likert Scale and the mean of views. According to the results of questionnaire, applying the tools of e-government improves users' satisfaction. Moreover, e-government establishment reduces the time of doing things, increases the effectiveness, improves after sales services with lower cost, improves services information, introduces new services, increases the degree of confidence in investigating the requests and services, increases the speed of cash payments, facilitates services receive, establishes communications with users and improves the quality of services.

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1. Introduction

The advances in information and communication technology and the invention of modern communicational and information devices in today's world have created new forms of doing things and giving services, thus the accuracy,

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speed and transparency have been increased, waste of time and costs have been reduced and doing things and giving services have been improved quantitatively and qualitatively (Grove, 1999). In fact, due to the great impacts of this technology, official structure will not be efficient without it, in spite of advances in other fields. Therefore, most countries attempt to develop information and communication technology in their official system and form the e-government. According to the researches, there has been a wide attempt to accomplish this goal (Lane & Lee, 2001).

E-government provides the governments with using the new technologies. It allows people to have access to government information and services, modify the quality of services, and offer the best government services to customers promptly. E-government also allows the customers to cooperate in different activities such as social activities (Hazlett & Hill, 2003). Globalization makes governments establish e-government in order to sell goods and services and export their culture to other countries (Lane & Lee, 2001). The aim of this study is to investigate the role of e-government establishment in the effectiveness of government organizations.

2. Research Literature

2.1. E-government

E-government allows the governments to use new technologies, i.e. having access to government information and services, modifying their quality, and giving opportunities to cooperate in processes and democratic symbols (Hazlett & Hill, 2003). E-government is the easy use of information technology in order to offer government services to customers directly and all day long. It also makes changes to whatever that interacts with the government such as citizens and commercial centers (Okotuma & caferly, 2000). In this regard, an effective strategy significantly improves the governmental sector. This strategy includes facilitating the process of offering services to citizens, deleting extra levels of governmental managements, preparing the accessibility of citizens, traders, and employees to government information and services, facilitating the executive processes of institutions, reducing the costs through integration, deleting extra systems, promoting the effectiveness of government operations in order to meet the needs of citizens, and finally achieving accountability, transparency etc. Therefore, e-government is a collection of electronic communications between the government, companies, and citizens (West, 2000). In order to implement e-government, researchers have presented some patterns, which are known as “Patterns of E-government Implementation”. Some of these patterns are presented in Table 1 (Ronaghan, 2002).

Table 1. Main patterns of e-government implementation.

Number	The name of implementation patterns	Stages of implementation
1	UNITED NATIONS	Foundations 2. Promotion 3. Interaction 4. Transaction 5. Integration
2	LAYNE LEE	Inventory 2. Transaction 3. Vertical integration 4. Horizontal integration
3	DATAQUEST/ GARTNER GROUP	Emergence 2. Interaction 3. Transaction 4. Transfer
4	HSINCHUN CHEN CONTINUUM	Information 2. Communication 3. Transaction 4. Transfer
5	DEL OIT RESEARCH	Distributing information 2. Official bilateral transactions 3. Multipurpose portals 4. Privatization of central portal 5. Clustering public services 6. Full integration and transferring the institution

The above patterns present slightly different stages of e-government implementation (Ronaghan, 2002).

2.2. Models of organizational effectiveness

there are various models of investigating the organizational effectiveness. The variety of models is due to the nature of this concept, its unknown borders, and various conceptualizations by organizations.

2.2.1. Goal model

Generally, goal model defines effectiveness as fully or partly accomplishing the goals of the organization. In this model, concentration is of great importance (Martz, 2008).

2.2.2. System model

This model does not ignore the importance of goals, however, it concentrates on the tools, resources and processes of achieving particular goals. In fact, the concept of organization is rooted in open system and inputs change to processes (input to output) and outputs are considered as a part of whole not as independent variables (Martz, 2008).

2.2.3. Strategic-constituencies model

Strategic constituencies are defined as a group who has a stake in the organization. Particularly, strategic factors can be defined by considering those who work legally for the organization (employees, consultants, agents, board of directors etc.) or those who are totally outside the organization, work for themselves, and affect or are affected by the actions of the organization (Robbins, 2008). This model develops the two previous models through adding the expectations of powerful constituencies groups who are under the influence of the organizations, thus the organization is a group of internal and external factors who negotiate and reach an agreement on a complicated group of obstacles and goals. In this model, owners, employees, customers, producers, creditors, the society, and government are the constituencies who must be satisfied in order to guarantee the effectiveness and organization's survival (Martz, 2008).

2.2.4. Competing-values model

Competing-values are hypothesized that there is no best criterion for evaluating the effectiveness of the organization. Effectiveness is by nature a mental concept and the goals selected by an evaluation rely on personal values, preferences, and individual benefits. According to this approach, there are common elements, which are as a part of effectiveness criteria and can be combined and form a collection of competing values. Every one of these collections defines an exclusive effectiveness model (Martz, 2008).

2.2.5. Ineffectiveness model

This model focuses on factors preventing from the successful performance of the organization and views the organization as a group of problems and mistakes in order to express a different viewpoint. The fundamental hypothesis of this model (which is easier, more correct, and more useful) is to find the problems and deficiencies (ineffectiveness) rather than the competencies (effectiveness). Therefore, the organizational effectiveness is defined as the non-existence of ineffectiveness factors (Martz, 2008).

Table 2. Organizational effectiveness models.

Model	Conceptualization of the organization	focus
Goal model	The organization as a rational collection of arrangements, which tend to reach the goals	Reaching and accomplishing the consequences (goals)
System model	The organization as an open system (input, change, and output)	Input and internal resources (tools and methods)
Strategic-constituencies model	The organization as the internal and external factors which negotiate and reach an agreement on a complicated group of obstacles and goals	Answering the expectations of constituencies groups who are within the organization
Competing values model	The organization as competing values which creates several conflicting goals	Three dimensions of competing values: internal focus vs. external focus, control vs. flexibility, goals vs. tools or methods
Ineffectiveness model	The organization as a group of problems and failures	Factors preventing from the successful performance of the organization

3. Research Methodology

3.1. Sampling Techniques

The participants of this research include 286 managers and IT experts, who were qualified in terms of education and work experience to participate in this research, and 261 users of information and communication technology, who were surveyed to measure their satisfaction.

3.2. Data Analysis Methods

In order to design the questions, library studies and consultation with professors and experts were conducted. Moreover, the components of strategic constituencies approach were considered as the foundation of ineffectiveness model and appropriate indices in order to evaluate the role of e-government in the effectiveness of government organizations were defined. Finally, based on the mentioned factors, two questionnaires were designed. In designing the alternatives, Likert scale has been applied. The questionnaires were answered by managers, operating experts in government organizations, and users. The reliability of managers' questionnaire which was calculated through Cronbach's Alpha was 0.92 and the reliability of customers' questionnaire was 0.83. Moreover, t-test was used for testing the hypotheses.

4. Hypothesis testing and Discussions

The first hypothesis: e-government establishment has a role in the satisfaction of government organization users.

In order to test this hypothesis, the questionnaire of users has been conducted. The results of testing indicate that e-government establishment has a role in the satisfaction of government organization users, thus the first hypothesis is confirmed.

According to the results, e-government development has a positive effect on users' satisfaction. The mean of this relationship is equal to 3.38, which according to the level of significance (lower than 0.05), from the viewpoint of users, using e-government tools improves their satisfaction. The results of hypothesis test are illustrated in Table 3.

Table 3. T Test results for the first hypothesis

	N	Mean	Std. Deviation	Sig. (2-tailed)	t
Customer	267	3.3857	.49372	.000	26.950

95% Confidence Interval of the Difference

The second hypothesis: e-government establishment has a role in quick and correct transfer of the information of government organizations.

In order to test this hypothesis, the questionnaire of managers has been conducted. The results of testing indicate that managers and organizational experts believe that e-government establishment has a role in quick and correct transfer of the information of government organizations, thus the second hypothesis is confirmed.

According to the results, e-government development has a positive effect on quick and correct transfer of the information of government organizations. The mean of this relationship is equal to 3.41, which according to the level of significance (lower than 0.05), from the viewpoint of managers and experts, using e-government tools improves the quick and correct transfer of the information of insurance companies. The results of hypothesis test are illustrated in Table 4.

Table 4. T Test results for the Second hypothesis

	N	Mean	Std. Deviation	Sig. (2-tailed)	t
Manager	236	3.4172	.38369	.000	21.342

95% Confidence Interval of the Difference

The third hypothesis: e-government establishment has a role in reducing the costs of government organizations.

In order to test this hypothesis, the questionnaire of managers has been conducted. The results of testing indicate that managers and organizational experts believe that e-government establishment has a role in reducing the costs of government organizations, thus the third hypothesis is confirmed.

According to the results, e-government development has a positive effect on reducing the costs of government organizations. The mean of this relationship is equal to 3.71, which according to the level of significance (lower than 0.05), from the viewpoint of managers and experts, using e-government tools reduces the costs of government organizations. The results of hypothesis test are illustrated in Table 5.

Table 5. T Test results for the Third hypothesis

	N	Mean	Std. Deviation	Sig. (2-tailed)	t
Cost	236	3.7120	.2344	.000	19.20

95% Confidence Interval of the Difference

The main hypothesis: e-government establishment has a role in the effectiveness of government organizations.

In order to test this hypothesis, the questionnaire of users and the questionnaire of managers and experts have been conducted. The results of testing indicate that e-government establishment has a role in the general effectiveness of government organizations, thus the third hypothesis is confirmed.

According to the results, e-government development has a positive effect on the effectiveness of government organizations. The mean of this relationship is equal to 3.83, which according to the level of significance (lower than 0.05), using e-government tools increases the effectiveness of government organizations. The results of hypothesis test are illustrated in Table 6.

Table 6. T Test results for the Main hypothesis

	N	Mean	Std. Deviation	Sig. (2-tailed)	t
Costumer	267	3.830	.41043	.000	21.031

95% Confidence Interval of the Difference

5. Conclusion and Implications

5.1. Conclusion

From the beginning of the third millennium, information technology has been the most prominent element in revolutionizing the world and its achievements have merged with people's life to the extent that ignoring it will

cause great disorder in the society. In this regard, electronic and internet cities in every country can prepare the gradual, rational, scientific, and economic presence of this valuable phenomenon, which is the measuring criterion for scientific ability and countries' power to produce, distribute, and use the knowledge.

The data obtained from the questionnaires was investigated through Likert Scale and the mean of opinions. The hypotheses of this research included a primary hypothesis and three secondary hypotheses which were studied through Likert Scale and the mean of opinions.

According to the results of questionnaire, applying e-government tools improves the customers' satisfaction. Moreover, e-government establishment reduces the time of doing things, increases the effectiveness of doing things, improves after sales services with lower cost, improves services information, introduces new services, increases the degree of confidence in investigating the requests and services, increases the speed of cash payments, facilitates services receive, establishes communications with users and improves the quality of services.

Investigating the role of e-government establishment in quick and correct transfer of the information of government organizations indicated that e-government establishment improves the traditional methods of information transfer, establishes easier intra-organizational communications, increases the speed of offering services, facilitates the processes of receiving and paying funds with higher speed and accuracy, and enhances the quick accessibility to statistics and reports.

Moreover, the results of testing the role of e-government establishment in reducing the costs of government organizations indicated that managers and organizational experts believe that e-government establishment has a significant role in reducing the costs of government organizations. In fact, using electronic services saves the time, reduces the number of human forces and the costs of exchanges, facilitates the communications with users, and reduces other operating costs.

In this research, it is generally concluded that e-government establishment has a role in the general effectiveness of government organizations and it will reduce the tension between employees, increase the clients and users' satisfaction, improve the quality of services, increase innovation and the speed of offering new services.

5.2. Research Implications and Suggestions

It is recommended that all the people within the society be trained free to use e-government. In order to develop the infrastructures of e-government, managers and policy-makers must win the trust of citizens. Moreover, legal structure must be developed, rules of e-government must be set, and safety technologies like revealing individuals' identity must be introduced. Strict rules must be set in order to support the users through the Internet and meet the safety standards. Finally, some rules must also be set for electronic crimes, privacy, free flow of information, consumers' rights, and electronic trade.

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