

INVESTIGATING THE IMPACT OF E-GOVERNMENT ON PUBLIC MANAGEMENT

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Abstract

This paper explores the role of public management in effective use of resources and increasing efficiency which leads to satisfaction and economic development. Considering the fact that most of the facilities and tools are in the hands of the state, utilization of new methods of management in doing services are noteworthy. Using E-Government, the role of public institutions is more transparent as people have more information and this leads to the essential changes in interactions between government and citizens. In Iran, as a developing country, service centers of E-Government provide various services for citizens. The methodology of the chi-square test is applied to the survey. The results indicate that these centers not only saves time and resources, but also feedback of appropriate services to the citizen's leads to improve management function.

Keywords: electronic government, click and mortar, public management, Iran.

1. INTRODUCTION

E-government is the use of internet technology in general and e-commerce in particular to deliver information and public services to citizens, business partners and suppliers of government entities, and those working in the public sector. It is also an efficient way of conducting business transaction with citizens and within the governments themselves (United Nations, 2014).

E-government offers a number of potential benefits: it improves the efficiency and productivity of the government, including the delivery of public services. It enables governments to be more transparent to citizens by giving access to more of the information generated by the government (World Bank, 2012).

E-government also offers greater opportunities for citizens to provide feedback to government agencies and to participate in democratic institutions and processes. As a result e-government may facilitate fundamental changes in the relationships between citizens and governments.

E-government applicants can be divided into three major categories: government-to-citizens, government-to-business and government-to-government (Yildiz, 2007). In the first category, government

agencies increasingly are using the internet to provide services to citizens like pension payments, social security smart cards, etc. In second category, governments use the internet to sell to or buy from business. For example, electronic tendering systems using reserves auctions are becoming mandatory, to ensure the best price for government procurement of goods and services. The third category, includes intra-government transaction between different governments. Hence, the focus of the e-government is exploring the services which develop online contract management solutions for the public sector.

The remainder of paper is organized as follows. Section 2 discusses implementing of e-government versus bureaucracy. Section 3 reviews related works. In section 4, we describe our research method. Section 5 presents the results of the study. Finally, Section 6 concludes the paper.

2. IMPLEMENTING E-GOVERNMENT VS. BUREAUCRACY

E-commerce is the utilization of global informing network through the net for supplying of goods and services. Electronic Data Interchange (EDI) technology's high rate has caused the e-commerce to become the symbol of current era. E-commerce has caused a modern arena in competition, due to the increase in pace and efficiency and also a decrease in expenses. As mentioned above, the lag from this trend would cause isolation in the global economy.

The most important advantages of e-commerce are as below:

Facilitation and globalization of trade and economic growth increase in welfare of individuals through production increase, creating new job opportunities, investment absorbing, and income increase. Decreasing traffic jam, and therefore reducing environmental pollution, creating a sense of competition and therefore improving the goods' quality, efficiency in goods production, omitting mediating costs and consequently creating creativity and innovation (World Bank, 2012; United Nations, 2014).

Thrift and expenses' reduction, for instance warehousing, creating a 24 hour work condition and increasing connection with clients and face to face contact with them, online response, and besides expediting to goods delivery are other advantages of implementing e-government (World Bank, 2012; United Nations, 2014).

By mentioning the most remarkable advantages which e-commerce brings to us; the important role of state in infrastructure's development and e-commerce technologies among consumers and different institutions can be realized. Effective electronic communication networks are vital requirements for the mentioned subject. The lack of distinct state policies in electronic communications can be a huge barrier

to e-commerce growth especially in countries that electronic communication networks are in the control of public sector (Torabi and Mohammadzadeh Asl, 2009). According to Rezaei et al. (2014), in most developing countries, user's access to the internet is expensive or the usage speed of internet is inappropriate and unreliable. That is why users have few tendencies to use the internet. In most developing countries like Iran, state is the supreme purchaser of goods and services. If these states use policies that would support purchase and payment in the form of e-commerce in the society, this itself will cause growth and prevalence of e-commerce in the society.

Many states provide services to citizens through the internet, which itself will promote the internet usage culture. Iran, likewise, consistent with the current world, feels the urgency of electronic trade, however does not possess the needed pace.

The main purpose of implementing e-government is expansion of e-democracy tools. Nowadays, most of government projects have concentrated on e-service, which is sort of parochialism towards e-government. By implementing e-government, organizational structures will be transformed and will become completely transparent. Borders and organizational units will become inconspicuous. Besides, all organizational activities will be designed and supplemented according to networks and employees will not need physical attendance in organization. The staffs are the informative partner of their organization and that is the cause of their authority. On the other hand, their important role is innovation and creativity (while can be continuously learned and trained). Organization affairs will be done proximately and managers will keep in touch with the clients. So, the decision making process will be more efficient. By implementing e-government, a lot of employees become free and can be used in other mental activities (Yaghoubi et al., 2011). In countries like Iran which formal process is paper-based-also, movements towards e-government requires formal process reengineering. In this regard, culture development is very significant. Thus, public training about the importance, the advantages, and the instruction of these facilities are important.

Bureaucracy means managing by offices and rules and regulations, expressively (Beetham, 1996). In public opinion, bureaucracy has a negative concept and bad effects such as bureaucracy and slow administration process (Orren, 1997). The administrative structure reformation has also recently been initiated in Iran. These reformations' main purpose is development in administrative method, style, and procedures and besides bureaucracy and administrative red tape reduction. It has been a long time that these problems and issues have made chaos and stress in official and state organizations of the country and have caused complaints and dissatisfaction within the inner and outer organizations. These issues in state organization have somehow caused problems. Complicated bureaucracy, over lapping

and sometimes conflicting goals and therefore such processes have been emerged as a result of dissatisfaction.

3. LITERATURE REVIEW

Liberate review of e-government, indicates that this category was born in articles and discourses with its high speed from the late 1990s (Rogers, 1995). Likewise, in Iran, from the mid-2000s, with the launch of e-government, some studies have been conducted about this issue (Yaghoubi et al., 2011; Jalali and Khorasani, 2012). However, the abundance has not been remarkable.

Buchanan and Tullock (1962) mentioned democratization in their research. In their opinion democratization is the satisfactory of a larger number of citizens who participate in government's works. However, it should be pointed out that by more people participation, the control expenses will raise. According to the subjects mentioned above and different research results, in the democratic era, more access of states to resources for better system control, is one of the requirements of operating the citizen complaint system. Using new information and communication technology (ICT), in the field of control and investigation of citizens' complaint, can be considered as an appropriate solution to prevent the increase of participation costs. On the other hand, by means of this technology the entry costs to state services decreases and determination of citizens to participation would be increase.

Welch and Hinnant (2003) mentioned the association between transparency and citizens' trust, concluding that a positive relationship exists between transparency and the internet, used by e-government.

Chen et al. (2003) after probing into Taipei city, concluded that external clients' satisfaction will not increase, unless Reorganizing Bureaucratic Structure. They showed that reforming legal environment occurs simultaneously.

Leung (2004) indicates that stepping into the path of reinvention in state depends on paying attention to regional culture. He insists that using Information and Telecommunication Technology (TCI) is essential to reach bureaucratic reform and government reinvention.

The results of Welch (2005) survey, shows that on the one hand there is a positive connection between the usage and government website usage and satisfaction from e-government and service provider websites. On the other hand, there exists a positive connection between satisfaction from e-government and trust in government. An important issue existing in the field of state-management is looking at citizens as clients, which is rooted in te modern state management paradigm. According to this issue,

converting the consumers to customers is the solution to liberate from this problem. Thus, proceeding with the client orientation issue, requires a modern state management.

Lund and Mc Guire (2005) stressed on the attendance of active state in the field of e-commerce. They believed that without such states, you cannot take an effective step towards economic growth, unless by owning e-commerce tools.

Bjoner (2006) in his book, points out that reducing productive bureaucracy is the greatest intensive for e-government development and this factor reduces effective expenses. Another point related to e-democracy-in their opinion is using information and telecommunication technology in meetings and also conversations between citizens. Following this issues, Schedler and Summermatter (2007) consider the municipality's awareness of their clients' needs as the requirement of client orientation.

Shim and Eom (2008), believed that information technology can reduce administrative corruption in different ways. These methods include: improvement in relationships between state personals and citizens, possibility to follow the state activities by citizens, increase in accountability of government officials, promoting good governance, reducing potential corruption in immoral behaviors, strengthening the reform oriented projects and ultimately, better monitoring and control over employees' behavior. We know that trust can be considered as the democracy proxy. Gholipour and Pirannejad (2007), studied the effects of e-government on primary institutes and democracy; likewise on confidence in government and democracy. They utilized three groups' opinions in their questionnaire: state managers, professors, university students. Conceptual model of their research indicates that four dimensions of the five-dimensional model of justice have a meaningful relationship with the public trust.

Torabi and Mohammadzadeh Asl (2009) studied the significance and the effect of globalization and consequences of the modern economy, while emphasizing the role of e-commerce, on economic growth of developing countries. Their research shows that for the lower-middle income countries, both e-commerce and the world index variables (infrastructure gap, state role, and the instruction of information and communication technology tools) have a positive relationship with upper-middle income countries in comparison with developed countries. Yaghoubi et al. (2011) studied the effective factors in clients' satisfaction, from e-government services in Mashhad, Iran. Their research results show that although the satisfaction of citizens from delivery, variety and access to e-services is higher than average, satisfaction level from ICT offices' staff is low.

4. METHODOLOGY

The questionnaire was developed via extended literature review and refined after a pilot study. The population of interest is defined as a group of university students in Urmia city, Iran (state universities, Payam-e Noor University, and private universities). According to Cochran formula, the sample was taken randomly from 94 management students. All variables are considered acceptable since they signified tolerable reliability and validity of all items demonstrates the strong correlation of them with their assumed theoretical construct. This paper deals with the application of a chi-square test to the results of a survey focused on the impact of E-Government on public management. The chi-square test is a nonparametric statistical analysis method often used to assess the probability of association or independence of facts (Maxwell, 1971). This statistic approaches a chi-square distribution that was first introduced by Karl Pearson in 1900. The first step in mentioned methodology is the expression of the null and alternative hypothesis. The second step is to determine the significance level (α). The third step is to calculate the chi-square test statistic (χ^2). The fourth step is to compare the computed (χ^2) with the critical value in the table for the significance level (α) and then to make a statistical decision in regard to the null hypothesis.

5. FINDINGS

The model used in this article, was statistical analysis of X2 test at $\alpha=95\%$ level. The result of this survey is as below:

TABLE 1: QUESTIONNAIRE OF QUESTIONS INTENDED TO ASSESS THE ROLE OF E-GOVERNMENT

| | Yes | No | Total |
|-----------------|---|--|-------|
| Satisfaction | total number of satisfaction responses in ratio with the option of Yes: 649 | total number of satisfaction responses in ratio with the option of No: 563 | 1212 |
| | the expected frequency according to the gained assumption of trust in ratio with the option of Yes: 758.64 | the expected frequency according to the gained assumption of trust in ratio with the option of No: 453.36 | |
| Trust | total number of trust responses in ratio with the option of Yes: 857 | total number of trust responses in ratio with the option of No: 355 | 1212 |
| | the expected frequency according to the gained assumption of satisfaction in ratio with the option of Yes: 758.64 | the expected frequency according to the gained assumption of satisfaction in ratio with the option of No: 453.36 | |
| Economic Growth | total number of economic growth responses in ratio with the option of Yes: 482 | total number of economic growth responses in ratio with the option of No: 270 | 752 |
| | the expected frequency according to the gained assumption of economic growth in ratio with option of Yes: 470.71 | the expected frequency according to the gained assumption of economic growth in ratio with option of No: 281.29 | |
| Total | 1988 | 1188 | 3176 |

Source: Research findings

Note: Chi_sq=77.178, DF=2, P_Value =0.000

The statistical assumption of this survey is if the three factors of citizens' satisfaction, trust, and economic growth are independent or not. The statistical H0 test is the data's independency. The purpose of this statistical assumption is rejecting the independency of these three factors (rejecting H0).

The test method is according to χ^2 amounts which equal 77.178 and with regard to DF with two degrees of freedom, χ^2 is always greater than χ^2_{α} at the level of 95% (77.178 > 5.991) and therefore the H0 statistical assumption is rejected. On the other hand the amount of P_Value=0.000 which is always less than 0.05, giving as a strong feasibility for the results.

Figure 1 displays the proportion of Yes responses to the questions proposed in the questionnaire, in which the amount of P_Value is 61%. Also in figure 2, displaying the proportion of No responses, the amount of P_Value is 40.7%. This figure revision indicates that the number of Yes responses in comparison with No responses is greater.

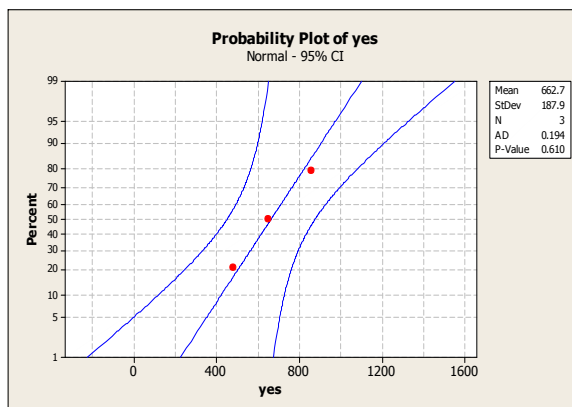


FIGURE 1 - PROBABILITY PLOT OF YES
 Source: Research findings

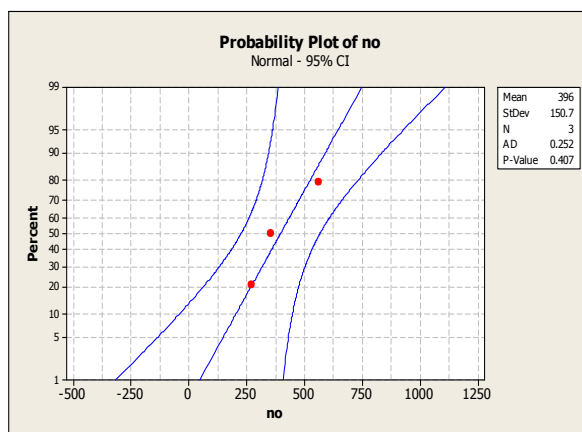


FIGURE 2 - PROBABILITY PLOT OF NO
 Source: Research findings

Figure 3 indicates the trend of total Yes and No answers to 68 different responses in relation with citizens' satisfaction, trust, and economic growth.

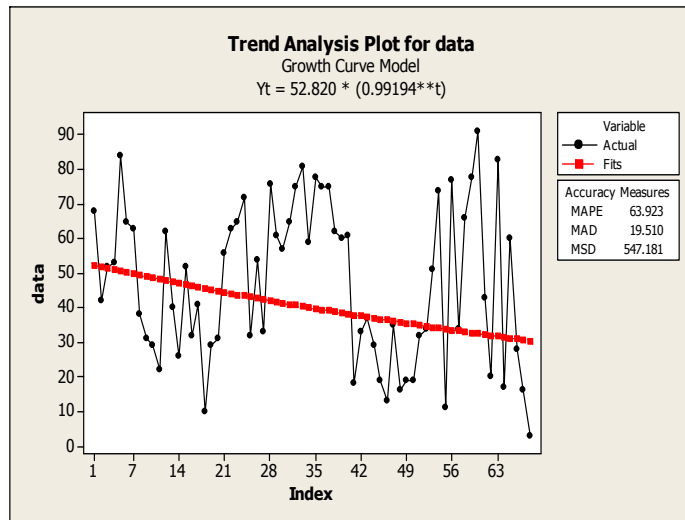


FIGURE 3 - TREND ANALYSIS PLOT FOR DATA
 Source: Research findings

The result indicates a dependency among three factors of citizens' satisfactions, trust, and economic growth. It implies that an increase in citizens' satisfaction from e-government services increases the trust in government and therefore this factor develops the economic growth. Hence, the government of Iran has taken an important step in order to increase citizens' satisfaction, trust in government and ultimately developing the economic growth by proceeding towards electronic services of the state, which shows the government's success in presenting e-government and public management development.

6. CONCLUSIONS

Governments basically play an important role in creating citizens' satisfaction. There are several samples in government's performances which cause citizens' positive or negative attitude towards the government. Another important issue is that, when citizens participate in determining their fate, they feel that social and political trades are fair and therefore public trust, which is the foundation of democratic governments' existence, increases.

The more information technology and informing systems promote, the more the e-government issue has been discussed. Evaluation of statistical model in this article showed that, in Iran, utilizing this technology in order to provide better services to citizens has increased their satisfaction. On the other hand, by an increase in satisfaction, trust in government would be raised. Thus with the launch of e-

government in Iran, suitable infrastructure has been created for modern management, which has caused public management improvement.

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