Effect on Electronic City Electronic municipality (Case Study Zone 2 Tabriz)

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Abstract: This study examines the effect of electronic city on electronic municipality in second zone of Tabriz municipality. Main question is that whether creating electronic city impact on creating electronic municipality? This research method is descriptive and applied. Statistical population includes all employees of the Municipality of second zone of Tabriz that has been obtained through Morgan table and Likert spectrum technique is used to collect data. This study intends to provide a theoretical and intellectual infrastructure and transparent communication between the electronic city and electronic municipality in order to justify scientific reasons of this and creating electronic city in the developing world. According to studies and utilization of the results of other studies in this area was found that electronic city play an important role in creating electronic municipality and electronic city and electronic municipality are closely related to each other and every one requires the other.

1. Introduction

In current societies, some factors such as increasing poverty and social and economic injustice, population growth, increasing urbanization, have been made citizens and city manager facing many problems for city management. In addition, information and communication technology has made many changes in a wide range of societies today. It is more evident in cities and governments levels and includes electronic city, electronic government, electronic municipality, electronic citizen and electronic services and creating an electronic city can solve most of urban problems (Hadili and Zeynali Azim, 1389, p. 33-52). One of concepts has been studied widespread in advanced societies in recent decades and has been implemented successfully in some countries is electronic city and electronic municipality. In an electronic city not only citizens use virtual city, ministries and electronic organizations but also they do their routines such as daily purchases through network. It should be noticed that the electronic city is a real city has various citizens, offices, organizations and etc. In an electronic city that just certain communications and social interactions and provide a major part of their daily needs is done through the Internet. Most features of this informing network can be searched in the urban transport network and informing about disaster. When disaster occurs resorting to this system can manage occurred disaster as soon as possible. Electronics City is an undeniable need. Global approach was to be an informatics society and today a more advanced society is which can generate and exchange information faster and have more features (Zeynaly Azim et al., 2012).

2. Electronic government

Before the identification of electronic city, we should be familiar with the concept of electronic government because the electronic city is original base of forming electronic government. Information and communication technology and especially the Internet is the best tool to achieve electronic government (Magro, 2012, p. 148-161). Therefore, electronic government is a multidisciplinary and interdisciplinary concept that deals concepts of public administration, political science, communication and media studies, law, public policy, engineering and computer science, etc. There aren't correct studies and understanding of what is electronic government and the way it impacts on structure and managing of public institutions, information and public service delivery, relationships between individuals and organizations and those govern people (Gregory G. Curtin, 2007, p.1-14). Electronic government means government initiatives to help local officials in order to provide online and accessible services via the Internet and email to the citizens. (Abuali, et. al., 2010, p. 169-175) Information and communication technology is the only tool to achieve the goal. The aim is to provide better service to all stakeholders in the delivery of public services. Electronic city is a process of structural reform based on the polls as a strategic resource in all areas of government activity (Deprest and Robben, 2003, p. 4-5). Electronic

government is an opportunity for better relations between the government and the public in on hand and between private organizations and institutions on the other hand. There are many advantages in implementing electronic government such as quick and easy sharing of data and information, citizens quick and direct access to the required information, saving energy, time, resources and costs, increase efficiency and productivity, positive environmental impacts, improving accountability to citizens, increase government transparency and reduce corruption activities, simplify the process and reduce the bureaucracy of government (Gupta & Jana, 2003, p. 365-387).

3-The concept of electronic city

Internet is passing of industrial society that urbanization was expanding on it day by day. Moreover, the urban population was rising increasingly. Parallel to these developments in human society, information society emerged that emergence context of it was began by electronic city (Kastelz, 1382). Today, it must be acknowledged that the world is changing dramatically. In the third millennium, information technology is as the main focus of change and development in the world (Behrouzian Nejad, 2011, p. 92-95). Electronic city development is a highly regarded subject around the world to expand opportunities for people living, working and fun. Creating electronic city has economic, social, cultural, and political influence on the city (Zangabadi et al, 2010). Electronic City is a city that has telecommunications and controls by department of and information and communication technologies to exchange information (Cohen et al., 2001). In an electronic city not only citizens use virtual city, ministries and electronic organizations but also they do their routines such as daily purchases through network. It should be noticed that the electronic city is a real city has various citizens, offices, organizations and etc. In an electronic city that just certain communications and social interactions and provide a major part of their daily needs is done through the Internet. Most features of this informing network can be searched in the urban transport network and informing about disaster. When disaster occurs resorting to this system can manage occurred disaster as soon as possible (Sarafrazi and Memarzadeh, 1386, p. 7). In fact, in an electronic city, citizens access the all update services of offices, organizations and inner city places and the services they need to perform their tasks directly, seven-twenty four, stable, secure, reliable and Confidential (Jalali, 1384). Thanks to electronic city, participation in local government, improvement of local service increase operational performance and official would be easier (Building an Information and Technology Vision for Toronto, 2002, 2). Therefore, establishing electronic city causes reducing "population movement" in the real city. Separating city in two space (real space and virtual space), is kind of urban population movement management that tries to provide more peaceful and less expensive space and have urban and psychological security for citizens (Safari, Kanani Ahmad Begloo, 1386).

3-1- electronic city model

An electronic city has composed of different parts and components which have four parts.

- Electronic life
- Electronic organizations
- Electronic government
- Electronic infrastructure (Asgharizadeh at. el., 2008)

1-Electronic life: lack of spending time for repetitive and useless activities, cost saving and pay attention to other issues such as family, culture, recreation and leisure times (Jalali, 1382)

2-Electronic organization: electronic organizations in the electronic city should interact with each other and with citizens and should also be compatible with the latest technology. Organizations that do not match themselves with the change, for doing continental business will not succeed. This field can include the following: (Asghiarzadeh et al, 2008) E-commerce, electronic procurement enterprise resource planning systems and customer relationship management.

3-Electronic government: The term electronic government was raised in political literature of U.S. for the first time in 1997 so that re-engineering of government does through information technology (Chen, 2003). Electronic government makes new opportunities to direct and easy access to government and public services provided to citizens, which is interpreted as a kind of direct democracy. These services include voting in an election or referendum, local government services to develop schools and non-profit organizations that all of them are practical decentralization tools of public services from high level to local levels (Howard, 2001, 8).

4-electronic infrastructure: electronic infrastructure is a platform for developing information technology including laws and regulations, human resources, culture and social conditions, and finally infrastructures of information and communication technology.

3-2- Urban spaces in relation to electronic city

Urban space is one of the elements of Spatial creating of city and forms and changes along with changing the history of nations during different eras (Tavasoli, 1387). In recent decades, the widespread use of information and communication technologies on urban interactions has led to the formation of

cyber space. Cyber means the boundary between human and machine, nature and culture, etc (Bel, 1383). ICT plays a major role in forming today's urban space and as a accelerate factor for the changes of economic, social and cultural life. We live in an era that rapid changes in information, knowledge and network society occurs. In the last twenty years, the technology has made remarkable progress and tools development and new applications are significant. On the other hand, city as a system has three subsystems include physical, functional and cognitive. Today, a new system called virtual space is also added that didn't change reality of city system but people's subjective perception of the city has changed in the system (Fistola, 2001, 359-363). Virtual urban space can be classified as follows.

1- Open, semi-closed and closed spaces
2- Public, semi-private and private spaces
3- Open, semi-closed and closed spaces
4- Reciprocity of filled and empty spaces (open and closed - mass and space) gives the physical nature to the system. What used as open and close or space and mass in city is equal to accessible inaccessible space on cybernetic space.
5- Public, semi-private and private spaces
6- Public and private spaces are characterized by space boundaries and realms based on property boundaries and physical barriers. But in cyberspace, the boundaries and realms are related to activity of each space and how to access it. For example, some of the sites are private and need special code to enter, some are semi-public need the invitation and code to enter and some are public and available to the public (Rabiee and Bemanian, 1388).

3-3- The necessity of creating electronic city in Tabriz

There are different factors related to creating electronic city in Tabriz that these are all due to technology advances and information and communication technologies and getting relations more in societies and all point to the necessary of electronic city in Tabriz and are:

- The close relationship between sustainable development and electronic city. Aspects of stable development have been created through the creation of electronic city such as reducing environment pollution, reducing traffic, increasing productivity and employment, improving urban stability, increasing citizen participation and etc that are features of electronic city (Hadili and Zeynali Azim, 1389, p. 33-55)

- Increasing cities population, electronic city is be able to create new and update specialties that can serve people long-distance and it is important for creating new jobs.
- Not creating mental sense of retardation among the people of the world
- Reduction of administrative procedures and bureaucracy that hurt people and the employees of its structural problems.
- Providing one-stop services to citizens and expedite service to the people
- Contribute to stable tourism development by proper advertising in virtual space and introduce attractions such as cultural, historical and natural attractions in our country that due to the potential that we have in this area, we can improve our country's economy by attracting tourists.
- Easy and public access to the necessary information and the appropriate distribution of urban services and the establishment of a fair and equal opportunity for the public.
- Aligning the investments with city needs and updating the traditional and efficient structures.
- Organizations and agencies better communication in order to reinforce integrated urban management.

Increasing population, vehicle and domestic migration, metropolises are having a lot of problems. Thus, reducing the time and space costs of everyday living helps to improving the quality of people life and reduces urban accidents and inter-city travels. Therefore, it is not in vain if we say electronic city approach is an opportunity to finish many urbanization concerns (Ketabchi, 1390, p.67-73)

3-4-Electronic citizen

A citizen is an active member of the community, with rights and duties granted by the society (Biasiotti and Nannucci, 269-280). Increasingly, citizens expect governments for quick access to public services and on 24 hours, 7 days a week, easily and reliable. The ability to access the service can be from home, work or any other location. They opposed any restrictions on how to access services, e.g. computer, TV, website, mobile phone or wireless devices. Electronic citizens can do their jobs through websites and emails instead of going to the cities to do their jobs, attend meetings and access to public information and formal and official documents (Reffat, 2006, 1-13). Electronic Citizen is a beautiful phrase, but where the minimum infrastructure issues such as mindset preparedness and culture is respected. In our country, some activities have been done in order to electronic societies and related issues that it shows the authorities have understood the importance of the issue. Police centers + 10 kinds of

credit cards, new banking services, Bon Hekmat cards, Bon cards, books, etc are examples. Supply and distribution of fuel cards are also a great move to make citizens familiar with electronic services (Karbasi, 1386). Below are some definitions of electronic citizen.

Electronic Citizen is someone who is familiar with information technology and can use electronic services of an electronic city in order to do daily activities such as recreation, education, communications and personal transactions. Electronic Citizen is a representative of the real citizen in electronic city who does not have his/her authority and just implement orders of real citizen. Electronic citizen identity is very important and to make an electronic citizen, a case can be created for him/her that electronic municipality can uses user data (Kargari and Khademi Zare, 1384).

Electronic Citizens are able to use information technology in their daily affairs, and can receive their required services from related institutions and organizations by using electronic systems and devices (Singh, 2007, 477-490). Electronic citizen is someone who is familiar with information and communication technology, and knows culture of using electronic services of the city (Sahu, 2007, 477-490). Given these definitions, electronic citizen experiences new life versus traditional citizen. Saving time and costs according to doing many tasks without need to leave home or workplace and also reduce of urban and inter-urban traffic costs are the futures of an electronic citizen. Learning electronic citizen skills increases citizens ability to use modern information technology and therefore they will be ready to use electronic government services and facilities. (Layne, 2001)

4-Electronic municipality

In fact, municipality is a set of mechanisms related to city and citizens whose goal is to provide spiritual and material needs (Ebrahimi and Irani, 589-611). One of the important tools that enable municipalities to provide services to the citizens of community is to access to new information technologies. This new technology enables municipalities to provide information and services effectively to their communities, and to increase participation in local organizations. Also, municipalities are able to support local organizations more widely in order to achieve better business. To achieve this goal, municipalities need to make collective decisions to choose a strategic direction. To do this, the best strategy is electronic municipality (local government) (Local Government New Zealand, 2003, 1-23). It was first introduced in England in 2000 (Centre for Urban and Regional Development Studies, 2003, 1-56). Thus, the

electronic municipality is an offers its services in the areas of municipal tasks to citizens using information technology quickly, available and securely (Layne and Lee, 2001). In such a system, citizens receive all services they need the best possible way and securely. Municipal also will control its and citizens' activities using information technology and focusing on services and information and will be ensured to quality and availability of services offered by them (Akman at el, 2005).

4-1-Electronic municipality objectives

Electronic municipality has three main objectives that are:

- Transforming services: Making them is easier, more responsive, more accessible and more affordable. This makes more service accessible for people with disabilities.

- Renewal of local democracy: Councils able to manage and lead their communities more open, accountable, inclusive and better. Electronic municipality (electronic local government) can give citizens the opportunity to talk with each other, participating with local councils and access to local services and increase communication with their political representatives.

- Promoting local economic vitality: Modern communication infrastructures, skilled workforce and promoting electronic business actively can help residents to improve and expand employment. Electronic city as a national strategy is an ambitious goal (Centre for Urban and Regional Development Studies, 2003, 1-56).

4-2- Methodology for the formation and evolution of electronic municipality

Electronic municipality generally has made up in four stages: emersion, promotion, interaction and integration.

Emersion stage:

The first action to create an electronic municipality is to provide strategic document based on field studies of facilities, current situation and comparative analysis of international experiences and activities in this field.

Promotion stage:

Many electronic municipalities around the world have started to work providing elementary services on the website and update infrastructure and teaching staff have done at this stage.

Interaction stage:

Next, websites and networks establish mutual communication and people can communicate with electronic municipalities easily.

Integration stage:

At this stage, some services such as urban database are available to citizens through Internet. In the integration stage, most services are provided by the website and citizens can access to most urban services using local network or through the Internet. This is the ground for holding electronic municipality. Most of the top electronic cities in the world like Toronto, Berlin and Boston are in the beginning of this stage. Creating virtual organizations and agencies and remote working system are future plans of electronic municipalities that by implementing them people going to offices will be minimized and employees can do their office works in every places (Sarafrazi and Memarzadeh, 1386).

5- Research methods and findings

Statistical community includes Tabriz municipality district 2 employees that are 210 individuals. The sample consisted of 100 Tabriz district 2 employees obtained from Morgan table. Sampling method is random and simple. Type of research is development- applied and main method is descriptive – analytical. This study, based on its nature, collects necessary information on the following two methods:

1- Library and documental method in order to explain issues theoretically and collect information of official organizations and institutions

2- Field studies in order to identify the characteristics of the study area, including visits to the study area

In this study, information collects by observation, receipts, tables, databases, computer networks and etc. Data analysis was performed using SPSS statistical software.

5-1- Research findings

• Distribution of organizational strategy dispersion in district 2 municipality in order to develop electronic city

According to Table 4-1, enterprise strategy average is 48.88 and its standard deviation is 14.33 so that minimum value is 11.36 and maximum value is 75.

Table 5-1- Distribution of organizational strategy dispersion in district 2 municipality for electronic city development

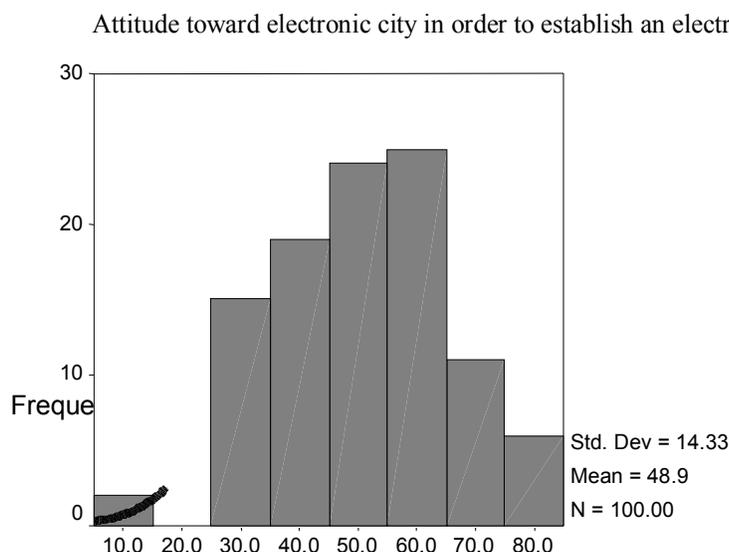| Variable	number	Average	Standard deviation	Min value	Max value
enterprise strategy	100	48.88	14.33	11.36	75

Figure 5-1- Distribution of organizational strategy dispersion in district 2 municipality for electronic city development

Variable	number	Average	Standard deviation
Strategy along with strategic document and development policy to use ICT in city	100	3.28	0.86
IT applications in the development of city	100	3.12	0.96
A scientific model and specifying its implementation plan	100	3.10	0.90
People welcoming to do usual affairs of virtual networks	100	3.07	1.04
People are prepared to pay city service fees	100	3.06	0.88
Culture and public awareness by municipal managers	100	3	0.63
Prioritize urban and governmental services in city agenda	100	2.92	0.93
Preparing experts to Infrastructure development in electronic city	100	2.91	0.93
Adequate experts in municipality to develop electronic services	100	2.77	0.81
An electronic signature to prevent citizens concern to access data and funds transfer service	100	2.75	0.84
City helps to re-engineering city structure to be coordinate with the Electronic city	100	2.47	0.72

• Distribution of attitude dispersion toward electronic city in order to establish an electronic city.

According to Table 5-1, average of attitude toward electronic city is 48.88 and its standard deviation is 14.33 so that minimum value is 11.36 and maximum value is 75.

Table 5-8-Distribution of attitude dispersion toward electronic city in order to establish an electronic city

Variable	number	Average	Standard deviation	Min value	Max value
attitude toward electronic city in order to establish an electronic city	100	48.88	14.33	11.36	75

Attitude toward electronic city in order to establish an electronic city

Std. Dev = 14.33
Mean = 48.9
N = 100.00

Attitude toward electronic city in order to establish an electronic city

Figure 5-2- Distribution of attitude dispersion toward electronic city in order to establish an electronic city

Variable	number	Average	Standard deviation
How much electronic networks development in municipality affects on promoting city attractions.	100	4.20	0.90
How much electronic networks development in municipality affects on organizing city traffics.	100	4.19	0.96
How much electronic networks development in municipality affects on reducing environment pollution.	100	3.84	0.93
How much electronic networks development in municipality affects on forming modern urban architecture.	100	3.78	0.68
How much electronic networks development in municipality affects on participating people in urban services.	100	3.75	0.80
How much electronic networks development in municipality affects on promoting citizens' rights.	100	3.74	1.02
How much electronic networks development in municipality affects on eliminating false jobs in pathways.	100	3.73	0.95
How much electronic networks development in municipality affects on managing urban integration.	100	3.67	0.81
How much electronic networks development in municipality affects on reconstructing time-worn buildings.	100	3.46	1.03
How much electronic networks development in municipality affects on increasing modernization revenues.	100	3.22	0.76
How much electronic networks development in municipality affects on increasing revenues related to municipality taxes.	100	3.20	0.66
How much electronic networks development in municipality affects on reducing municipality dependency on density sale.	100	3.76	0.86

Providing electronic city model based on electronic city development in district 2 of municipality

In order to provide electronic city in terms of electronic city development weighted coefficients were used and determined that electronic city

development affects on following activities respectively.

Banking activities (coefficient = 70.33), Activities related to service providing (coefficient = 65.55), reducing bribery (coefficient = 58.8), reducing vehicle traffic and air pollution (coefficient =50.9), eliminating excess usage and developing green space (coefficient=43.2), official activities (coefficient=22.8) and getting information and news (coefficient=25.2) have most effects. Also, in this study, the minimum contribution is related to political and recreational activities.

| Variable	Coefficient
Banking activities, such as paying bills, take money from the account, money transfer, etc.	70.33
Activities related to providing services to citizens	65.55
Reducing bribery in municipalities and organizations	58.8
office activities, such as registering documents, passport application	33.33
Business activities, such as buying and selling goods, music, movies and food	19.4
Recreational activities, such as computer games, visiting museums	8
Getting Information: news, newspapers, magazines, weather	25.2
scientific activities: research about projects, finding essays, access to reliable sources	15
Educational activities: school, university and other institutions	16.15
Political activities: participating in elections, Announce to Parliament	2.95
Travel activities: booking travel tickets, booking hotels and renting car	11.89
Job search and job application: being aware of jobs opportunities, filling jobs application form	5.73
Treatment activities: going to doctor, getting Safety instructions	7.63
Decision-making activities: the best and the least crowded route in city to reach the destination	9.9
reducing vehicle traffic and air pollution	50.9
eliminating excess usage and developing green space	43.2
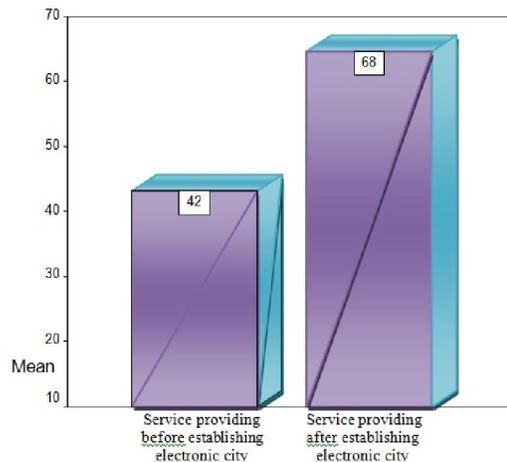
Figure 5-3- Providing electronic city model based on electronic city development in district 2 of municipality

6- Conclusions

In studying electronic city and electronic municipality and necessity of its development in developing community of Iran, and particularly in Tabriz, attention to four parts of electronic government include electronic city, electronic municipality and electronic citizen and education to overcome many of complex problems and to keep with global development is a need that there is no escape from it. Reducing air pollution and traffic as well as transparency of information and stages and doing services and rules and deal with bribery in municipality and avoid applying employees taste are of other advantages of electronic city. The aim of electronic city is to take advantages of electronic media and utilizing internet in order to facilitate citizens' affairs. Electronics city is one of the origins of urban managers and citizens to provide and utilize urban services. Electronic city is a city where citizens' affairs management include government and private organizations services do online, seven days a week, and 24 hours a day, with high quality, securely and using ICT tools and its usages. In other words, in an electronic city, all services citizens required provided trough information network. This eliminates the need for physical movement of citizens to access government services and private institutions.

In this study, according to Table 5-1, enterprise strategy average is 48.88 and its standard deviation is 14.33 so that minimum value is 11.36 and maximum value is 75. It shows there is no enterprise strategy in district 2 of Tabriz.

Creating intelligent cities is one of the main goals of information technology. Creating such cities has many benefits.

In this study, according to Table 5-1, average of attitude toward electronic city is 48.88 and its standard deviation is 14.33 so that minimum value is 11.36 and maximum value is 75. It shows there is no attitude toward electronic city in district 2 of Tabriz.

Hence, it can be concluded that it's not possible to have appropriate services in electronic government system to create electronic city and municipality without creating platforms in computer systems and without integrated link between them. Organizing all computer systems and services and information provided shows that electronic government system is not just a website but also is all computer systems; information and services related to these systems so that these systems must be integrated with each other and be able to communicate with each other and provide information and services needed by users. Based on current study findings about studying electronic city effect on creating electronic municipality in electronic city of Tabriz (district 2) it can be concluded that creating electronic city of Tabriz is along with holding electronic city of Tabriz and these are close together.

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