WCIT- 2010

The main requirements to implement an electronic city

Hamid Tohidi*, Mohammad Mehdi Jabbari

Islamic Azad University, South Tehran Branch, Tehran, Iran

Abstract

Creating easiness in working process in organizations and creating peace and stable area without any inequality, presenting services to citizens of society and increasing quality and efficiency of services along working hours increment in organizations in a way that citizens can access to these services at any time of day or night and at any place is aim and will of human. Now growth and development in communication and information technologies prepare this condition for governments to answer this need of human and implement it. E–city implementation and execution need a set of structures and ultra-structures that governments are charged to comply them for citizens needs. Finally, we present types of services which Europe union have convinced its countries to present them for their citizens along with a set of information about amount of countries electronic preparedness.

Keywords: Electronic city, Electronic citizen, Electronic government, Electronic sovereignty

1. Introduction

According to information and communication technology development, governments are charged to use opportunities of these technologies in optimum way to remain in global competition board and increase efficiency rate and decrease unemployment in their societies. Thus we face the important subject of E-city and E-citizen.

We understand that according to researches by perfect professors of universities in all over the word that none of them could present general and exact definition about E-city.

Dr Ali Akbar Jalali one of the famous experts in information technology field and professor of (Elm & Sanat) university presents one of the first definitions about E-city. He express that E-city is : " a city which can present different civic services including municipality services or other governmental or even private section's services in economic , social and cultural fields in 24 hours of a day and 7 days a week with suitable quality by using communication and information technology"[1].

He defines E-citizen: "E-citizen is a person who can use services of E-city by using information technology tools" [1] and performs his or her daily works in optimum, secure and trusty situation with least cost and least time in an enviroment that government or organizations gather for them by using these tools.

Because creating and triggering E-city is a new subject, the experience of different countries and cities of world about this matter is not much and just rare cities have created and used E-cities[2]. Some of these cities are: Toronto in Canada, Seul capital of South Korea, Singapore and Taiwan.

Among these cities, Toronto ( in Canada) and Seul (in South Korea) gait important and effective steps by providing especial situations and get suitable experiences about this matter.

2. What is electronic city?

* Hamid Tohidi. Tel.: +989123079694.
E-mail address: H_Tohidi@azad.ac.ir.

© 2010 Published by Elsevier Ltd. Selection and/or peer-review under responsibility of the Guest Editor.

Keywords: Electronic city, Electronic citizen, Electronic government, Electronic sovereignty
In fact, electronic city is a definition for expressing type of services which can be presented to citizens of a society with modern electronic services. To achieve an E-city, these services should be done by an electronic and internet media as E-services and in a more extensive form should be called E-government implementation[3]. The electronic city will have wider concept, if it uses internet and can even present services in national or international levels. The basic matter in creating and implementing E-city is the type of services. Type of services should be considered according to cities conditions, because different cities have different properties and characteristics (including geographic, historic, industrial, commercial, visitory, entertaining and other components). It is necessary to codify basic policies on the basis of policies performed by other important and beneficiary organs, to avoid source waste and systems should be executed and implemented with maximum integration and according to suitable and optimum source usage with decreasing costs[4]. This matter causes great powers of government to develop and expand their services with exact schedule and according to real needs of city and citizens. Then presented services to citizens will be monolithic and will have support of senior authorities and life time of projects will be increased.

In an E-society, it is not possible to determine which services are necessarily executable, because of alternatives in inventions and innovations, but some clear and especial services presenting in E-society are: E-business, E-banking, E-police, E-education and virtual training, E-municipality, E-hygiene, E-insurance, E-shop, E-museum, E-enrollment, E-voting, E-travelling, E-inquiry and finally presenting electronic services like reserving and trading airplane, train, bus tickets (in fact they are some usages of E-business, E-banking and E-shop) and etc.

Performing office works like exchanging official letters and pursueing to ensure about their receipt and studying their answers can be executed among different organs by executing E-signature and this matter simplify citizens work without any need to physical presence of them[5]. When amount and quality of presented services become more, then custodians and authorities will be persuaded to develop E-city more than before and citizens will be more desirous to use them.

3. Steps of E-city development and implementation:
Creation and triggering E-society, development and its deployment is a difficult and complex matter and it is necessary to pay attention and consider all especial capacities like technical aspects and work policies for executing this great project.

So, strategy evidence about information technology situation of city or society should be prepared, then current situation of information technology of society should be exactly studied and important matters like society situation, policies and platforms, number of users, level of education, age of users, culture and prospects of society, trust level of users to technology before and after project execution, amount of public demand for civic services and transportation in city, should be considered. They should be considered down to infrastructures, ways, ready tools and amount of budget for implementing and executing E-city. These considerations will be effective and help to codify general plans about E-city implementation and execution and presenting services to citizens.

A report about amount and reasons of in-city travels in Mashhad (a city in north-east of Iran) presented by traffic and transportation studies center of Sanati Sharif University and Traffic Research Center of Mashhad is as follows:

Table 1. A traffic report of in-city travels in Mashhad.

| % | Travels with the aim of working |
|---|--------------------------------|
| 40.5 | Purchasing                   |
| 11.5 | Education                    |
| 17.5 | Travel agencies              |
| 2.1  | Medical cases                |
| 14.6 | Family meetings              |
| 2.9  | Recreation                   |
| 2.6  | Pilgrimage                   |
| 5.3  | Other Goals                  |

These studies indicate important reasons for civic travels as work, education and goods purchase. So we should attend the services focusing these kinds of transportations by priority and increase their efficiencies and outputs and allocate more budgets to them.
To be successful in implementing and executing an E-government in an E-society, three important and basic issues should be followed. First basic issue is preparing infrastructures, prerequisites and backgrounds for triggering E-government.

Second basic issue is creating public culture and sufficient trust among people of a society to use prepared situations for citizens, so that any of them enter their personal information’s like name, national number, account number and etc. to system easily and be sure about security of information systems, information sets and the electronic processes.

Third basic issue is existence of strong and embarrassed management to communicate all capacities and codify basic policies. Some of these policies include: how to present services to citizens, amount of their accessibility to services, costs of using services, creating trust in users, creating means of encouraging users and also creating and establishing communication between informational systems and using joint informational banks, solidifying them, security on informational systems and related organizations to use needful information’s, preventing data and information’s redundancy, applying policies against probable risks and dangers, applying punishments according to guilt’s of hackers and importer to system and… .

So we need a road map presented along with business plan strategies.

4. Basic elements of E-city implementation

All different matters and technical, social, cultural, security… aspects should be considered to have successful execution and implementation of an E-city and services will have suitable and necessary quality by electronic process.

Europe union announces to guaranty execution and implementation of E-government, Europe needs the presence of three basic executive, legislative and judiciary powers in information technology district. A strong executive power is needed to advance the mentioned purposes. Any power is responsible to perform their tasks in their district to reach to their three basic aims including: Independence and freedom, legitimacy and equality in society. Any power includes several technical and professional committees discussing about all work aspects and its problems. The groupings which Europe union performs have been shown in figure 1.

According to executive structure passed in Europe union, legislative power is responsible to adopt laws about electronic district and approve necessary budget for project implementation. Judiciary power is responsible to interpret laws of electronic district and judge disputes against electronic guilt’s, induct security, trust and stability in electronic society, thus users can easily perform their works and engage in electronic trade and finally executive power is responsible to prepare laws and ordinances and implements laws about electronic district and enforces citizens to observe law. Among the most basic tasks are controlling and supervising on society situation and organizations having basic job to execute projects, complete informing of citizens, organizations and all management administrations, providing services that all citizen can use them, assuring to have high social security and assuring integration in systems, conducting foreign relations in informational systems and finally managing and controlling out-sourced services.
The project will fail to execute, if it doesn't have exact definition about target society and lack of accessibility to exact informatics. Finland country faced this problem. Lack of having exact planning, lack of correct estimate about sources, no determined policies and efficient and exact road map caused this country to fail in understanding sources and government of this country incurred great costs.

5. Basic reasons of E-city implementation:
The basic reason of investment and using different technologies in presenting citizen services is the belief that civic and management problems have inverse relation with citizens’ awareness increase.

We can point to E-city achievements based on this important matter:
- Flexibility of organizational processes
- Monolithic information system
- Change in organizational culture
- Improve in management sight
- Suppliers’ support and relations.
- Correct perception about customer's demand
- Optimizing information flow
- Increasing customers (purchasers) bargaining power
- Decrease of necessary traffic, number of car accidents and their casualties
- Decrease of fuel consumption

6. Conclusion
The purpose of implementing an E-city is accelerating daily activities and improving citizen's life quality. So, in this process we need to use all present society powers and induct Electronic sovereignty in city and society.

This target needs to create great changes in government statue to prepare basic requirements of implementing E-government for all participant powers and provide necessary training to all citizens.

To attract more association of citizens, it is necessary that true guaranties be offered to citizens so that all people can calmly use facilities and authorities on behalf of citizens’ rights will be able to pursue and inquire against any influence or aggression.

References
[1] Carroll, J. M., & Mack, R. L. (1985). Metaphor, computing systems and active learning. International Journal of Man-Machine Studies, 22, 39-57.
[2] Nardi, B. A., & Zarmer, C. L. (1991). Beyond models and metaphors; Visual formalisms in user interface design. In B. D. Shriver (Ed.), proceedings of the Twenty-Fourth Annual Hawaii International Conference on System sciences (pp. 478-493). New York: IEEE Computer Society.
[3] Sales, G. (1991). A taxonomy of human Services: A conceptual Framework with Standardized terminology and definitions in the field (3rd ed.). Joliet, IL: Alliance of Information and Referral Systems.
[4] Symons, s., & Pressley, M. (1993). Prior knowledge affects text search success and extraction of information. Research reading Quarterly, 28, 251-259
[5] Simpson, H. K., & Pellegrino, J. W. (1993). Descriptive models in learning command languages. Journal of Educational Psychology, 85, 539-550