



The Relationship between E-City and Sustainable Development (A Case Study In Region 4 Of Tabriz)

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Abstract: The present study is about the relationship between e-city and sustainable development of region 4 of Tabriz municipality. The main research question is that whether there is a relationship between e-city and sustainable development? This is a descriptive and applied study and will be implemented as a survey. So, this is a developmental study in terms of objective and a cross-sectional one in terms of time. The statistical population of this study consists of all municipality employees of region 4 of Tabriz which has been obtained through Morgan table and Likert scale has been used for data collection. By providing theoretical and intellectual infrastructures and clarifying the relationship between e-city and sustainable development this study intends to justify the scientific reasons underlying the issue and the relationship between e-city and sustainable development in the world facing sustainable development. The research findings indicated that there is relationship between e-city and sustainable development. The main objective of this study is to explain the relationship between e-city and sustainable development.

Keywords: e-city, e-government, e-citizen, sustainable development

1. Introduction

In the world today, information has taken the place of gold and raw material. The human being has entered form industrial age to information age and has always faced various waves of different information in political, economic, social and cultural fields through mass media such as internet. Applying science in all domains of life and ultimately developing science has a direct relationship with progress. People in modern society are used to hearing electronic suffix after different kinds and types of phenomena. Intelligent cards, e-banking, e-education, e-health, e-business, e-government and when everything is electronic in a city, finally the city will be an electronic city. According to experts' definitions, an electronic city is a city which ICT tool such as applied programs and computer is used for increasing efficiency and effectiveness of services to people, economic firms and employees of other sectors of the government.

Establishing e-cities is one of the major objectives of information technology. Deploying

such cities will be followed by many advantages the most important of which are reduction of air pollution and traffic, reduction of costs, increase in revenues, increase in quality of services, reduction of access time to services, and increase in access rate to services. Clarifying information and stages of performing services and avoiding taste of employees are other advantages of e-city that its basis is using e-media and internet. In the present age, the most important issue among researchers about cities is to achieve sustainable development, because cities have been polluted too much due to vehicles travel. By establishing e-cities, the amount of pollution is reduced and sustainable is reached.

2. E-city

The concept of e-city was raised by Helen Kastels as introduction or comprehensive reproduction of web pages from perspectives and special performances of an actual city. Its feature is accessibility for all individuals, even non-specialists [1]. The governments' tendency to deploy e-city and government has been



increased since the last 20th century. This global trend can be considered from a variety of aspects. Changing citizens' expectations from government, providing services with better methods, creating a single entry point for achieving services and information, the crisis of trust in the government, the need to continue reforms in public sector, saving costs, young digital generation, and the application of e-business in the private sector are among factors of governments' tendency to the formation of electronic government and cities [2]. An e-city is a more efficient, sustainable and fair city with more capability for life [3]. In e-city, there are not many problems of traditional cities such as air pollution, long waiting, traffic and etc. achieving such a city is the ultimate goal of many world's e-cities. In an e-city works can be done much simpler and more reliable. Since in cities, most daily works are done through computer and internet, time and cost will be saved significantly. For example from banking and administrative affairs to visiting exhibitions and etc. all can be accessed by all people from far away and 24 hours a day[4]. The indices of implementing e-city are divided into 3 major categories: political, technical and organizational indices. In the section of political indices, considering the issues of macro policymaking, formulating strategy, citizen-oriented charter and the city's administrative and executive structure and in line with developing information society are very essential. In the section of technical indices, it is required that municipalities establish e-communication between organizations, and facilitate communications through internet and provide integrated communication between organizations related to each other. In the section of organizational indices, if we look at a city as a large organization, citizens are considered customers for this large organization and must be taken into consideration. Given this goal, some facilities are provided in an e-city that based on which being aware of citizens' needs are facilitated [5]. Therefore, e-city is a city in which citizens directly and 24 hours a day in seven days of a week can access their required services reliably and quickly [6]

2-1- e-citizen

e-citizen is a person who enjoys the required ability to work with computer and can use internet for doing life's daily affairs faster and more efficiently such as communicating with others, purchase and sale, banking interactions, employment, travel, recreation, entertainment, treatment and etc. today in many of the world's developed countries, most citizens have features of an e-citizen and the necessity of such evolution is felt in our country as well. The hidden message in the standard of e-citizen is that: 'soon if you're not an e-citizen, you won't be a citizen at all'. Therefore, all who want to have a successful life in the age of information governance need to learn the required skills of information technology; E-municipality provides the possibility to access websites of municipality services 24 hours a day and seven days a week. E-municipalities present a major part of their services through web and thus provide the context for offering services with high quality, fast and especially cheap electronically regardless of time and space limitations. E-municipality is aimed at applying information technology, a means for providing e-services to people, using information technology tool in urban management as a subset of e-government. The aim of establishing e-municipality is to implement a system that all citizens can propose their requests through tools of e-municipality such as internet and follow-up their request process until achieving the response [7]. Electronic citizen is a person who is able to use IT for doing daily affairs and receive its required services using tools and E-Systems from home, offices and concerned institutes [8]. Therefore, e-citizen who is born of life in information and network society has the message that people face new challenges and perspectives to live in an information society. Anyway, scientific and technological achievements of human being in the 21st century requires citizen-educating with new features. In fact, today, identifying new citizens and preparing the education system for considering these technologies is at the agenda of many international scientific communities [9]. Generally, it can be said that the existence of e-citizen is an axis in issues related to e-



government and city that will be defined well by studying e-government in different countries.

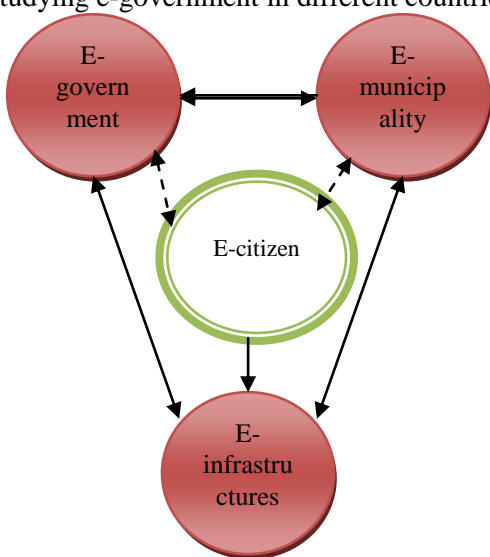


Figure1: The required communications for e-citizens

3. Sustainable development

Given that cities have been expanded considerably, their population has been increased and air pollution has emerged that has challenged scientists in scientific associations. One of these concepts that have been accepted by the majority of scientific associations is the concept of sustainable development.

The concept of sustainable development indicates the fact that ecological considerations can and must be used in economic activities. These considerations include ideas of creating rational environment in which development claim is studied in order to enhance quality of all aspects of life [10].

The long-term development, sustainable, popularized in Our Common Future, a report published by the World Bank Commission on Environment and Development (WCED) in 1987. Also known as the Brundtland report, Our

4. Methodologies

The present study will be implemented as survey, such that this is considered a developmental study in terms of objective and a

Common Future, including the "classic" definition of sustainable development: "development that meets present needs without compromising the ability of future generations to meet their own needs" [11]. Acceptance of the report of the Assembly of the United Nations (UN) gave the long-term policy relevance; and in 1992 the leaders to establish the principles of sustainable development in the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, also known as the Rio Summit and the Summit of the Earth.[12]

‘Sustainable development’ is human-oriented; in sustainable development the human is introduced as axis of development and deserves health, productive life and in coordination with nature; and this concept has been exactly reflected in the first principle of “Rio Declaration”. Sustainable development is a qualitative development and considers qualities of life and its goal is to enhance the level of life quality for futures. Sustainable development has deep contents in 3 domains: 1.environmental sustainability, 2. Economic sustainability, 3.social sustainability [13].

Today, many movements such as post-modernism and deconstructionism have been merged in the context of urban designs and planning that all implies on tiredness of citizens of lifestyle in modern cities. Urban planning for each city requires receiving and correct understanding of spatial urban spaces that mass of urban people create its goals and events and also the concept of urban sustainable development which emphasizes modifying and reforming life quality of citizens, the issue that has been considered much in urban planning [14]

cross-sectional one in terms of time. Likert scale has been used for data collection.

Sampling method is simple random. The research type is developmental-applied and the main method is descriptive-analytical. The



required data is collected by the two following methods based on its nature:

- Library and documentary method, in order to theoretically explain the subject and gather information from official centers and institutes
- Field studies that include visiting the studied region to identify the studied region's

5. Data analysis

5-1- providing the model of sustainable development based on e-city expansion in municipality region 4

In order to provide sustainable development model based on e-city development, weight coefficient was used and demonstrated that e-city development will be effective on the following activities respectively.

Banking activity with 55.55 coefficient, works progress after implementing e-city with 51.2

Table1: providing sustainable development model based on e-city expansion in municipality region 4

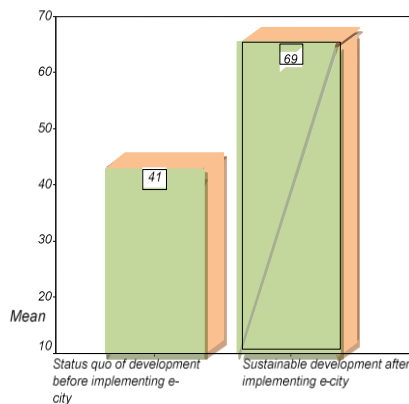
Coefficient	variable
45/5	Reduction of vehicle travel and air pollution and green space and environment
31/2	Reduction of bribery in offices and transparency
33/3	Elimination of waste and additional applications and green space development
55/55	Banking activities such as: paying bills, withdrawing money from the account, money transfer, etc.
29/4	Providing urban services for citizens
10/1	Works progress before implementing e-city
51/2	Works progress after implementing e-city

features, match the existing amps with the studied region

Data collection tool of this study is observation, fish, table, database, computer networks and etc. data analysis has been used using SPSS statistical software.

coefficient, reducing vehicles travel and pollution with 45.5 coefficient, eliminating waste application and expanding green spaces with 33.3 coefficient, reducing bribery in offices with 31.2 coefficient, providing urban services for citizens with 29.4 coefficient; also in this study the lowest share will be works progress before implementing e-city with 10.1 coefficient.

Diagram 1. Providing sustainable development model based on e-city expansion in municipality region 4



6. Conclusion



Establishing e-cities is one of the major objectives of information technology. Creating such cities will be followed by many advantages, that the most important ones are reducing air pollution and traffic, costs, increasing revenues and quality of services, reducing access time to services and increasing access rate to services. Clarifying information and stages of performing services and rules and avoiding taste of employees and their bribery are of other advantages of e-city that its basis consists of applying e-media and internet. Given the presentation of sustainable development model in e-city development that weight coefficient has been used, developing and establishing e-city will be effective on the following activities respectively. And based on research finding in region 4 of Tabriz, the following results have been obtained. The most share is on banking activity with 55.55 coefficient, works progress after implementing e-city with 51.2 coefficient, reduction of vehicles travel and pollution with 45.5 coefficient, eliminating waste applications and expansion of green spaces with 33.3 coefficient, reduction of bribery in offices with 31.2 coefficient, providing urban services for citizens with 29.4 coefficient; also in this study the lowest share will be works progress before implementing e-city. It is concluded that for sustainable development of the studied city and region the necessity of establishing e-city and applying new models and strategies can be effective.

In the world's today and while we're facing a huge volume of e-transactions, e-city has been an inseparable part of e-world. Today, cities pollution has been too much due to vehicles travel increase which is the result of rapid growth of urbanization and cities' population increase. Accordingly, establishing e-cities reduce the population and vehicles travel and along with it air pollution is reduces. Therefore, according to the findings obtained from the present study about the relationship between e-city and sustainable development (region 4 of Tabriz municipality), it is concluded that e-city and sustainable development has a close relationship and are inseparable in the present

age. The following suggestions are provided in line with the research results:

- Holding e-education classes for citizens and offices' employees
- Holding seminars of e-citizen, e-city, e-government, e-municipality and their relationship with sustainable development for providing appropriate strategies for improving quality of environment and human life's environment.
- Using experts for suitable architecting and organizing services for providing services and avoiding inappropriate travels in the city and reducing air pollution to achieve sustainable development.

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