

The role of information technology in urban management and stable development

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Abstract: This study explores the role of information technology in urban management and stable development. According to cities has been developed increasingly today, it also impresses increase of cities population and it makes numerous problems for management of cities and in parallel stable development in the world. In recent decades, advent of information and communication technology as well as electronic city, electronic municipality and citizen, cheers the scholars in the international scientific community that the phenomenon of new information and communication technology can make modern management system to manage cities. Also, this system helps to stable development of cities. The purpose of this study is to explain the role of information technology in urban management and stable development. Current study findings showed that information and communication technology play a major role in management and stable development of cities.

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1. Introduction

City is a social and economic phenomenon that as much as it gets bigger, because of problems, its management becomes more difficult. In current conditions, some factors such as increasing poverty and social and economic injustice, population growth, increasing urbanization and air and environment pollution and traffic caused by vehicle on the one hand, and getting more complex life in modern cities compare to traditional cities on the other hand, make many problems for citizens and city managers to manage cities. Various theories have been proposed to solve problems in development. According to theoretical efforts concerning the definition of development and explanation of its basic aspects, stable development is now as a concept accepted by most of international agencies and researchers. Electronic city is one of the emerging concepts that emerged by advances in information and communication technology and has ability to solve many complex and complicated problems of life and urban governance to achieve stable development in metropolitan areas. Creating and designing electronic cities and promoting information and communication technologies in discussions of architecture and urban and rural construction, urban people are not forced to commute constantly. Less displacement has considerable benefits in terms of economic, social and environmental, because for example, it cause less gasoline consumption is obtained from the national capital (i.e. oil). In addition, we need to build and expand roads less, the environment also has less

vehicle traffic, and air pollution and traffic caused by vehicles have been reduced.

2. The concept of information technology

What should be acknowledged is that, IT has created developments in all areas of human social and economic and affect on communities so that the world is becoming an information society from the traditional and industrial societies with tremendous speed today [1]. The term information technology or information and communication technology, in recent two decades has found its global position as an innovative, emerging and powerful [2].

It seems different applications of It, will be affected all routines of communities directly or indirectly soon. Influence speed and spread of this phenomenon is high so that now expected major changes occur in the structures of cultural, economic, social and political as well as in the traditional foundations of society governance, and a new system of management would be introduced. Influence of information and communication technology and its applications caused to world leaders held two important meetings (in Geneva and Tunis in 2003 and 2005) to form the basis of information community and prepared principal and scientific programs for international information community to prepare themselves for more changes. Most of developed countries (that have acceptor systems to deal with new technology) have been accepted benefits and risks of ICT and its applications and use it. Some developing or poor countries which don't have enough information about benefits and opportunities of this technology or necessary

economic facilities to utilize this phenomenon, couldn't progress in this area. There are countries don't have financial problems, but they consider this emerging phenomenon ideologically and cause delay and prevent their people to use it. Unfortunately, this approach cause irreparable damage imposed to the society [3].

Therefore, information technology is a branch of technology for study, designing, development, implementation, support and manage computer-based information systems, particularly software hardware computer applications as well as quick access to information and doing routines regardless geographical distances and time limitation.

Compared to other technologies, information technology also has the following features:

- The ingredient is information or mind raw material
- It can improve by computers
- The final product is an abstract product
- It doesn't have location restrictions
- It doesn't have devastating impact on environment [4].

2.1. A stud on E-City

The term "electronic city" was proposed in 1994 and in a conference about Digital city. This program administered in 1996 in some European cities like Helsinki and Amsterdam [5]. One of concepts has been studied widespread in advanced societies in recent decades and has been implemented successfully in some countries is electronics city. Electronic city development is a highly regarded issue has made to increase opportunities for people life environment, working and recreation in the world. Creating electronic city affect on economic, social, political and cultural aspects of the city [6]. Electronic city is such a city has telecommunication and has controlled by ICT department to exchange information. 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 [7].

Thanks to electronic city, participation in local government, improvement of local service increase operational performance and official would be easier [8]. This city is a favorable environment for living,

recreation, work and effort. People in electronic cities have more time for fun and relaxation and economic development and productivity in such cities are more than in current traditional cities. There are many jobs in electronic cities and obviously it can solve unemployment problem [9]. Therefore, it will affect on economic, social, cultural, and political areas for the city. In economic case of e-commerce, electronic banking city commercial relationship with neighboring countries and other parts of the world would be some of its effects. During the past 20 years, a 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. According to new technologies make social life more complex, we need to facilitate the various affairs of life and regardless to technology, we can't do, follow and implement them [10]. Electronic city implementation has also many effects in cultural case, for example, transparency, informing, virtual training for citizens in general and specific areas, publishing digital medias for citizens, publishing updated news and information and many other cultural effects [11]. Therefore, the electronic city is a city where citizens access the services they need to perform their tasks directly, seven-twenty four, secure, reliable and fast.

3. Urban Management

"Urban management" is a base concept that first was expressed in local government reforms and geographical concepts in 1970. Basically, urban management as an institutionalized concept was flourished from mid-1980 when it used to defend and support the developing world along some key international donor organizations [12].

Thanks to urban management, local government enables to provide favorable performance in order to improve economic and social conditions in the city [13]. Local governments that provide urban services, play the major role in urban management. Urban management is an essential element of good urban governance [14]. Several definitions of urban management is presented that some of them are mentioned below: urban management is to organize factors and resources to respond to different needs of citizens [15]. Urban management is as an effort to coordinate and integrate public and private actions in order to overcome to problems that urban citizens face to, and create more competitive, fairer and more stable conditions among the cities [16]. Stern defines urban management as: to play an active role in developing, managing and coordinating resources to achieve the objectives of urban development [17].

All these definitions imply on urban management flexibility because urban management system is consisting of integrated components and elements

that must be interact and communicate each other and what is now important to lead this system is its ability to flexibility [18]. Urban management also is consisting of various parts of like departments, organizations and depended organizations that interact with each other as unique structure.

Up to now, urban management approach has emphasized to the following factors:

1- To improve local government through decentralization in purpose to making decision to allocate the resources to stakeholder, and emphasize on their participation;

2- To Change approaches from community-based to economic-based approach, economic development stimulating, enhance efficiency and productivity, combining formal and informal sector, etc;

3- Emphasize on the role of the market as well as accepting the role of government as regulator, to promote participation; to coordinate with the main groups of strategic management. [19].

3.1. Urban Management Objectives

The goals evaluate management. There is no problem or opportunity without them. They specify what concerns there are about the activities occur in the city. Explicitly, urban management favorability would be evaluated against its objectives. Despite the infinite variety of goals that can be considered for urban management, there is a set of core goals related to poverty reduction and improving quality of life, urban productivity and protect the city's physical environment [20]. Therefore, the objectives of urban management are:

1- To improve the working and living conditions of all citizens respect to low-income individuals and groups.

2- To encourage stable economic and social development

3- To protect the physical environment of the city

That means urban management, is in contact with human body in urban construction and considers its effects on people life and the social environment. In one hand, it considers economic and social development by stable patterns of equality and decides to spread justice and equality. [21]

Three mentioned purposes are all related. For example, productive investment and job and income creation leads people life to be upgraded. However, the future economy of cities is threatened by non-performance infrastructure and poor health services or conditions

4. Sustainable Development

According to cities have been developed increasingly, cities population increased and air pollution has emerged in the cities and it makes challenge for scholars in academic areas. One of

these concepts have been accepted by most academic areas is the concept of stable development. 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 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" [22]. 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 [23]. As human welfare includes social and economic aspects, the concept of stable development also includes environmental aspects as well as social and economic aspects [24].

Therefore, the main three parameters of stable development are:

- Economic development
- Environment protection
- Social development

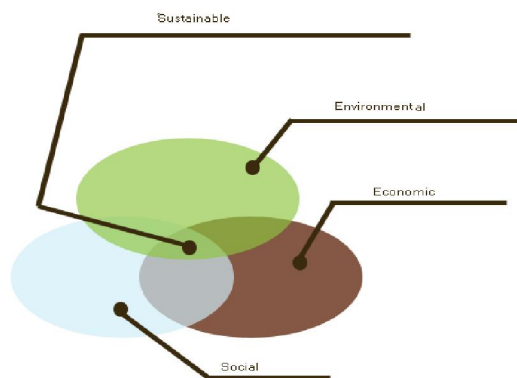


Figure 1- stable development parameters

In technical terms, stable development can be defined as a development path whose welfare optimization would not result welfare reduction in the future. Stepping in this path requires eradicating the extravagances results in destroying the natural resources and Environments [25].

Today, the necessity of stable development is an issue that everyone agrees on it. Human activities on Earth, using resources in the current way, endanger opportunities and facilitates of the future generations. Cities are the main place for human activities and count as the largest consumer of natural resources, so, to achieve the highest possible stability is vital in the cities. Cities stability is not merely related to

environmental issues but also to achieve to economic dynamics, livable environment and social equality. Development is a qualitative concept and it can be considered equivalent to increasing the quality of life. It includes issues such as health, education, welfare, freedom of speech, rights, etc [26].

Although the term stable development has been used in Cocoyoc Declaration on Environment in early 1970s and this term roots from ecologic development approach which has brought to world protection strategy, [27] but it forms by formation of the world independent commission on environment and develop and report stable development principles [28].

5. The role of information technology in urban management and sustainable development

Using information and communication technology play a major role in solving metropolises problems. It plays a vital role especially in urban management, urban economy, generating jobs and promoting culture level of citizens [29].

Each organization structure has its own special features and our attitude should be match to these features. As mentioned above, in the hyper industrial and virtual era, the way exchanges and policies governs how organizations and their functions operate, is not useful without interference and without the influence of technology and knowledge.

To describe urban management structure, the following principles can be noticed:

- 1- The needs of citizens always should be identified and discovered.
- 2- The organization output should be converged according to expectations of citizens and be tried to coordinate them.
- 3- Pests in urban management structure should be identified and actions should be taken to eliminate it.
- 4- Knowledge should be Institutionalized in both learning and implementation phases.
- 5- Technology should be used as an appropriate lever in order to achieve designed objectives in the urban management and providing appropriate services proper compliance with policies and management structure. It shouldn't be used merely as a luxury management tool and to lag from globalization only as a definition, but in the true way, otherwise, not only it's not an effective tool to achieve goals but also it cause a heavy financial burden on the management structure that removing it and returning to traditional structure has more economic benefits.
- 6- Comparing between the way to allocate methods and manners and to adapt manufacturing processes and organization levers and effectiveness of industry and organization in order to apply IT

management in correct way and special conditions should be considered And comparison with other organizations and industries and ranked and rated appropriately, should be placed early in the municipal services [30].

All the factors mentioned, can be appropriate and effective solution in order to thee dynamics and growth in providing urban services. The point should be considered more is that the fundamental change realized when, after management structure Institutionalized and modified, we are changing and moving toward providing services in order to solve problems and to gain favorability for citizens in municipalities. Information technology is able to reduce about 70% of urban traffic and if citizens use information technology and internet for more information about services, vehicle traffic would be low.

This issue will largely prevent environmental pollution. In France, first, before leaving home, active citizens examine all the paths they want to go, check the type of services or goods they should receive and if necessary reserve them through connecting to an inexpensive high-speed internet. Obviously, this citizen plays an important role in reducing energy consumption and savings it, exposures environmental to damage and risk less and helps to achieve to stable development and good urban management.

6. Conclusions

Modern cities have grown inharmoniously and their population is growing. In addition, air pollution has been increased due to increasing urban traffic. In other words, today, citizens and city officials make many problems in the management of modern cities and air pollution threatens the environment. Thanks to technology revolution and advancement of information technology, using information technology is the best way to manage cities in order to achieve urban development goals. Because creating electronic city and electronic municipality that they are result of information technology, causes citizens access to their needed services directly, safe, reliable, quickly and 7-24, and physical offices replace by digital offices and organizations such as municipality, public transportation, regional water organization, etc provide their services virtually and using facilitates such as ICT for citizens.

In such circumstances, citizens would be able to do their services daily purchases through the internet. All these issues reduce urban commuting and in parallel vehicle traffic would be reduced. Therefore, using and improving information technology is a way to improve decision making process more reliable and safer in order to provide stable development and

urban management. Information technology is a powerful tool to solve problems of urban management and stable development. In current circumstances, countries need to use information technology to manage cities and to achieve stable development. Otherwise, they will suffer irreparable damages.

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