



Surveying Urban Land Use Changes with an Emphasis on Electronic City

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Abstract

Nowadays, information and communication technology have been as the main axis of the development of the world and its achievements is incorporated with life of people that neglect and ignorance of it cause to be disorder. Information and communication technology impacts on cities by different teleworking services, electronic shopping, electronic communication, electronic hobbies, electronic banking, electronic services and electronic leaning. This paper by using descriptive-analysis method tries to shows that this elements and components have a direct impact on main land use such as transportation and residential land use that affected of all of the electronic city components while learning land use affected only electronic Learning. The impact of electronic city on land use can be an increase or decrease in the required space, changes in place of land using such as the decentralization of the city center. The result of paper shows that this decentralization of the city center can reflect in various forms, such as the relocation of the city center, shared offices or companies together that will reduce the need for land and space.

Keywords: Information and Communication Technology; Electronic City; Decentralization of the City Center; Urban Land Use.

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Introduction

Due to the increasing development of telecommunications, economy, society, culture and fabric of the city has changed that all these changes will be reflected in land use; In other words, Information-based economy, cultural and social changes in the global village, leisure time and space in the virtual community groups in cities relieve a lot of needs in cyber space that it has direct and indirect effects on land use in cities. In this paper, a brief review of the history of the development of information and communication technologies (the telegraph to the Internet), the benefits and features of Electronics, Components and elements of the electronic city, such as electronic shopping, teleworking, e-learning, leisure, e-mail services, electronic banking network, ... are specified that

create a change on land use and will be examined the influence of each of the cases on land use either increase or decrease, the localization and separation of switching and mixing applications. Eventually all the impacts on land use will be presented more concretely.

The concept of electronic city

Electronic city means using the information technology for distributing the urban services directly and hostelry to citizens [1]. The electronic city is a city where has been invented on created opportunities by information and communication technology for improving the successfully and affecting. The outer and touchable view of electronic city will be an electronic gate which citizens will enter by internet and will do their different considered activities [2].

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The impact of electronic city on urban field use

The information and communication technology has different impacts on land use and urban structure in longtime. For example, it can cause to urban scattering which this can be resulted from suitable availability and changing the time and place concepts; for instance, studying 250 companies in California showed that teleworking was one of the electronic city's tool which could decrease the need to life place in contrast to when the technology is not used [3]. Also according to the studied researches, more than 95 percent of programmers believe that improving the information and communication technology in society develops the citizens' access to urban services, and creating the electronic service places will cause to decrease the located places' per, and more than 60 percent of the programmers believe that the information and communication technology will cause to citizens' fair access to urban services [4]. The impacts of information and communication technology on land use can be shown through the Figure 1:

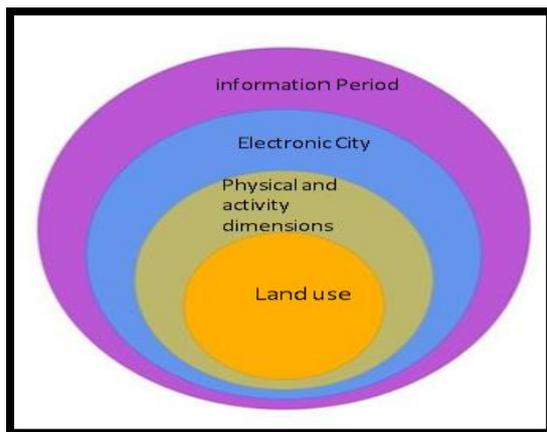


Figure 1. The electronic city impacts on urban uses

By attending to the mentioned discussions, it can be said that by changing in place concept, the electronic city has an important impact on use and the framework of cities that has two aspects which are the location in city and needed level for using. In below, the impacts of electronic city on urban land use are mentioned in summary.

The impact of electronic city on residential land use

Working in a house by eradicating the distance concept and changing the relationship between places and activities and its impact on selecting the residential place decisions [5]; increase the need to residential place for each family [6]. Indeed, when a home is changed to a place for working (changed to a factory), the boundaries among roles of work, home, family living, the working place and private

and public places are disappeared [5]. So, if working places are transferred to the clerks' private homes, demanding for residential use will be affected. Also, by changing peoples' evaluations in trip time by using communication and information equipment, electronic city effects on residential use; that is, if the time of trip is enjoyable by information and communication technology, people tend to accept to have a house in the further place than the nearest place and finally, the electronic city will cause to increase the quality of life in residential places [7,8].

The effect of electronic city on administrative land use

Electronic city causes to save in time and costs by avoiding the tips [9], inflection in working time and decreasing the individual and customers' physical presence (not their numbers) [10], decreasing the cost of place for example, decreasing the costs by saving the administrative places and parking, increasing the morality and clerks' utilizing, decreasing the clerks' absence and finally, it causes to decrease the number of refers to job and distances, increase the efficiency and utilizing, increase the job satisfaction, increase the job force cooperation [9,11]. Totally, according to the place view, it can be said that the electronic city causes to decrease the need to administrative level and separates the use from urban centers and the possibility of settling it in all area of city.

The effect of electronic city on transporting land use

Electronic city causes to change the goals of trip and decreases the number of working trips (replacing the daily working trips by telecommunicating) [12], which these follows the decrease of tend to drive, traffic and air pollution, energy and fuel use [13], greenhouse gases (Corporate Environment Group Human Resources, 2008), comings and goings [14], costs of keeping roads and saving in deep structures and accidents which the result of this decrease in using passages' net causes to decrease the need to passages and private level of this use [11].

The effect of electronic city on commercial land use

The electronic city causes to decrease the cost of sources for shopping (the middlemen omit and the customers are related to the producers directly) and it also causes to increase the percent of sale [15]. Its space effects are the decrease of need to commercial work offices and the decrease of parking places by e-buying and separating this use from city center which has the highest prices [12].

The effect of electronic city on sport-intended land use

The electronic city has much impact on sport and fun uses by allocating much time for resting and fun [16]; so that, changing the area of future cultural and fun spaces, from real spaces to virtual spaces, will impact directly the increase of the internet hobbies and decrease the presence in real hobby centers [4].

The impact of electronic city on cultural land use

The electronic city affects the cultural use for all people either for low level people; who have the low income, by accessing to the cultural services and the power of spending costs of the services [4], and also by supplying the collocation and valid domains for users and improving the individual-social skills and establishing the relationships with others causes to decrease the need to real spaces and supplying the needs in virtual spaces [16-18].

The effect of electronic city on educational land use

The effect of electronic city on educational use is effective by training from distance; so, some of the effects of it include:

- Supplying the educational factors through the frames like books, copied booklets, electronic books, voice, proved and active pictures and so on, and presenting it by communicating medias

like post, television, radio, telephone networks specially internet to university students

- Decreasing the educational costs by distance educating technology
- Increasing the educational motivations and presenting the update information to users for solving their life problems
- Strengthening the cooperation between users and creating the world educational domain which makes the distance connections easy and does it fast [10].

As it mentioned above, the impact of electronic city on different uses can be summarized according to the figure 2.

Conclusion

Based on the above information, it was observed that electronic City has elements and components that impact on level and location of land use. The most important of these elements and components can be referred to teleworking, electronic shopping, electronic banking, electronic education, electronic communication, and entertainment services and Electronic funds. This elements and components have a direct impact on main land use, so that transportation and residential land use affected of all of the electronic city components while learning land use affected only electronic Learning.

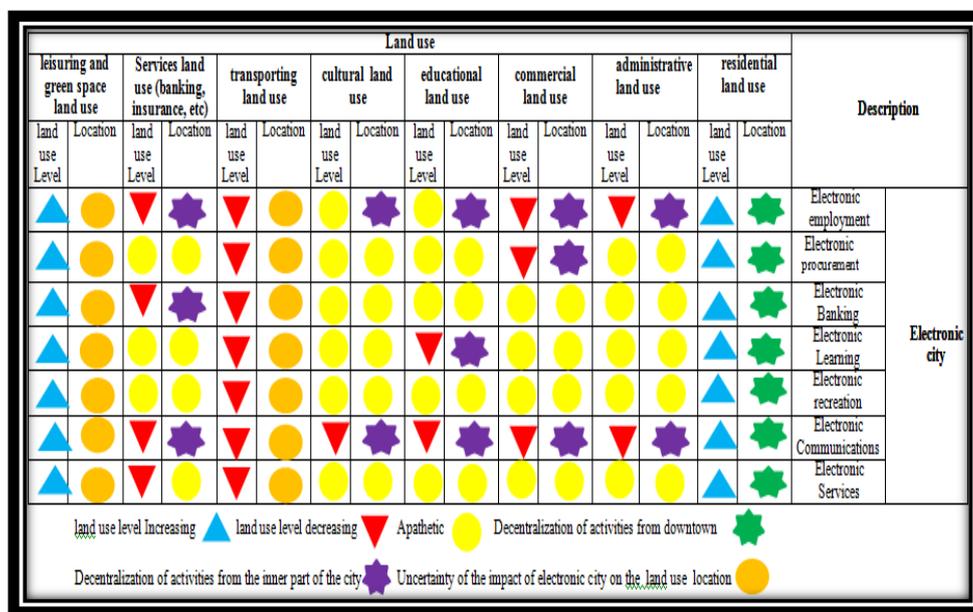


Figure 2. The impact of electronic city on land use

The impact of electronic city on land use can be an increase or decrease in the required space, changes in place of land use such as the decentralization of the city center or decentralization of city. For example, electronic city

provide possibility that People settled in the settlements surrounding the city, including rural areas, new towns and also it can create the decentralization of offices and commercial land use of the central part of the city because establishing

of electronic city paled spatial advantage and the office for offices and businesses in the city center will not be an advantage. This decentralization of the city center can reflect in various forms, such as the relocation of the city center, shared offices or companies together will reduce the need for land and space.

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