Investigating the Components of Smart City in Improving the Quality of Urban Life. (Study city: Babolsar)

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Introduction

Creating smart cities, or more generally, smartening cities, has several benefits for communities, in order to increase affairs and increase their comfort and quality of life. Because smart cities must be built in a way that serves the components of sustainable development and leads urban communities in this direction. This orientation can be achieved through the link between strategic management and intelligent planning. The idea of creating smart cities is also in urban planning that has been proposed in the last two decades and its components are fully defined and identified.

The innovation of the present study is the theoretical design of the smart city and the identification of its components. Also, given the pace of progress, especially in emerging systems and economies, now is the time to develop a solid theoretical foundation for smart cities and understand how this technical approach can help achieve emerging goals. Develop existing and new cities.

Therefore, the forthcoming research and study intends to identify the components of the formation and creation of a smart city, according to the potentials and capacities in the city of Babolsar and examine each of these capabilities if any. Its appropriateness and alignment, respond to the needs of city citizens in order to reduce environmental crises, transportation and traffic problems and issues related to efficient urban management, and provide the basis for improving the quality of life by providing new services and Be smart urban.

Given the explanations provided for the smart city, the present study will answer the following questions:

A) What are the most important components of a smart city?

B) What effect do these components have on the quality of life?

C) What are the main challenges in realizing a smart city and what is the role of the factors affecting it?

The purpose of this study is to study and understand the exact definitions and concepts of smart city and to identify the effective factors and structural components of this important matter, as well as to study the existing capacities and potentials in Babolsar and its relationship and impact on urban quality of life. Study and analysis of indicators and components and dimensions of environmental quality and life of citizens in the city of Babolsar and determining the city has intelligence indicators, an urban environment to improve the quality of life and citizens' satisfaction with their living environment. As a result, the objectives of the research are as follows:

1) Recognize the components of smart city formation.

2) The relationship and how the smart city affects the quality of life in Babolsar.

3) Investigating the potential and capacities of Babolsar and infrastructure in order to make this city smart.

4) Recognize the existing urban challenges in the smart project.

It is expected that by carefully studying and fully understanding the components of smart city and maximum use of human resources and physical infrastructure and scientific facilities, as well as the use of specialized forces and urban planners, this process will create a comprehensive smart city. In order to eliminate or reduce the maximum obstacles and problems of the city, as well as to improve the quality and standards of urban life.

The city of Babolsar in the early stages of smart cities, was one of the first pioneer cities in this regard and was able to implement technology infrastructure and optimal smart communication as the first electronic city in the province to be a pioneer in this important matter. Therefore, studying the components of a smart city in Babolsar is important for better city management and understanding the problems of smartening.

Methodology

The present study is based on descriptive-analytical method approaches. By reviewing the theoretical foundations related to the smart city approach and considering internal and external experiences, it tries to achieve the structure and mechanism of smart urban design and presents its constituent components. In this method, an attempt was made to conduct a field study of research data by completing a questionnaire among the target community and relevant officials. Also, the present study examines the characteristics of the smart city and its impact on the quality of urban life in Babolsar.

In the present study, the statistical population consists of experts, officials and specialists in the field of urban management and urban planning of Babolsar and a number of citizens who have worked in this city or have specialized information in this field. In order to answer the questions in the present study, a questionnaire was prepared which was answered by officials and citizens, leading to positive results and close to the objectives of the research.

In the present study, an attempt has been made to examine the issue of smart city from the perspective of experts and citizens. In this regard, according to the urban population of the central part of Babolsar city, Cochran's formula (Cochran Online) has been used as a sampling method with a specific statistical population for citizens, of which 390 samples were considered. In addition, for the statistical volume of experts, 44 people have been identified as experts in the field of urban management and urban planning, for whom a questionnaire has been distributed. The research results have also been surveyed and researched.

The questionnaire in this study has 24 general and specialized questions and was determined to be normal or abnormal by Friedman and Kendall tests and evaluated by Kolmogorov-Smirnov test. Having questions has a desirable capability. In terms of reliability, after completing the process of answering questions and entering it in SPSS software, it was found that it has excellent reliability.

Results and Discussion

Findings from the analysis and evaluation of research data indicate the relationship between the subject and the target community and the extent and impact of it and the quality of urban life in the case study (Babolsar).

Evaluation and ranking of components (from the perspective of experts in the statistical community of the research):

According to the W. Kendall test, among the components, smart governance with an average rating of 2.8222 and sw: 90.2 and smart economy with an average rating of 2.0313 and sw: 2.2, as well as intelligent living with a statistic of 1.8056 and sw: 1 / 28 The most important components were in the first priority and the first to third ranks. The second priority of experts is smart people with an average rating of 1.7055 and sw: 1.65, and smart mobility with an average rating of 1.5606 and sw: 1/30, and finally smart environment with an average rating of 1.4001 and sw: 1 / 21 has been in the fourth to sixth ranks.

Evaluation and ranking of components (from the perspective of citizens of the research statistical community) :

Differences in the statistics and results of the statistical population of the citizens of Babolsar regarding the most important components of the smart city compared to the views of experts are as follows: W. Kendall test in the ranking of components showed that smart living with Average rating of 1.3854 and sw: 29.2 and smart people with average rating of 1.1927 and sw: 2, also smart economy with statistics equal to 1.0906 and sw: 71.1 in first priority and first to third rank and priority Citizens' next, smart environment with an average rating of 1.0055 and sw: 55.1, and smart mobility with an average rating of 1.0033 and sw: 20.1 and finally smart governance with an average rating of 1.00 and sw: 1/1 It was in the fourth to sixth place.

Conclusion

Identifying the main challenges of realizing the smart city and the role of the factors affecting it and providing suggestions, indicate that the following 6 factors are effective as the main challenges in realizing the smart city of Babolsar, which has led to the mentioned solutions:

A- People expect the officials and management members of the city to always be by their side and their activities in the city to be obvious and to have a good and strong relationship between them, because these connections lead to more satisfaction of the citizens of the city from their officials. Be. The concept of satisfaction in general includes different concepts in different issues of life, including quality of life.

B- In this regard, it seems that the city of Babolsar is weak or lacks the necessary performance in terms of online systems, because due to the relevance of three important institutions of urban management in Babolsar, but each has its own goals and programs without considering the strategy. And executive procedures and specific goals. The need to create a unified and integrated urban management system in this area is evident. The creation of this system protects the citizens of Babolsar from confusion in their daily work regarding various citizenship

activities and causes each of them to be done without wasting time and energy, and this is one of the goals of gaining public satisfaction.

C- At present, Babolsar city, as one of the electronic cities, has taken sufficient measures to implement online and online payment systems in stores, important governmental and non-governmental centers, private sector activists, etc., and it can be said that All these centers are equipped with this system and there is no problem in receiving and receiving daily financial payments from the citizens of Babolsar city, and this issue has made people more satisfied with this payment method compared to the old and outdated traditional methods.

D- The administrative system is sometimes forced to refer to several different departments and organizations, which in addition to wasting time and energy, reduces the effectiveness of that work, especially in a specific period of time. If the relevant departments and organizations are fully and seamlessly connected to each other through an intelligent system or system, many of these issues will be reduced and the current situation will improve.

E- Provide a clear report on the goals, plans and executive projects in the city and their physical progress, which often provide this information to the general public by installing large posters and banners in the city. This is one of the factors that make the citizens of Babolsar share in the awareness of the work they expected or expected and ensure that, like most successful cities in the world, information about projects and their implementation process in a method Various options are available to the public.

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At the end of the research, it can be said that the most important components of the smart city from the point of view of the target community were identified by the order of its effect and priority, indicating the importance of governance and planning issues and attention to management needs with the priority of smart governance. , Smart economy and smart life for experts has been the first to third priority, while the priority of the citizens of Babolsar city according to statistical analysis shows a fundamental difference. As issues of individual or citizenship, in turn, are more important than all the components and the order in which they are chosen, smart living is the first priority, people and the smart economy are the next priorities.

It seems that conducting another study with a larger statistical population can shed light on the more precise dimensions of the challenges and barriers to smartening the city of Babolsar. On the other hand, this study showed that there are opportunities and strengths to accelerate and implement the components of smart city in the study city.

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Keyword: Smart city, components of smart city, urban planning, Babolsar.

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