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## Explanation of the Factors Affecting the Establishment of a Knowledge-based City in Less Developed Areas (Case Study: Zahedan City)

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### Abstract

**Purpose:** The purpose of this research was to explain the factors affecting the establishment of a knowledge-based city in less developed areas (case study: Zahedan city).

**Methodology:** The mixed research method (qualitative-quantitative) was exploratory. In the qualitative part, the method was grounded theory and in the quantitative part, it was descriptive-survey. In the qualitative section, the community consisted of academic experts in the field of management, managers of knowledge-based companies, managers of the Sistan and Baluchistan Governorate and Zahedan Municipality, and in the quantitative section, there were employees of the Sistan and Baluchistan Governorate and Zahedan City Municipality. The sample size in the qualitative section was based on the principles of theoretical saturation of 17 people using the snowball method and in the quantitative section according to Morgan's table, 248 people were selected using the stratified sampling method. In order to collect data, a semi-structured interview method was used in the qualitative part, and a researcher-made questionnaire was used in the quantitative part. The content analysis of the interviews was done using the coding method (open, central and selective coding) and structural equations.

**Findings:** The results of the research showed that the factors affecting the establishment of knowledge-based cities in less developed areas were identified with 6 main factors, 15 components and 69 indicators. Finally, the factors affecting the establishment of knowledge-based cities in less developed areas were designed and validated with a questionnaire.

**Conclusion:** According to the findings, the effective factors were evaluated with structural equations, which finally showed that the relationship between the variable causal factors and the main phenomenon with a factor loading of 0.806 was considered the most important factors.



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## Detailed abstract

**Purpose:** The increasing expansion of cities in all countries of the world is one of the undeniable consequences of the age of knowledge and technology. Since the beginning of 1990, there has been a change from traditional-industrial economy to a knowledge-based economy. This emerging economy was created due to globalization, increased jobs in the service sector, and the growth of the Internet. knowledge-based services; The main driver of this new type of economy. Knowledge is the most valuable asset and is actually an advantage in the knowledge-based economy. A knowledge-based city is a city designed with the aim of strengthening knowledge. Edwinston has prepared a list of criteria for a knowledge-based city. These criteria have emphasized more on managerial and political requirements and have not mentioned much on spatial requirements and urban planning and design strategies. A knowledge-based city is a city whose purpose is to develop basic knowledge activities by giving importance to a knowledge-based economic environment. Today, the growing trend of globalization and the emergence and expansion of innovative information and communication technology tools and the compression of time and space and the possibility of performing activities (especially economic) in real time and the synergistic process of expanding knowledge and technology and the capitalist economy have led to the formation of Capitalism is based on knowledge. Also, in the transition to the period of post-Fordism and the period of neurotechnology and governance of the NBIC space, the role of knowledge management in adjusting and adapting the value of knowledge base or intelligent capital has become increasingly important. Knowledge is considered as one of the main production inputs and one of the most valuable business assets that must be managed effectively and efficiently to achieve a competitive advantage in the field of knowledge-based economy, knowledge-based society and knowledge-based citizens. In this way, with the huge transformation of the concept of development, the value connected to knowledge, the driving force of urban development and changing the spatial structure of cities by creating opportunities for the production and exchange of knowledge and innovation among citizens, has been raised. On the other hand, policies based on neoclassical theories, Keynesian, structural theories and temporary change and other traditional approaches of urban development resulting from the top-down approach, in explaining and analyzing urban issues and providing suitable solutions for local development and solving spatial inequalities They did not have enough ability. Also, the consequences of designing policies in the form of standard policies (despite the diversity of regions) outside the local levels, as well as neglecting the economic, political, social, environmental and institutional conditions and content cause the separation of social and spatial structure, social segregation, political, cultural and biophysical and the increasing growth of consumption and the inevitability of the collapse of structures and the difficulty of managing these cities. In addition, the mentioned cases lead to the efforts of planners to replace and develop new approaches; Such as the new institutionalism approach as a development approach that is based on communication assets and internal dependence that includes local knowledge, the quality of local institutions, stable social norms and habits, social relations and local interactions. Knowledge-based urban development is defined as a development approach that attracts scientists and develops knowledge-based activities by using innovative tools. This itself is environmentally friendly and with minimal carbon production; In terms of sustainable transportation that reduces the effects of climate change and is ultimately more bearable; economically more resilient, more entrepreneurial and more competitive; It is socially and politically fairer, more connected, more transparent, more responsible and more responsive. Considering that the activities related to knowledge-based urban development deal with institutions related to learning and innovation, it is inevitable to recognize and apply policy tools such as the new institutional approach in the field of knowledge-based urban development policymaking. The purpose of this research was to explain the factors affecting the establishment of a knowledge-based city in less developed areas (case study: Zahedan city).

**Methodology:** The mixed research method (qualitative-quantitative) was exploratory. In the qualitative part, the method was grounded theory and in the quantitative part, it was descriptive-survey. In the qualitative section, the community consisted of academic experts in the field of management, managers of knowledge-based companies, managers of the Sistan and Baluchistan Governorate and Zahedan Municipality, and in the quantitative section, there were employees of the Sistan and Baluchistan Governorate and Zahedan City Municipality. The sample size in the qualitative section was based on the principles of theoretical saturation of 17 people using the snowball method and in the quantitative section according to Morgan's table, 248 people were selected using the stratified sampling method. In order to collect data, a semi-structured interview method was used in the qualitative part and a researcher-made questionnaire was used in the quantitative part. The average time of the interviews was 78 minutes. After the implementation of the interviews, in order to analyze the data, the ground theory analysis method was used simultaneously with the data collection. In this way, after conducting the interviews, the tapes were first downloaded. After that, a copy of the extracted codes was sent to the interviewee and confirmed. In order to familiarize with the data and sink, the data was reread several times, thus the primary codes were identified and the similar primary codes were placed together in one class and the primary classes were formed. These classes were merged and formed the contents of the subjects. Also, in order to ensure the accuracy of the collected data, there was a long-term and deep data conflict. In addition, two other researchers participated in the data analysis in addition to the main researchers. To increase the verifiability, the participants are referred again. Having maximum diversity in sampling and long visits were other ways to increase the reliability of the data. From the initial interview, codes and sub-categories were formed, and then data reduction continued in all analysis units (codes) until themes emerged. The interviews continued until the theoretical data saturation stage. Qualitative content analysis was done with MAXQDA12 software. Smart pls4 software was used for confirmatory factor analysis and SPSS25 software was used to determine model validity. In this research, obtaining informed consent, maintaining identity information and maintaining confidentiality in implementing the content of the interviews were considered as ethical considerations.

**Findings:** The results of the research showed that the factors affecting the establishment of knowledge-based cities in less developed areas were identified with 6 main factors, 15 components and 69 indicators. Finally, the factors affecting the establishment of knowledge-based cities in less developed areas were designed and validated with a questionnaire.

**Conclusion:** According to the findings, the effective factors were evaluated with structural equations, which finally showed that the relationship between the variable causal factors and the main phenomenon with a factor loading of 0.806 was considered the most important factors. Among the suggestions of the research, the following can be mentioned: A needs assessment should be done in the way of creating and developing a knowledge-based city. Incentive policies should be adopted to develop quality indicators for managers of big cities in order to develop knowledge in less developed cities. In order to develop and advance knowledge-based cities in the country, there is a need for stability in the implementation of the development policies of this process and coordination between different departments in this field. There is a need for officials and policy makers and macro planners at the government level, who are excellent decision makers, to resolve the intellectual concerns of investors and founders of knowledge centers by formulating clear rules and regulations.