Investigating Possible Scenarios in the Formation of Knowledge City Based on the Role of Universities and Higher Education Centers (Case study: Qaenat city

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ABSTRACT - Globalization is a process that has had a positive and negative impact on all aspects of cities today. Globalization has increased social inequalities and increased competition among cities by changing the role of cities and expanding city-to-city relations and changing their management system. Today, knowledge is a sustainable competitive advantage for cities to compete with other cities and for this, the new urban management system puts the city's development on the basis of attracting creative and innovative forces (which are the main pillar of creating knowledge and gaining competitive advantage for the city). City development based on creative and innovative forces is called urban development of knowledge base and the output of this model is the city of knowledge. City of Knowledge is an element for the development of regional economics .The need for the infrastructure necessary to create a knowledge city in developing cities and the uncertainty due to the complexity of the environment has made it difficult to predict the future in these cities, so that traditional planning is no able to respond. Future research methods and scenarios should be used to predict the future and explain the possible alternatives in different situations. The purpose of this research is to investigate the effective factors in the formation of knowledge city based on the role of universities and higher education institutions, especially in the city of Qaenat. In order to achieve this goal, 60 experts from universities, government, industry and 383 students from universities in the city and residents of the city will be consulted in the form of a questionnaire (for the degree of influence and uncertainty) and then the method Confirmatory factor analysis and structural equation modeling (SEM) using LISREL software, Friedman rank test, paired t-test and Pearson correlation test were used for data analysis using SPSS software. The results of this study showed that the five dimensions of the study (placement for creating favorable rules and policies, individual tendencies for communication, promotion of organizational structure for desirable communication, promotion of organization culture for communication, quality of intermediary organizations) due to the high average in The results have been effective in the success and creation of its masters in the study area. Eventually, the city of Qaen has its potential in creating a knowledgeable city in a desirable condition and has the necessary grounds for reaching and becoming a creative city of the knowledge hub. Then, the probable scenario in this area of Knowledge is the four scenarios of Golden Knowledge, The confused caravan, the Bermuda of knowledge and the soldiers without a commander, are here the chosen scenario, according to the research results of the golden city of knowledge

Keywords: City of Knowledge ، University، Urban Competition، Creativity and Innovation ، Qaen City ، Scenario، Golden City of Knowledge

1. Introduction

Today, with the evolutions and changes in human residence, many theorists and experts of the 21st century are called centuries of cities; in this century, more than half of the world's population lives in cities for the first time. The city in each period as a physical symbol of the cultural, social, political and economic situation, and is a criterion for assessing the evolution of society in this period (Habibi, 2000, p. 22). The city, on the one hand, is the environment for the creation, development, and extension of new phenomena and, on the other hand, it is influenced and transformed; therefore, it is both a cause and an effect (Rabbi, 1379, p. 164). Cities are now experiencing a period of transition to globalization. This transition varies in different regions, for example, in Asia, transition occurs through somatic and physical growth of cities. While in some other areas, like in Europe, old industries disappear, and the added value of these cities is lower than the production of factories, and they are created more by means of mental capital which becomes products, processes and services. Meanwhile, each and every one of them participates in competition with each other and trying to absorb more of the financial and human resources and assets. Therefore, cities, in the future, will try to create an environment in which they wish to become professionals in the environment, and, on the contrary, put their expertise on the community without concern (Saifuddini and others, 2007, p. 10). The increasing importance of cities has led urban planners to introduce new concepts and methods for city flourishing. There is no doubt that a large part of the old approach is not effective. Therefore, we cannot solve the problems of the twenty-one century with the 19th-century mental attitudes, the dynamics of cities in a global urban system, have large and unexpected changes. Cities provide opportunities and Interactions for people who can solve their problems and improve quality of life in the area. In the scientific literature, present tense has come to mean concepts such as City of Knowledge, Smart City, the city of sustainable, Ecological city..., which have a broad role in recent urban studies. City of Knowledge is a new approach to this. The idea of the city of knowledge is a new topic and it focuses on the field of urban studies, especially urban management, and emphasizes the improvement of the living environment and the improvement of quality of life through the new thinking of citizens (Rahimi and Darijar, 1392, p. 6). The idea of the city of knowledge came from the 1980s along the lines of thought to meet the emerging conditions. This idea, when it was introduced, seemed an ideal concept, a manifest that encouraged intellectual openness and illustration. What can be said about the city of knowledge, according to theoretical literature, is that the city of knowledge is a cultural approach to urban development. In this approach, the city should be able to become an attractive environment for the attraction and development of talents, novels and ideas, especially in research, and academic sectors. It should take advantage of the ideas and creativity of individuals, especially individuals, such as professors, artists, scholars, writers; as well as the ideas of ordinary citizens in solving basic problems and in the foundation for creative growth and development (Victims and Others, 1392). , Pp. 1) In these cities, cities become an attractive place to schooling, work and preserve the city's elites, with the emphasis on university's elites and Urban planning specialists, urban management, urban planners and other relevant sciences. And one can move on this path to improve the quality of the universities and academic centers, the quality of work, the quality of life, the level of tolerance and the way of life. Undoubtedly, a successful urban environment is an environment where talents are developed and absorbed, a city that is a research and development company, and it is also intended to add new areas to the city's economic, cultural, and social dimensions and thus provide new opportunities for cities on a national scale and Transnational Movement (Rahimi et al., 1392, p. 9).

Today, the talents, motives, tendencies, dreams and creations of citizens gradually take place the traditional city's advantages, such as the Location of the place, natural resources and proximity to markets. Ensuring the city's success in the upcoming world is the creativity of people who live in urban areas or are responsible for urban management (Shahebian Rouhani, 2012, p. 1). According to the studies conducted in Iran, so far, limited research has been conducted on the subject of preparedness and the manner in which knowledge cities have been formed. Most of the current research has focused on the description and explanation of the literature of the city of knowledge's theory and its indices and its components and some its dimensions (Mousavi, 1392, Rabbani Vedijar, 2011, Ghorbani, 1392, Pourshahi and Dejgar, 1392, Gholampour, 1392, Mawboudi, 1392). Tan (2008) explains the infrastructure needed to create a knowledge-based city: the existence of a university environment, the existence of industrial infrastructure, a high level of quality of life, urban diversity, access to urban services and social justice. He goes on to introduce human capital, the existence of creative and innovative forces, coordinates the various parts of the urban spatial development as a means of developing the knowledge city. In 2009, in further studies and surveys conducted on a number of successful cities in the field of knowledge creation, Gives the following result: " One of the success factors in the formation of the city of knowledge in the cities of Austin, Barcelona, Helsinki, Melbourne and Singapore; the high level of quality of universities, centers of education and research and development, and the existence of an appropriate link between universities and government and government investment in universities and centers R & D. "The country of Iran is a developing country with more than 53 million urban populations, accounting for about 71% of the total population of 75 million (Source: Population Census and Housing 90). The survey suggests that addressing up date and widespread urban studies is a necessity of the country. On the other hand, the 18th country's 192-country gross

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domestic product (GDP) rating in 2013 and the inclusion among countries with higher per capita income levels and more than 80 percent of crude oil exports outlays the need for changes in income from goods to other industries and services, in which knowledge cities can An important role in this change has been played by the development of creative human resources, the expansion of scientific, academic and cultural industries, and creative economics.

Therefore, the main objective of this research is to investigate the factors affecting the formation of the city of knowledge in the city of Qaen, based on the role of universities, especially the Bozorgmehr University of Qaenat, which can be considered due to its potentials and its capacities. Finally, it provides solutions to improve the present status.

2.   Necessity and importance of research

In recent years, much attention has been paid to the development of the city of knowledge as a suitable model for urban development and to find out among the declining industries and the competitiveness of the world's cities by academics, planners, and developers and Policy makers. The city of knowledge describe a new method in urban strategic planning, it describes how individuals can plan and act on the basis of knowledge in their minds, and illustrates how we can manage a livelier city by controlling the Personality talent and imagination. Future cities need to be thought of differently than what cities have been considered in the past - cities that encourage people to work with the power of their imagination, and the urban engineering paradigm - which is widely based on hard infrastructures such as roads, The development of homogeneous houses and non-differentiated office buildings- go beyond and Instead, cities need a combination of hard-soft infrastructure. Undoubtedly, one of the greatest periods of socioeconomic change is the era in which we live. The change that we face today is so great that it brings about a major change in the way of life and work, the way we organize our own family and community, and the functioning of urban centers. (Florida, 1390, p. 28). Moving towards the establishment and substantiation of City of knowledge because of the city's position as the place of formation of the platforms of the knowledge society, the importance and focus of cities in economic development is very important and Necessary (Mousavi, Spring 1393, p. 19). Also, the creation of knowledge city will bring prosperity to urban life, which extends the level of the relationship of a city to the other cities in a national and transnational scale (Rahimi et al., 2013, p. 6). With some negligence, the emergence of knowledge cities, the knowledge society and the knowledge economy can be realized Synonymous with the emergence of knowledge cities. In other words, the main areas of growth of society and the knowledge economy and in general are the production of knowledge (Rabbani Khorasgani et al., 2011, p. 160). Considering the role of the city of knowledge in economic and cultural development, its formation can be considered as an important issue for the cities. Significant major metropolitan studies, including London, Berlin, Adlide, Melbourne, Brisbane, Helsinki, etc., show this to be acceptable.

In a 20-year perspective, Iran is a developed country with the first place in economics, science and technology at the logic level: It has advanced knowledge, capable of producing science and technology, relying on the superior allocation of human resources in universities and social capital in national production. Certainly, in order to acquire such qualities and position, it is inevitable to address creative and innovative human resources through planning for the formation of knowledge cities in the country. Since economic growth can be directly linked to entrepreneurship and entrepreneurship has led to innovative efforts that result from creativity, So, what's in the vision document: Achieving the first position of economic, scientific, and technology in the Southwest region with an emphasis on the software movement of science production, the rapid and sustained economic growth, Promoting relative levels of per capita income and achieving full employment, organizing and mobilizing the country's capabilities and capacities to increase the country's share in the world's scientific productions; strengthening the software movement; and fostering technology-technology acquisition, especially new technologies, including micro-technology and Biotechnology, information and communication, environmental, aerospace and the long-term goals of the country can take place through the attention of knowledge cities based on the role of universities. Considering the development plan of the city of Qaen and the prospects of the city, on the one hand, the economic and industrial recession, the crisis of water and the reduction of agricultural activities, the importance of forming the city of knowledge as an alternative strategy in this city can be considered.

Research hypotheses

It seems that despite the proper academic infrastructure and potential of these infrastructures in the role-playing of the urban management system, the performance of universities in this city is weak to move towards knowledge.

It seems that the city of Qaen has the potential and capacity to create a knowledge city and is in a good position in this regard.

3.   Data analysis method

In this research, we are going to analyze two categories of data. One secondary data derived from documentary studies, which relates to measuring the indicators of the city of knowledge, which are calculated using the formula presented in the index and by comparing them by means of T-test was analyzed in SPSS software. The other data obtained through the questionnaire, which were compared with other samples and their mean comparison using nonparametric statistics, and also using SPSS and Smart PLS software for quantitative analysis of data, a qualitative method was used through an interview. One of the tools used in this research is a questionnaire. In this research, two researcher-made questionnaires were developed for the university and industry, which were separately provided by the university and industry department. Respondents in the questionnaire were 45 people in the university. 19 of them were from the Bozorgmehr University and 15 from the Azad University and 11 from the Payamenoor University. These people have a doctoral degree and a master's degree. The respondents of the questionnaire in the industry sector were 15 people who are all senior and middle managers and experts in the industrial sector and in the industry sector and in the company of industrial towns, and at least the degree of these people is a bachelor's degree.

4.   Theoretical Foundations

Knowledge Cities

The city of knowledge today is one of the most important issues in urban development and has attracted the attention of intelligentsia and urban policymakers to this topic. According to the UN forecast, in 2030, 60% of the world's population will live in cities and the need to build knowledge-based infrastructure is felt. The growth of these cities is often due to the presence of infrastructure and the attraction of specialists resulting from this infrastructure in the city and the region. An essential question for urban policymakers is how to direct the knowledge of these professionals effectively and optimized towards productive activities in order to stimulate economic growth in the city. The experts of urban development and management, creating the knowledge city, respond to the above question and believe that although human resource constraints are an important obstacle to urban development, besides, urban development requires building knowledge-based infrastructures (2004 Chen, S & Choi, C).In the perspective of 1404Iran is a developed country with a knowledge-based economy. Evidence suggests that in order to reach the knowledge-based economy, there is no other way than investing in the city of knowledge (Khwarazmi et al., 2012).

Knowledge City Framework

Tan (2008) introduces a model known as the Knowledge City Frameworks. This model, presented by him in 2008 in an article entitled "The making of knowledge cities:Melbourne's knowledge-based urban development experience. Cities", presents the necessary infrastructure for the city's knowledge and tools for the development of the city of knowledge (Fig. 1).
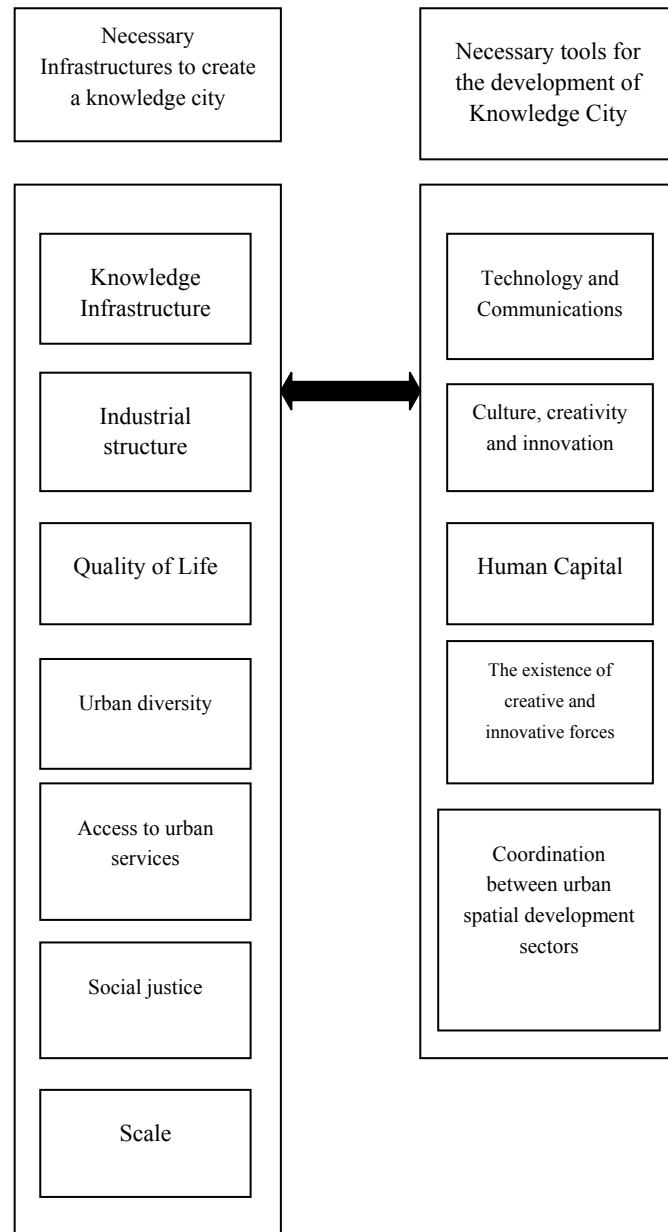
Figure 1: model of the Knowledge Cities Framework Knowledge city framework, (tan, 2008).

He introduces the infrastructure of knowledge, industrial structure and quality of life, urban distribution and access to urban services, social justice and urban scale as a necessary infrastructure for the city of knowledge. He believes that these are the prerequisites for the creation of a city of knowledge in a city, and if this infrastructure exists in the city, one can expand the city's planning and development based on the development of a knowledge-based city. But if this infrastructure does not exist, the expansion of knowledge-based urban development and the creation of a city of knowledge in this city will fail. It goes on to state that if infrastructure exists, we should seek the establishment of a Knowledge-based urban management system and city of knowledge in the city. The necessary tools for the development of knowledge, including:

Technology and communication, culture, creativity and innovation, human capital, the existence of creative and innovative forces, and coordination between different sectors of urban spatial development. In this model, one of the knowledge infrastructures in the city of knowledge, university, which, in addition to being an infrastructure, can create one of the necessary tools for the development of the city of knowledge by creating innovation in society.

The role of universities in the city of knowledge

Yigitcanlar (2009)and Edvinson (2006) argue that four basic infrastructures should be created to create knowledge cities: universities, science and TechnologyPark, research centers and high tech industries. Edvinson (2006) explains the role of universities in the city of knowledge that today, the role of cities has been transformed due to environmental changes, including globalization, and cities must be designed to be suitable for humans in the present era.According to a study by The European Institute for Comparative Urban Research (Euricur), he states that creating a competitive advantage in one place depends on the structure and design of that place. He argued that today knowledge is considered as a competitive advantage for organizations and cities. And because of this, the wave of cities moving towards forming of a city of knowledge and cities is moving towards the creation of a knowledge city. In order to reach the city of knowledge, the design of the city should be in accordance with the city of knowledge, so that the city as a structural capital and framework can capture the knowledge forces and intellectual capital needed by the city of knowledge. He argued that in the past, the focus has been on strategy and Policy making on the industry, but against the past, today the knowledge forces and intellectual capital are considered to be a solid wealth and capital for the city, and in the design of the city should be places to enter the capital Which is referred to as the port or input of knowledge forces, and believes that the focus of strategies and policies and investment should be on the flow of knowledge forces in these ports and entrances. He suggests universities and science and technology park, research centers and high technology industrial clusters as the input of knowledge forces to the city, and believes that due to the high relevance and influence of the university on other inputs, the university plays a key role in recruiting forces Knowledge plays and should be considered in the design of the city. In explaining this issue, he introduces a model known as the motivators of creating a knowledge city, which expresses the key factors that affect the attraction of the knowledge forces and intellectual capital needed by the city of knowledge, which should be considered in the design of the city.

5. Review the research hypotheses

1- Despite the proper academic infrastructure and potentials of these infrastructures in the Role-Playing of these infrastructures in the urban management system, it appears that the performance of universities in this city is weak to move towards knowledge. This hypothesis was examined through interviews.

Interviewees

In order to develop the research and determine their validity and formulate common strategies, a Semi-structured deep interview was conducted with 2 people from the university department, 2 from the industrial sector and 1 from the government sector, and the qualitative data related to this interview were encoded and it was used by subject analysis. Information about the interviewees is given in Table 9-4.

Table 2: Information about the interviewees

Responsibility and activity background	The relevant organization	Department
University professor 3 years	Bozorgmehr University	University
University professor 5 years	Azad University	
Senior Manager - 10 years	Trond Factory	Industry
Middle manager - 7 years	Cement factory	
Expert - 5 years	Industrial Township Co.	Government

The current status of the relationship between university and industry and government

The interviewees first described the status of the relationship between the university and industry and government. Interviews were analyzed based on thematic analysis. Theintervieweesexpressed different perspectives, such as the state's attention to science and knowledge in the upstream documents of the country, the inappropriateness of academic research for the industry, the lack of incentives for academics to move toward interactions with industry,and industry mistrust to university. The results of this interview are presented in the form of a SWOT table that expresses the views of the interviewees in the form of four dimensions of the opportunities and threats and the strengths and weaknesses of the relationship between the university and industry and government. Table 3 also helps the researcher to develop research and formulate strategies.

The government, with special attention to science and knowledge in the country's high level documents and Policy making to improve communication between the university and industry, and with actions such as the formulation ofintellectual property rights, the creation of laws for the support of Executive and industrial apparatus from industrial research in the form of a one percent rule, the formation of the elite headquarters and the granting of facilities to elites and inventors, the creation of infrastructure intermediary organizations, including science and technology park, the granting of facilities and tax exemptions To the active industry in the commercialization of innovative ideas, the allocation of funding to the university in the field of equipping

laboratories and industrial research, and ... somewhat played a role in this threefold relationship. But, according to experts, the role of government has not been sufficient and should be reviewed.

Despite its high potential in the field of specialist forces and the availability of the necessary infrastructure and funding from the government, the university does not play its role properly in this regard. Today, due to the low efficiency of communication offices with industry, universities are not aware of industry-leading technology and problems in this sector. Hence, it is natural that universities never encourage their professors and students to engage with the industry, and ignore Incentive policy in relation to the industry and motivate their expert forces to establish this relationship. The university is completing its training tasks and the transition to fundamental research as its second task, so academic research is largely fundamental, while the industry needs applied research. On the other hand, one of the major issues between the university and the industry, the lack of matching the output of universities with the force that the industry needs, affects this relationship. Therefore, the most important barrier to building a relationship between industry and academia is the lack of industry confidence in the university and the lack of applied academic research. Therefore, the industry avoids investing in research centers and academic research centers. On the other hand, the main technology that dominates the imported industries is its import, its technical know-how has not been transmitted and it is necessary to hold training courses to get familiar with the technology used by the industry.Nowadays,industries are producing less than their true level due to political crises and economic problemsAnd It is unwilling to take risks and apply innovative designs.It is unwilling to take risks and apply innovative designs. The industry does not pay attention to its role in relation to the university and its performance cannot be defended.Intermediary organizations such as the Science and Technology Park of Khorasan and the Technology Park of Food Industry are the intermediary between these two institutions of the university and industry. Although the government has created an intermediary organization with the allocation of credit for the infrastructure of the organization, and the university's participation in the provision of the forces of these organizations, but due to the lack of industry involvement and industry's lack of trust in the research of these organizations, the function of intermediary organizations to establish a stable and dynamic relationship between The university and industry have not been so effective.

The existence of very long processes with many bureaucracies between the university and the industry has caused the relationship to be negatively affected and tends to make the relationship cold. The cultural contradiction between university and industry is another factor that negatively affects this relationship. This has different prominences in different issues, but they are more visible in two cases.

The first cultural difference between university and industry is that most academic researchers look at money as a tool to achieve their main goal, scientific advancement, but business owners see money as the goal and make science the only tool for They achieve that goal. Another cultural difference is the interest of academics in publishing their new scientific findings for the knowledge of experts in this field, which contradicts the artisans' view of the commercial use of new knowledge and the non-disclosure of new knowledge for its exclusivity and high income from new knowledge. These relationships point to cultural differences between the university and the industry, and the lack of understanding of each other's culture of one another and conflicting goals between them can hinder the relationships between them. Therefore, the main hypothesis of the research is confirmed and the city of Qaen despite the potential of the academic infrastructure and the potential human and infrastructure potential for moving to the city of knowledge is weak.

2. It seems that the city of Qaen has the potential and the capacity to create a knowledge city and is in a good position in this regard.In order to investigate the effectiveness of the five effective dimensions in creating the knowledge city, in the scope of the study, and considering that these dimensions have been evaluated with the help of questions in the Likert scale of 5 options, after determining the desired dimension with respect to the relevant questions, With the aid of t test, the average of each dimension is compared with the number 3 (the average number of five Likert spectra). (According to the sample size of more than 30 in this study, according to the central limit theorem in the statistics, the mean of the variables studied has The distribution is normal and therefore the t parameter test can be used(.

The parameters and indicators of these five dimensions are as follows, which were collected from the interviewees in the form of Likert scale:

1. The first factor: Establishing a framework for creating favorable rules and policies

statement
Deregulation and facilitation of the laws and regulations of the University's relationship and management and urban organizations
The clarity of administrative processes and executive mechanisms for the relationship between university and management and urban organizations
The existence of clear rules on intellectual property rights and the payment of royalties and patents and …
Warrantyof intellectual property rights laws
Formulating required regulations and regulating these communications
Reducing economic dependence on the public sector
Creating a win-win relationship between university and urban management and the existence of specific benefits for both sides
The need for continuous monitoring and evaluation of these communications
The existence of a clear and distinct strategic vision for the parties and commitment to it and its support
Interaction between university and urban management in the planning of the parties
Stability inUniversity Policy making, Strategies, Policies, Laws, Regulations and Planning
Transparency of faculty members' participation in research projects outside the university
Aligning the goals of scientific development and development of the city
Designing a specific program to pay for community or community revenues to researchers and stakeholders
Designing a specific program to pay for community or community revenues to researchers and stakeholders
Evaluation of the system of improvement of the educational staff of universities on the basis of their cooperation

2- The second factor: The individual tendencies for communication

statement
Correct understanding of academics about the conditions of management and urban organizations
The feeling of the inner need of academics to use their expertise to advance community goals
The existence of a belief in the impact and usefulness of these communications
There is a sense of social belonging in academics
Increasing the Individual reputation of academics from these communications
Increasing the efficiency of academics in implementing executive projects
The possibility of increasing the income of academics through the development of these partnerships and communications

3-Third factor: Improvement of organizational structure for optimal communication

statement
Professionalize Research Centers - Research and turn them into applied projects with valuable and practical results
Creating a strong and up-to-date database in the university and management system and urban Organizations
Utilizing urban managers in educational activities
Student Apprenticeship in Urban Organizations
University exclusion from a single task - the creation of knowledge for a multi-task such as knowledge production, production of technology-based learning, supply of knowledge
Update scientific research structures in universities
Quality Service Guarantee provided by the university

4-.Fourth factor: Improving the organization's culture for communication

statement
The active support of all sectors of society, such as the support of these communications by the citizen's government, the private sector, organizations, universities, etc.
Participation of elites and wise people in the main decisions of the city
Not expecting to respond quickly and solve problems and achieve results in the short term
The change of thinking in system and one-dimensional in managerial ways and creating a sense of the need for thinking in system
Promote and strengthen the culture of innovation and creativity and entrepreneurship and support creative and innovative activities.
Creating a common culture and language between the university and management and urban organizations
Create a sense of urgency and need in urban management and university about these communications
Increasing commitment and mutual trust between academics and urban managers
Encouraging the culture of partnership and group activities between academics and urban managers
The existence of unofficial and friendly communications and networks between academics and urban managers

5-Fifth factor: the quality of intermediary organizations

| statement |
|---|
| Small core research centers and centers of growth within the universities tailored to the needs of urban management |
| The existence of science and technology parks with a focus on university connections and management and urban organizations |
| Creating research clubs as information dissemination clubs, clubs with dual members, as well as clubs with a lab on a specific topic. |
| The existence of joint research centers to promote this relationship |
| Promoting the performance and strengthening offices of community and university Collaboration |

The result of the comparison of the mean five dimensions with the number 3 is shown in the table below:

Table 4: The results of the comparison of the mean of 5 dimensions with the number 3 with the t test

result	amount of- p	Degrees of freedom	Statisticsoft	Standard deviation	Average	Number	dimensions
More than averag	000/0	382	156/5	17304/1	3091/3	383	Establishing the right policy and policy
More than averag	000/0	382	776/5	17658/1	3473/3	383	Individual tendencies for communication
More than averag	000/0	382	776/5	17658/1	3473/3	383	Improve organizational structure for optimal communication
More than averag	000/0	382	315/6	05913/1	3418/3	383	Upgrade the organization's culture for communication
More than averag	000/0	382	727/7	01708/1	4016/3	383	Quality of intermediary organizations

Based on the results of the t test shown in the table above, It is observed that the p value of this test for each dimension is less than 0.05, and the obtained t statistic is more than the critical value at the 95% confidence level (i.e., 1.96), so the Null Hypothesis of this test On the mean equality with the number 3, is rejected. It can be concluded that the mean of each dimension is significantly higher than the average (3).Therefore, the five dimensions studied are influential in the success of the knowledge city, and the city of Qaen has the capacity and potential to create a knowledge city.

Figure 1-4 Comparison of the mean of the 5 dimensions studied in the success of the knowledge city
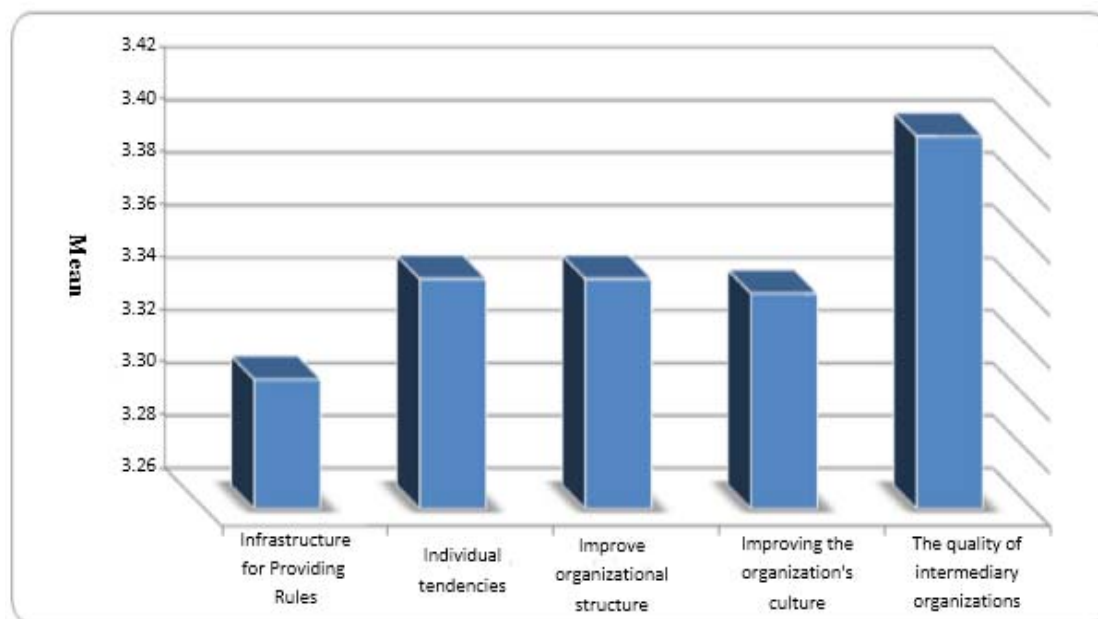
6.   Conclusions and suggestions:

According to qualitative and quantitative analyzes, in order to prove the research hypotheses, the city of Qaen, in spite of having appropriate academic infrastructure and potential for the city of knowledge, with emphasis on structural and human factors, but in the direction of moving to the poor knowledge city,Therefore, according to the results of the analysis and the results of the interviews, we select the scenario of the golden city of knowledge for this cityWhich states that these results include two aspects of government support for building relationships and the existence of infrastructure and the willingness of the university and industry to establish a relationship. And it describes the fact that both major universities in the city of Qaen are active as the engine of knowledge in this city and the industries can use the potential of them.In this study, in fact, the main universities in Qaen, including the University of the Bozorgmehr, Azad and Payamenoor, have achieved their third role, innovation and entrepreneurship, beyond applied education and research.Also, the industries in Qaen include clusters that have reached the final stage of development, such as saffron cluster and furniture clusters and the industrial clusters that are being implemented or in the study phase have somehow been able to exploit the research potential of the universities of Qaenand reduce their dependency outside the province and the city.In this research, industries with increased R & D funds have been able to communicate with domestic research centers and universities in Qaen. In fact, this study focuses on the main competitive advantages of Qaen and the universities, Equipped with the same benefits and focusing on community needs. And To some extent, the number of specialists in these fields has increased, intermediary organizations such as science and Technology Park have equipped their infrastructure based on the needs of the region.And, in fact, the government has been able to increase its willingness to participate with its rational support to the sustainable policy of both university and industry institutions.In this research, smaller universities in Qaen have also been able to increase their potential in certain disciplines and introduce themselves as partners for the regional industries, including the Faculty of Applied Science.An appropriate place for the local innovation system with these activities in Qaen can be imagined that its output is to increase the export of local industries abroad and from the city and beyond the borders of the province and even the country, so it can be concluded that the city of Qaen potential and infrastructure, as well as the human force necessary to create a knowledge city, but providing the equipment and moving to it, is slow. The interviewees believe that if state support for building a relationship between university and industry is high due to the integration of the strategies between the two institutions, the university and industry infrastructure will be ready for the formation and development of this relationship and with the formation of trust between the university and the industry, the exchange of knowledge between the two institutions increases, and the creation of knowledge and innovation occurs to a great extent. Therefore, the government initially integrates between its own strategies and the university and industry, by changing its planning structure and helping to increase the efficiency and effectiveness of this organization by providing clear rules and regulations and creating knowledge and Enhancing innovation by equipping universities with equipped laboratories and encouraging professors and students to innovate and deliver practical ideas.In addition to encouraging industry to communicate with the university, the government also provides incentives to encourage artisans to apply academic ideas. And by doing this, it increases the risk-taking power of the industry. These incentives to the industry include tax incentives and Reduce overhead payments.

And by changing its structure and organization, while pursuing integrated strategies betweengovernment and industry, the university encourages professors and students to engage with the industry,And grants special privileges to the professors, provided that they submit applied researches to solve industry problems,and with the provision of laws, there will be special support fordissertations that are based on solving industry problems.The university also performs the upgrading of its professors on the basis of applied research. On the other hand, universities have attracted the industry sector trust and by providing technical and managerial advice to the industry, they understands the industry's problems and is using their modern laboratory equipment by specialist forces at the university to try to provide applied research and solving industrial problems.By increasing the relationship between the university and the industry, we will increase the level of knowledge creation and innovation.The industry continues to pursue an integrated strategy between government, academia and industry by changing his point of view towards the university, especially at the managerial level, the industry trusts the university and senior executives of the industry are making up relationships with the university and supporting applied university research.Part of this trust is due to the desire of all three institutions of the university, government and industry to establish a relationship as well as the existence of strong infrastructure, such as intellectual property rights and punitive rules for unauthorized copying of ideas. On the other hand, because of the government's support for the risk-taking of the industry, the industry welcomes the innovative projects of the university and commercializes these projects. In this research, the government supports risky investors. Most interviewees believethe first and most important government action in this study is to create coordination and integration between government, university and industry strategies. With this action, each of the institutions involved in its planning, other institutions and always takes them into consideration, and sets our plans to achieve our common goal between the three institutions of the university, industry and government, and Avoid unilateral movement without regard to other institutions."In fact, the

integration of strategies leads to the direction of the movement of these three institutions on a path and to reach a specific goal by working together", one of the interviewees said. This situation is the same as getting triple helix.
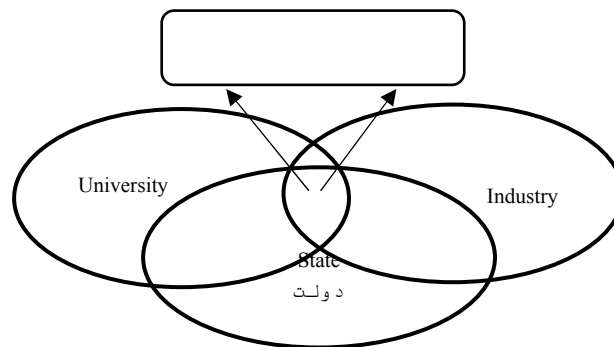

Figure 3: The third step of the evolution of the Triple Helix model (etzkowitz & leydesdorff, 2000

In this study, the government, by establishing a coordination between the Ministries of Industry and the Ministry of Science and the Ministry of Health in the field of educational planning and industrial development, is another step forward in improving communication between the university and the industry. Through this effort, the government tries to increase the level of identification and understanding of the needs of these two institutions by mutual effort, so that each institution can act to meet the needs of another institution. One of the interviewee's states:

"By establishing this coordination, many problems are solved between the university and the industry, including the establishment of scientific disciplines in the universities in accordance with the actual needs of the industry sector and the increase of the matching of human force output from the university with the required industry force. After establishing the integrity of the strategies and coordination between the ministries, the government is required to engage in policy-making and encourage the university and industry to establish a relationship. The most important goal of this policy-making and the publicity of the relationship between these two institutions is to create intermediary organizations in order to provide places for the formation of the relationship between the two institutions. These intermediary organizations include offices of Industry Collaboration at universities and the top technology center at universities, science and technology and research and development centers in the industry. Creating these intermediary organizations alone is not the responsibility of the government and requires the participation of universities and industry. Therefore, the government is pursuing incentive policies and encouraging two institutions of the university and industry to establish intermediary organizations such as research and development centers, science and technology parks, and offices of Industry Collaboration and growth centers at universities. These intermediary organizations have specific rules and regulations, they operate in the form of an official organization chart. By creating intermediary organizations, academics and the industry sector will have places to meet each other, discussing and expressing problems and providing solutions, and the relationship between professors and students and industrial executives will increase, and this interaction will increase the applied research, Knowledge creation and innovation in Qaen city. One of the interviewees had an interesting perspective about intermediary organizations. He believed:

"Universities and industries, because of their specific culture, are two poles of the homonym of the magnet, which intermediary organizations act as a catalyst and bring these two entities closer together. Therefore, the government's attention will be focused on the creation of these organizations. "One of the interviewees had an interesting perspective on intermediary organizations. He believed:

"Universities and industries, because of their specific culture, are two poles of the name of the magnet, which intermediary organizations act as a catalyst and bring these two entities closer together. Therefore, the government's attention will be focused on the creation of these organizations". In this scenario, the government aims to support university innovators and innovation from the activities of universities by drafting laws on intellectual property rights, including the Law on the Registration of Signs and patent and the Law on Copyright Prohibition, while encouraging universities and industry to increase the amount of invention and Provides Innovation at the University. "After building the necessary infrastructure, both the university and the industry tend to create and apply it, but the evolution in human life, the specialization of social careers, the complexity of economic relations and the marvelous advances in communication and technology have led the two institutions to seek a strong supporter to support the research findings of the university and industry"‹one of the experts says. Therefore, the government as the community ruler by imposing intellectual property laws can have a great impact on encouraging the industry and the university to create knowledge and apply them and innovate, and the two institutions ensure the government's constant support.

According to the interviewees, the most important task of the university is to establish a good relationship with the industry and the government, restructuring the management at the university and organizing it appropriately in order to provide technical and advisory services to the industry and create a motivational system to motivate the professors to create Relationship with industry. In this scenario, the university, changing its structure and granting Study Fellowship in the industry to professors, encouraging professors to carry out applied research, supporting applied theses in the industry, and the effectiveness of the relationship between professors and industry in assessing and paying rewards to professors It encourages specialist staff and students and professors to approach industries and build relationships with the industry. In other words, the university, while changing its structure, implements a strong motivational system at the university to form a relationship between the university and the industry. Competition among college and among faculty members and students will be increased in order to carry out research in the industrial sector, with the establishment of a motivational system at the university. Considering the increasing motivation of academics to build relationships with the industry, the university is also developing and equipping research centers and laboratories needed by professors and students to carry out research in the industry, so that if the industry needs it, they will be able to provide these centers.

One of the interviewee's states:"The University has provided its services to the industry with these actions and by professors and students, so that the industry can buy the service after seeing the potential of the universities." The university also attracted the industry's trust in the industry's desirable way, by changing its organization to provide technical and consulting services to the industry, as the industry refers to the university to solve problems in the industry. In this scenario, in order to centralize the relationship between the university and the industry, an intermediate organization called offices of Industry Collaboration with industry and centers of growth and technology in the university is created which, by having clear strategies and clear rules and guidelines, effectively and efficiently facilitates the relationship between university and industry. By these offices, the needs and problems of the industry are transferred to the university, and after completing the necessary projects in the laboratories equipped with the university, the university specialists, in the form of applied research, will meet the needs and solve the problems of the industry. By increasing the relationship between the university and the industry and identifying each other's needs through offices of Industry Collaboration at university, the industry trusts the university and provides part of the research funding of the universities. Instead, the university, with the establishment of the new scientific disciplines and industry needs, is a major step towards improving the relationship and using the potential of universities. For example, the Office of Urban Research is set up at universities that plays a role as an intermediate bridge between specialist professors with executive specialist in the urban management system. The urban management system notifies its needs and priorities to the office and these needs and priorities is being examined by specialists employed in the office, and they guide the city management system to plan for priorities and meet needs. Inventors and academic experts are also researching in laboratories and research centers of universities and providing their findings to the industry. Some of these academic findings will increase the industry's productivity or reduce its production costs, or create a new source of revenue by introducing new technology. In other words, the findings of academics will create an economic added value in the industry, which is why the industry strongly welcomes these findings and seeks to support this innovation. Therefore, universities, through offices of Industry Collaboration and in accordance with a set of specific rules, identify intellectual property rights for innovation, while supporting the researcher and encouraging him to create further innovations and encouraging the industry to provide support to the university, the innovation created for it will be available exclusively to the industry for some time. By increasing the communication between the university and the industry, bureaucratic processes are removed to strengthen the relationship and the barriers to conducting industrial research by academics are largely eliminated. Therefore, university research is faster than before, and the time for industrial research is reduced by the university. Also, by increasing the link between these two institutions and exchanging views, the degree of familiarity of academics with their industries and their organizational roles, as well as the manner in which domestic operations and operations of the industry increase. By creating a strong database of the expertise available at the university and their work experience in relation to the industry and putting this database at the Office of Industry Relations, the University also created a guide for the industry to solve its problems. From the perspective of the vast majority of interviewees in this scenario, the most important thing for the industry is to create a growing confidence in the university. In this research, the industry trusts the university and delivers its problems through offices of Industry Collaboration to the university and it is looking for solutions to its problems from the university. One of the interviewees believes: "Today, the most important barrier to building a relationship between the university and the industry is the lack of industry confidence in the specialty of the university, but in this scenario, the industry trusts the university and greatly enhances its relationship with the university. This increase in the level of relations can include granting the study fellowship to professors in the industry and invest in the research centers of the university, for example, at the University of Bozorgmehr, Azad, and ... Specialist staff familiar with the needs of the industry, attracted to the offices of Industry Collaboration. "The tendency of senior executives to do academic research and support this research is

increasing to solve industry problems, by increasing the level of industry confidence in the university. On the other hand, some industries are aiming at using the potential of universities to invest in the creation and equipping of research centers at universities, but some industries use the high potential of the university, by setting up dedicated development and research centers And creating occupation at these centers for University specialist staff. In this scenario, the industry, in order to increase its communication with the university and solve problems in the industry, by setting up regulations and guidelines, sets out a series of specific rules for sending industrial projects to the university, in order to entity of a unit guideline and instructions for submitting industrial projects to the university.

On the other hand, intermediary organizations such as science and Technology Park, technology development centers and industry communication offices operate efficiently and effectively as a catalyst between the university and the industry. Here, on the one hand, the government gives credit to intermediary organizations, defines strategies and policies for them, and then sets them up guidelines and regulations so that universities and industry can use it. On the other hand, the university completes its task for the organization by putting its expert forces in the industry sector in intermediary organizations. The industry completes the third side of the triangle of these organizations by supporting research and innovations created in these organizations and applying the results of research in the industry. It should be noted that the offices of communication with the industry by the Science and Technology Park are the front line of the university in connecting with the industry. Therefore, in this study, these organizations have a very strong backing in both organizational and credit terms and the scientific community has a special value for these two entities. Modification and managing the incompatible culture between the two institutions is the most important point in the relationship between the university and the industry. In this scenario, due to the creation of intellectual property rights in these two institutions, the inadequate organizational culture of these two institutions is highly moderated, and the cultural contradictions between the university and industry are minimized, and the two institutions communicate in concert and on the basis of mutual interests. Also, the country and the university and industry interact with the countries with the highest scientific rank in the world, therefore, joint training courses between the industry and the universities of the country and other countries with a high scientific degree in the world are held and the Memoranda of understanding for the exchange of knowledge between countries are concluded. In general, according to what has been said, in this scenario, the quality of the relationship between government, academia and industry is excellent because of government support and the integration and coordination between strategies, restructuring in universities and awarding professors to the relationship With the industries and equipment of research centers, the industry's confidence in the university and the increasing industry's willingness to invest in research and development. The national regional innovation system model states that the formation of efficient and effective communication between the university and the industry will create knowledge and create innovation in society. Creating knowledge and creating innovation is the foundation of the development of knowledge-based cities. Therefore, in this research, the level of innovation and creation of knowledge has increased, and society moves towards the knowledge-based development, and the city of knowledge is emerging in society, by improving communication between the university and industry and government.

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