

Examining the Effective Criteria on the Realization of the Creative City with an Emphasis on Developing Countries (Case Study: Gorgan- Iran)

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Abstract: *The creative city approach is an ambitious endeavor to create a free and sustainable space for fostering the imagination and creativity of citizens. It is in the beginning and has something in common with sustainable development paradigms. Considering the global economic and social competition, this approach seeks creativity and innovation by strengthening the technological levels of cities as development agencies of the third millennium. In addition to beauty, they perform function and safety in urban maps and improve the quality of urban spaces. As a result, by using this approach, a higher level of development, spatial and functional development is achieved in urban spaces. In this research, the DEMATEL technique has been used to calculate the magnitude and intensity of the criteria of the creative city of Gorgan using the opinions of experts about the influential and influential relationships of the elements in the numerical scores. The data collection tool is sampling and using questionnaires and interviews with limited experts (15 people) and collecting 349 citizens. Then, using the ANP method, the relationship between the criteria was determined in the Super Decisions software. The criterion of teachers and artists with a score of (20.2368) had the highest interaction with other criteria. Also, according to experts and urban elites, research and development units with a score of (1.0079) had the greatest impact, and leisure time was chosen as the most influential factor. Also, by using SPSS software, the opinions of the citizens about the creative city were analyzed, and according to the opinions of the citizens, by analyzing the data, it seems that the citizens of Gorgan have considered technology, research and development. As the most important component of the creative city and its score, they have assigned an impressive score of 4.01 to it. Variety and tolerance were also given a high score of 3.52. On the other hand, environmental facilities were assigned the least important factor with an average score of 3.49.*

Keywords: *Creative city, DEMATEL model, ANP model, Gorgan city*

1. Introduction

A successful urban environment is undoubtedly an environment that fosters and absorbs talents; such a city generates research and can add new parts to the city's economic, cultural and social dimensions; providing new opportunities for cities on a national and international scale. The philosophy of the creative city is that in every

city there is always a much greater capacity than is supposed to be in the first place. The creative city is a new concept in the field of urban management, which is semantic synonym with entrepreneurship concepts. Creativity in the city frees people from administrative and physical impediments and makes it possible to implement two principles of partnership and efficiency, which are the main indicators in the urban domain. Furthermore, the idea of the creative city is to expand the visions of managers and planners and makes it easy to analyze the solution facing the problems and respects the diversity of interests in the city. Eventually, the creative city expands citizens' imaginations to improve the living environment and their quality of life. In order to understand the creative city, the concepts, indicators, and approaches must first be identified. This report attempts to address these issues. Therefore, to maintain the pace of scientific and technological progress that our country has had in recent years, it is necessary to develop the current cities of Iran with an emphasis on creative cities. The question now is why is there a talk of creativity about cities? Part of the reasons for this issue is obvious because historically, creativity has always been a vital force regarding cities. Cities have always needed creativity under the name of labor market, trade and business centers, artists, intellectuals, students, managers, and politicians. Especially in places where races and cultures are mixed, there are interactions between new ideas and institutions, but there are special reasons for thinking about the problems of today's cities in terms of creativity or lack of it.

Nowadays, many cities in the world are faced with difficult transition times. The old industry is hidden by the value that is used by reducing production and enjoying new knowledge for products, processes and services. The factors that once formed with the development of cities, transportation, and proximity to raw materials are less important. Now, new problems have grown in the agenda of the cities, which is partly the result of the collapse of the old rhythms of life and work based on factory and office. At each transitional period, at least there is an acute need to act and think beyond the previous assumptions and methods in terms of work (Landry & Bianchini, 1995. 10). The concept of a creative city is often used as a form of strategic planning. For example, Landry names techniques, steps, and defaults for his use of this term (Landry, 2008. 164).

The superiority of the concept of a creative city is inevitably bound up with widespread changes in the economy and society in which human creativity is a key factor (Florida, 2002. 68).

A creative city should be able to accommodate various social groups with different cultures. Because the existence of a diverse population with different ideas increases the chances of creativity. It is also necessary to diversify employment, work, and recreation opportunities (Mokhtari Malekabadi et al., 2014. 106). In order to attract human and creative capitals, cities and their dependent regions must have specific features through which they can become creative cities (Florida, 2005. 54).

Since the very term "creativity" has been defined and discussed in many fields, including psychology, sociology, anthropology, and economics, it has become a comprehensive field of research. The definition of creativity depends on the general characteristics of society and a particular discipline, examined by it. This term can broadly be defined as the emergence of something transcendental and appropriate from the standpoint of a person, group, or society (Sawyer, 2006. 33).

In order to effectively meet today's changing demands, cities need creative thinking, the existence of attractive and creative urban spaces and environments, as well as creative leadership, and this is because if we exclude creativity and innovation from the stage of human life, we have hindered the movement, dynamism, survival and vitality of human life and cities. Therefore, in today's era, creative citizens, managers and cities are the sides of the triangle of creativity; without each of them, creativity and innovation will not reach the goal. Because creative citizens and entrepreneurs considered factors of the competitive advantage of cities. In the case of institutionalization of creativity and the production of new thoughts and ideas, cities become creative, innovative and flourishing. The result is synergy in urban creativity and innovation. The result is synergy in urban creativity and innovation, which ultimately lead to improving the quality of life and beneficially improving the cities' quantitative, qualitative and biological conditions (Motalebian and Rahmani: 2016, 112).

To create transformation in this current incomplete process, it is necessary to create new and local planning ideas. Because experience has shown that pure, copying of European and American designs is not a complete answer to the problems of our society today, the lack of a creative class that can take responsibility for this need is strongly felt in the country. This severe lack of original and practical creativity is usually due to the lack of cultivation of creative people in society. The living environment of these people, which are cities, is one of the critical tools for

guiding and cultivating such a class in urban societies, considering the profound changes that have occurred in the urban environments, the creativity, officials, city managers, business owners and city residents considered a vital factor in solving many of the city's problems. One of the fundamental problems that urban management is facing is how to explain and interpret its knowledge and understanding of creativity as the main driver of growth to comprehensive and integrated urban policies and strategies in other competent and influential institutions in realizing the vision of the creative city in a coordinated way. For this purpose, the creative city requires creating an integrated urban management system and, in other words, creating creative urban leadership to achieve the creative city.

2. Research Background

The first person who studied and provided ideas about creative cities was Richard Florida. He believed that creativity and innovation are the general elements of urban movement toward success (Harvey, 2012. 528).

Kalantari et al (2012), examined the promotion of quality of life through the development of public and common spaces as the foundations of the creative city. Their results showed that public spaces are engaged in the concepts of participation, diversity, vitality, attractiveness, economic value, and identity regarded as the engine of the creative city.

Haji Hosseini et al (2014), in research entitled the role of theory of the creative city in the movement of cultural economics and urban life, showed that the attraction of elites leads to the creativity, innovation, and economic mutation of cities, and this leads to the movement of cultural economic of the cities. The focus of the creative city theory is on topics such as technology, talent and tolerance.

Mousavi (2014), in his article ranked the neighborhoods of Sardasht city in terms of moving towards creativity and emphasized on the realization of the creative city using TOPSIS and ANP; the results showed that 41.8% of the realization of creative neighborhoods of Sardasht is due to the improvement and application of the components of the creative city.

Mokhtari Malekabadi et al (2014), in research on leveling the fifteen regions of Isfahan in terms of the indicators of the creative city, used regional planning models, and the results indicated that regions 1, 5, 3, 6 have had good conditions.

Rafiean and Shabani (2015), analyzed the indicators of urban creativity in the settlement system of Mazandaran province and the results showed that the main focus of the provinces of Mazandaran, in terms of development from the perspective of the indicators of the creative city, is more on the central cities of the province.

Zanganeh et al (2016) in a study entitled "Analysis of the possibilities and position of Tehran in terms of realizing the concept of a creative city compared to other cities in the world", concluded that Tehran is not well positioned regarding most of the indexes compared to the international creative cities. By improving the creative urban environment in order to cultivate creative citizens and by preserving and attracting the creative class and citizens, Tehran can get closer to being creative.

By examining the indicators of the creative city in their research, Margarida and Mario (2019) divided the indicators of the creative city into two clusters, creative cities and their relationship with creative class and culture - creative clusters and networks.

Towards an Inclusive Creative City: How ready is Historic George Town, Penang? The findings of LengKhoo (2020) show that George Town cannot have the characteristics of a prosperous creative city due to the socio-spatial and time challenges that the city is facing due to physical growth.

Oriya and Marsousi (2021) analyzed and measured the components of the creative city in Tabriz and stated that all the components of the creative city have a significant correlation with the level of creativity in the urban areas of Tabriz. The two variables of creativity infrastructure and creative class had the highest correlation. The results of the ANP model showed that the criteria of creativity infrastructure and creative class are respectively the most important in forming a creative city.

Soumya Paulose (2021), results of the research and planning for how to make the city of Kochi intelligent and creative in India showed that the city of Kochi is a unique combination of ethnicity, culture, architecture and cuisine due to the influence of trade from all over the world and different regions of India. Therefore, the city of Kochi has the potential to influence creative and knowledge-based activities.

Wolniak, Kowalska (2022) This publication presents the results of extensive research on the functioning of the creative sector in Polish cities, conducted on a representative sample of 287 cities located throughout Poland. The aim of the research was to study the functioning of the creative sector in Polish cities and to determine whether the active involvement of public administration in its development has a positive impact on this sector. The research was carried out on the example of a medium-sized European country, which is Poland. The original contribution of the authors of the publication is to demonstrate, on a large research sample, the existence of a positive impact of the municipal office's activities on the creative sector for example using special funds to boost creativity sector in the city, and to ascertain the existence of a linear relationship between the city size and the level of the creative sector functioning in it.

Jan Fransen et al (2022) This paper studies these tensions in formulating responses to two main questions: A) How can the concepts 'creative city' and 'inclusive city' be operationalized, measured, and related to each other? and B) How do cities that adopt these two city labels implement them in their city branding and policy initiatives? What can we say about the internal consistency of these brands and policies? chosen Dubai, Amsterdam, and Toronto as case studies since all three enjoy good reputations in both creativity and inclusion in their respective continents and contexts. study indicates that cities promise more than they deliver, that creativity matches some aspects of inclusion, but contradicts others. Moreover, in case of tension, creativity always prevails over inclusion, whereby economic interests come first, and only aspects of inclusion that add to or are at least not in conflict with creativity tend to be honored. Finally, in each of the three cities, the 'couleur locale' can clearly be observed in terms of the aspects of inclusion that are emphasized, and which tend to be disregarded.

3. Theoretical foundations

3.1. The concept of a creative city

The idea of a creative economy, which used specifically for cities as well, has led to the emergence of the concept of a creative city. The creative city describes an urban complex whose cultural activities of its different parts form one of the components of the city's economy as well as its social function. Such cities built based on a solid cultural and social infrastructure and, through their privileged facilities; they result in creative employment and attract capital investment (Asif, 2008. 37). The concept of a creative city often used as a form of strategic planning; for example, Landry named techniques; steps and assumptions for their own use (Landry, 2008. 164).

3.2. Elements of the creative city

People, businesses, spaces, connections, and prospects are the five main elements of creative cities, which are essential to build and develop creative cities in the future.

People In the creative city, the conditions and circumstances need to consider in order leading to the emergence of the future artists, the success of creative employees in all sectors of the economy. Also, to make people to will for cultural goods and develop an attractive environment for creative individuals. Strong public education and access to cultural activities play a vital role in the formation of creative people resulting in the promotion of social commitment and participation.

Economical agencies: Creativity often leads to social opportunities, and cultural entrepreneurs start creative businesses and grow them. Commercialization of innovative and creative ideas is the cause of job and wealth creation in the creative cities. In creative cities, the abundance of creative talent is the driving force behind the creative industries and the economy of the region.

Space: There is a strong link between space and creativity. Creative people need space for life, work, inspiration, and display of their work. The spaces of a city, both natural and artificial, cause excitation and expression of the creativity of their inhabitants (Mohammadi and Majidfar, 2010. 17).

Connections and Communications: An urban environment that seeks to stimulate and support creativity must also be able to connect many separate actions. These connections are often driven and developed by organizations which their mission and vision are creativity. Support these connections also provided by intermediary organizations that organize individual activities and effectively use existing resources.

Prospect and Fame: In creative cities, expressing a strong and creative vision causes the growth of talents; furthermore, it directs the supporting of the creativity throughout the city and orders it. This perspective tells the story of the city to the world creates its reputation and leads to tourism, exports and investment in the city (ibid. 18).

3. 3. The components of the creative city

One of the most important and influential factors in the emergence of creative cities are the expansion of the process of globalization, the shift away from the individualism and towards the community. The centralization of urban relations, the promotion of cultural homogeneity, the trans-nationalization of the countries' economy, the centralized of the service-based economy, diminishing of borders and increased participation of women in urban activities (Till, 2005. 74).

In addition, any creative city is generally a fascinating place to work and live for its citizens (especially the younger generation). A fascinating place for tourists (the tourism industry), capable of flourishing economic sectors (through use of technology and managing it in a proper way) as well as the center for attracting new emerging enterprises (clusters and research centers, especially in the field of superior technology) (Rafiean, 2010. 14).

3. 4. Advantages, disadvantages and obstacles of the creative city

3.4.1. Advantages of a creative city include:

Economic Growth: Creative cities can drive cultural tourism, attract visitors, and stimulate economic activity. They can become attractive destinations for residents and visitors, leading to increased revenue and job opportunities

Increased Worker Productivity: Creativity and culture in a city can enhance worker productivity. A vibrant creative environment can inspire innovation, problem-solving, and collaboration among workers.

Nurturing Creatives: Creative cities provide support and resources for nurturing creative individuals and facilitating the establishment of creative enterprises. This can lead to the growth of creative industries and the development of a thriving creative ecosystem

Distinctive Branding: Creative cities have a unique brand and personality that sets them apart. They offer memorable experiences, cultural treasures, and creative offerings that captivate visitors and residents. www.hellenicshippingnews.com/why-creative-cities-are-essential-to-global-economy/

Social and Cultural Development: Creative cities foster a culture of creativity, imagination, and individuality. They provide places, experiences, and opportunities for citizens to express themselves creatively and engage in cultural activities

Urban Regeneration: The concept of a creative city can contribute to urban regeneration by revitalizing neighborhoods and transforming post-industrial areas. It encourages the repurposing of spaces and the development of creative hubs. https://en.wikipedia.org/wiki/Creative_city.

Collaboration and Knowledge Sharing: Creative cities can join networks like the UNESCO Creative Cities Network, which promotes cooperation and the sharing of experiences and knowledge among cities. This allows cities to learn from each other and collaborate on projects for sustainable development. <https://en.unesco.org/creative-cities/home>.

3.4.2. Criticisms to the creative city

Criticism of the concept of creative city is diverse and complex. Here are some of the criticisms:

Inconsistency in definitions: There is inconsistency in the definitions of "creative economy", "creative city" and "creative class". Culture and economy are opposites: It is argued that culture and economy are opposites and when the two come together, the integrity of the former is always damaged (Khoo, S. L, et al, 2021).

The tension between beautification and structural conflict: A key point to critique is the tension between the "beautification" of the city and the limited structural engagement with pressing issues such as inequality and segregation. The creative city is a symbol for a wide set of goals and ideals: The creative city is a "global dream space" that represents a wide and complex set of goals and ideals that can be challenging. The creative city itself is a vehicle for challenges: the creative city links culture to other policy issues, but is itself a challenge (De Beukelaer, 2021).

The creative city is an absurd concept: the lack of understanding of its theoretical premises, ambitions and dilemmas is the reason why the creative city becomes an absurd concept or a set of stereotypes when faced with action. The approach to the creative city is ambiguous: recognizing the creative city as a field for research and action must acknowledge its tangled, fluctuating and slightly ambiguous status (Segovia, Hervé, 2022).

Some alternative approaches for urban development that have been proposed as a critique of the creative city. The Sustainable Creative City: A Critique of Contradictions The sustainable creative city debate focuses mainly on the economic, social and cultural divides that are exacerbated by urban development (Vivant, E. (2013).

Alternative policies in urban innovation: This approach proposes innovative methods of urban development that challenge the status quo and promote alternative forms of governance (Lehtovuori, Havik, 2009).

Culture-oriented urban development: This approach emphasizes the importance of culture in urban development and promotes the use of cultural resources to revitalize urban areas. Community- led urban development: This approach emphasizes the importance of community participation in urban development and promotes the use of bottom-up approaches to address local needs and aspirations. Urban sharing: This approach emphasizes the importance of shared resources and promotes the use of collective action to manage and govern urban resources. Urban ecology: This approach emphasizes the importance of urban agriculture and promotes the use of ecological principles for the design and management of urban spaces (Segovia, & Hervé,2022).

Post-growth urban development: This approach challenges the growth-oriented paradigm of urban development and promotes the use of alternative indicators of well-being and sustainability (De Jesus, D, et al, 2020).

3.4.3. Challenges, obstacles facing cities in implementing the creative city strategy

Implementing a creative city strategy can be challenging for cities. Some of the challenges faced by cities in implementing a creative city strategy are:

Funding: Implementing a creative city strategy requires funding, which can be a challenge for cities. Funding can come from various sources, such as government grants, private investments, and partnerships with businesses and organizations. Resistance to Change: Implementing a creative city strategy may require changes to existing policies, regulations, and practices. This can be met with resistance from stakeholders who may be hesitant to embrace change (Tomic & Djukic,2018).

Inclusivity: A creative city strategy should be inclusive and accessible to all members of the community. However, there may be challenges in ensuring that all members of the community have equal access to creative opportunities and resources

Balancing Economic and Social Goals: A creative city strategy should balance economic goals with social and cultural goals. Cities may face challenges in finding the right balance between economic development and preserving the unique character and identity of the city.

https://en.wikipedia.org/wiki/Creative_city

Sustainability: A creative city strategy should be sustainable and have a long-term vision. Cities may face challenges in ensuring that creative initiatives are sustainable and can continue to thrive beyond the initial implementation phase (Segovia, Hervé,2022).

Collaboration and Coordination: Implementing a creative city strategy requires collaboration and coordination among various stakeholders, such as government agencies, businesses, and community organizations. This can be a challenge, as it requires effective communication and cooperation among diverse groups (Simeti, 2006).

In this regard, perhaps the most important obstacles to the development of talents and more attention to them are as follows:

Although large cities may have a unique creativity talent, if there are significant social, cultural, and economic disparities in these environments, achieving a creative city will not be possible in a correct way. In other words, the plans for the formation of cities and creative regions should cover the core issues of citizenship and democracy (Scott, 2006. 18).

3.5. Creative class

The distinguishing feature of the creative class is that its members pursue works whose essential function is to create new forms of innovation. The most important members of this new class are scientists and engineers, university professors, poets and writers, artists and actors, designers and architects, intellectual leaders of modern society, editors, cultural figures, researchers, analysts and other researchers. Creative members of this core create new forms or designs that are transferable and very useful. Beyond this core group, the creative class includes other creative professionals who work in a wide range of knowledge-intensive industries such as high-tech sectors, financial services, legal, health care, and business management. These people seek innovative solutions to solve problems using their complex knowledge (Konno & Itoh, 2017:3). The creative class is not a new concept with a new category. This association used to be known as the new or high-level class in terms of employment; that is, it included intellectuals whose interactions are based on critical rationality that governs their practical commitments in work and life. The creative class will contribute to income generation, urban regeneration, cultural facilities, entertainment and lifestyle of a city that attracts tourism and investment in the mobile skilled workforce (Hatuka et al., 2018:168).

3.6. Creative city management

The creative city plays an influential role by eliminating administrative complexities and providing a context for the emergence of individual and collective creativity, as well as organizing these abilities in performing activities related to the city. Creating a balance between metropolitan and local thinking as well as redefining management and planning based on the participation of individuals, famous institutions, non-governmental organizations, business owners and professions, and city managers are among the essential things in this type of view (Khan Sefid, 2013: 93). In other words, the creative city, urban management and the management of projects related to the city, have the role of facilitating and providing the context for the emergence and use of creativity. In this approach, new concepts are proposed. They include innovation instead of repetition, the design instead of construction, creating more value instead of trying to reduce costs, combining ideas instead of separating opinions, creating better results instead of using more facilities and resources as well as the use of thinking, technology, and the art of building a city discussed. In other words, creativity in urban management is defined as combining the thoughts and approaches of modern urban management experts with local values and foundations and a new way of examining urban issues and problems and opening a new way for them (Hosseini et al., 2016: 216).

3.7. The views and ideas of the creative city

"Creative city" is also a concept proposed by Charles Landry in the late 1980s. He wrote the book "Creative--City" in 1995 with Franco Bianchini. Since then, this issue has turned into a global movement reflected in the new urban planning model for cities. When the idea of a creative city was first proposed, this idea was only an inspiring topic, that is, a voice that encouraged people to open their minds and imagine. From his point of view, the philosophy is the idea that there is much creative potential for a place, and it is necessary to create conditions for the people to think, plan and take action to deal with urban problems by considering the opportunities.

Peter Hall (1998-2000), in the book "Cities in Civilization, Culture, Creativity and Urban Order" as well as the book "Creative Cities and Economic Development", describes creative cities as communities that put themselves to work and the path is to lose their past confidence in, but they pay serious attention to what is going to happen to them. The creative city theory is also supported by extensive studies by people such as Malmberg and Zander

(1996), Anderson (1985) and Jane Jacobs (1991). This theory suggests the relationship between cultural creativity and technical innovation or development with advanced technology. It provides a new paradigm to examine economic phenomena from a social and cultural perspective (Songmei: 2005, 19-20). From his point of view, creative cities with cultural and social backgrounds create creative people to interact and change informal information, leading to the emergence of new ideas and creative thinking (Songmei, 2005, 19).

Hospers (2003) also published an article titled "Creative Cities, cultivated places in the knowledge economy". Richard Florida raises the issue of creative classes in creative cities and is one of the experts in the field of the urban economy. In several of his books, including the book "The Formation of the Creative Class" in 2002, he stated that people in the new class are the drivers of the economy, and the creative class is a person who applies a measure of creativity in his daily business (Hospers, 2005, 8). Florida showed that the compulsion of the creative class is to share similar attitudes and beliefs about work, identity, value, behavior and quality of life. As a group, they value diversity and especially individuality. Florida does not accept the issue that refers to the influence of technology in reducing the importance of geography and states that place is essential and creative industries are found in places where groups of creative individuals live (Medeiros, 2005, 18).

Montgomery (2004), by criticizing Florida's theoretical principles and work, explains the role of place in the development of a creative environment using Kanter's place model and states that most of the time, a whole city cannot be a creative environment. However, a part or more than one part of it is the creative environment, which is today called cultural centers and creative economy clusters (Samadi, 2013, 67).

In a more general view, it can be said that cities are containers of creativity and have always been the cycles and loops of movement, concentration, and direction of human creative energy. Most of the literature written in the fields of creative and innovative cities has not only focused on the role of creativity in the growth and shaping of the city but instead emphasized the issue of removing restrictions and obstacles (physical, social, cultural) from cities; creativity will become the driving force of economic growth and development of cities, regions and nations.

3.8. The realization basis of the creative city

The realization of the creative city requires the creation of conditions in the city; from the point of view of Hospers (2003) and Landry (2000), until these conditions not provided in the city, it will not be possible to become a creative city.

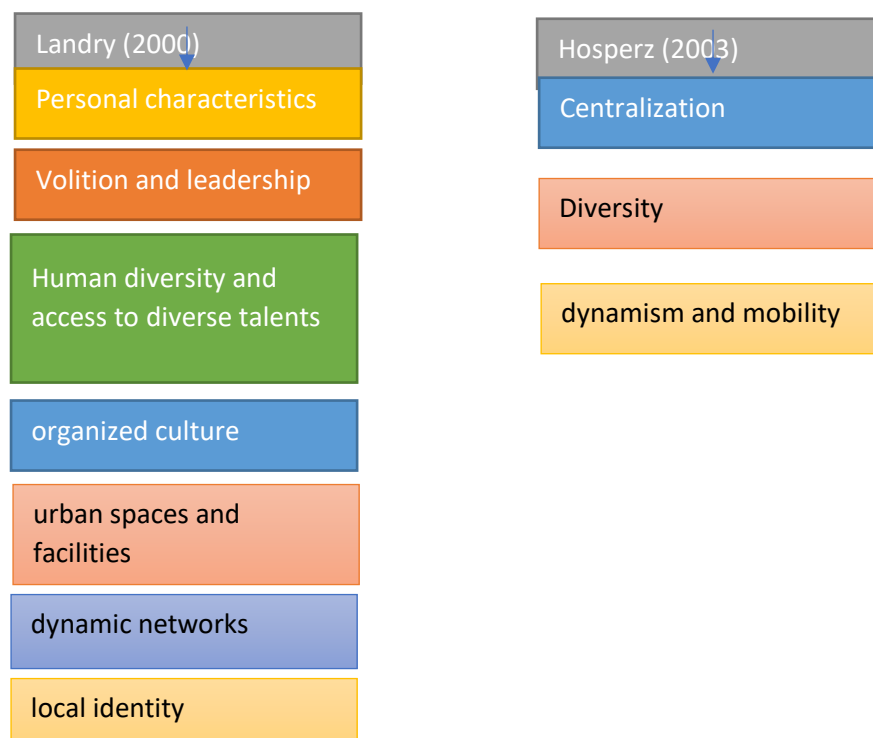


Figure 1: The realization basis of the creative city

In a report presented by the London Development Agency (2006) about the strategies of creative spaces in cities, people, economic enterprises, spaces, connections, and vision were mentioned as the five main pillars of creative cities that in order to create and develop creative cities, strategies must be implemented that, while supporting the pillars mentioned above, will lead the city towards a creative future (London Development Strategy, 2006).

3.9. Leveling of creativity in urban areas, cities and urban spaces

Cities are places where social, economic, cultural, and political forces are connected, and many theorists in these different dimensions have presented the concept of a creative city. These concepts have also been supported and completed in different scales of the region and beyond the cities or parts of the city, such as spaces and urban centers.

At the macro level, the goal is to highlight urban areas and to show creativity in solving issues related to a scale beyond cities; for example, cultural programs and macro policies formulated by urban management are placed in this area. Another important issue is to examine this theory from the perspective of the creative economy and cultural and artistic infrastructures, and creative industries.

At the intermediate level, issues related to solving urban problems through creativity and improving the quality of urban life are emphasized, including creative infrastructure, optimal urban transportation, planning for cultural activities, and creative events in the city.

At the micro level, the main goal is to create urban creative spaces for the emergence of creative ideas and human interactions, and creative people need a space to live, work, inspire and display their works. The spaces of a city, both natural and artificial, stimulate, adapt and express the creativity of its residents. Therefore, the desirability and quality of urban spaces become important, which leads to the attraction of creative classes (Jalali, Pour Jafar, 2016, 42-45).

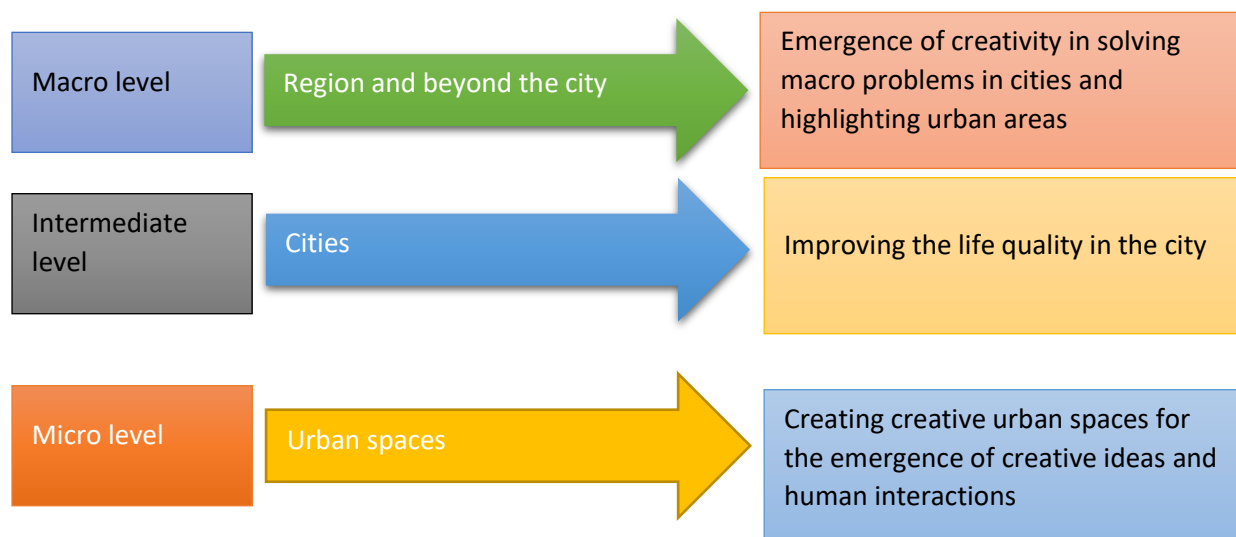


Figure 2: Creative city levels

- What is the state of Gorgan city in terms of creative city criteria according to urban areas experts?

3.10. The reason for choosing the target group

At the level of urban management, creative leadership has a positive relationship with creativity at multiple urban levels, and creativity at the individual and group levels affects urban innovation and creativity. By supporting innovation and creativity through effective planning and policies, creative leaders play the role of facilitating and providing the context for the emergence and use of creativity. Considering the same issue, the target group includes of; city managers (mayors and city deputies and other experts in the field related to the city (urban green space department, urban architecture and urban planning department, urban development department, urban

cultural and sports department), professors of urban planning in the universities of Gorgan, architecture, urban planning and other departments related to the urban area.

4. Method and material

4.1. The purpose of the research

The purpose of the research is as follows:

Investigating the current situation of Gorgan city in terms of four indicators of the creative city including human capital, innovation, social capital and quality of life

4.2. Research questions

The research questions are:

- What is the situation in Gorgan city in terms of criteria of the creative city?
- Which one of the creative city criteria in Gorgan has been more influential?

4.3. Introducing the study area

City of Gorgan is one of the cities of the Caspian Sea coast and the center of Golestan province. It is located in 36°49' latitude and 28°54' east longitude and 155 meters in height from free waters, in the southeast of the Caspian Sea and on the Shahvar mountain range in the national rout of Tehran-Mashhad.

Gorgan is a mountainous and highland region with an area of 2885 square kilometers, located in the eastern part of the province. From the north, it connected to Bandar- Torkman, from east to Ali Abad city, from west to the city of Kordkouy and Caspian Sea, and from the south to Damghan and Shahrud (which separated by Gorgan from the Alborz Mountain range). In 2011 population census, Gorgan has had 329,536 inhabitants and 98 thousand and 19 households.

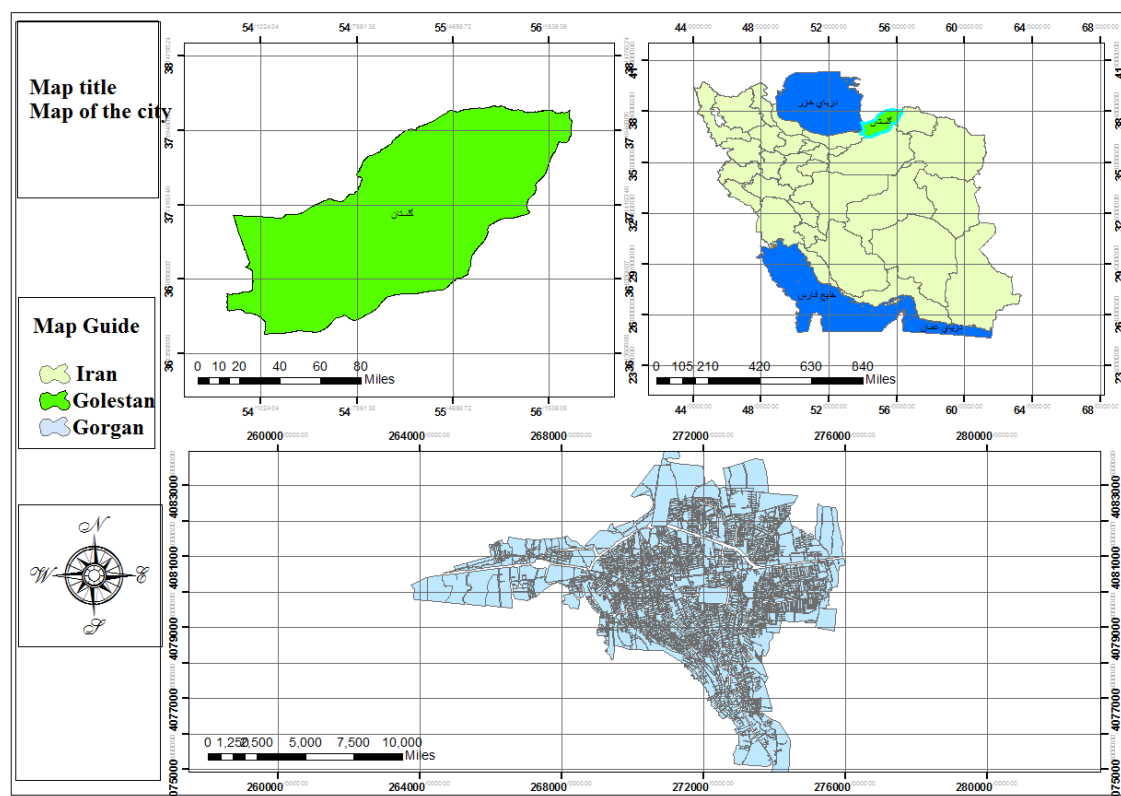


Figure 1. Map of the geographic location of the study area (Municipality of Gorgan, 2017)

4. 4. Research methodology

According to the objectives of the research and the investigated components, the current research is applied research and its method is descriptive-analytical. The statistical population includes the three regions of Gorgan. In this research, the DEMATEL technique was used based on the pairwise comparison method to calculate the amount and intensity of the influential factors of the creative city of Gorgan. By using the experts' opinions, the relationships of influential and influential factors were obtained in the form of numerical scores. Also, the citizens' opinions were analyzed using SPSS software. The tool for collecting information on creative city indicators was sampled using questionnaires and limited interviews (15 people) from experts as well as citizens (349 people). The data set was imported to the Super Decisions software, which is specifically used to carry out this type of analysis.

5. Research findings

5.1. DEMATEL method

DEMATEL, which is a type of decision-making method based on paired comparisons, by utilizing the judgment of experts in extracting the factors of a system and systematically structuring them through applying the principles of graphs theory. The hierarchical structure of the elements in the system coupled with influencing and influenced factors to produces the elements in such a way to determine the effect of these relations and their significance in numerical terms.

In this research, in order to study the creative city with the DEMATEL model, 4 criteria and 20 sub-criteria have used, whose names given in Table (1).

Table 1. Criteria and sub-criteria

Criterion	Sub criteria
Human capital (creative)	Number of professionals and artists, number of students, higher-educated employees, immigrants entering higher education, population density
Innovation	The number of research and development units, the number of researchers of research and development units, inventions, the number of parks and centers of science and technology development, the number of industrial clusters, research and development activities
Social capital	Social participation, interest in society, social trust and co-operation, participation in social networking,
Quality of life	Culture and tourism, leisure, environmental status, economic situation, physical status

Reference: (Mousavi, 2014, 21)

In addition, in order to compare the criteria with each other, 5 values have been used, the names of which are shown in Table (2).

Table 2. Values used in research and their equivalent names

Name	Value
Without any influence	0
Little influence	1
Average influence	2
High influence	3
Very high influence	4

Fifteen experts used to examine the criteria. In order to consider all experts, arithmetic mean used through formula 1.

$$\text{formula (1)} \quad z = \frac{x^1 + x^2 + x^3 + \dots + x^p}{p}$$

In this formula p is the number of experts and x_1, x_2, x_p are respectively the pair comparison matrix of expert 1, expert 2 and expert p.

5. 2. Implementation of the DEMATEL method on the main criteria

We use formulas 2 and 3 to normalize the resulting matrix.

Formula (2)

$$H_{ij} = \frac{z_{ij}}{r}$$

r is obtained through the following relation:

$$\text{Formula (3)} \quad r = \max_{1 \leq i \leq n} (\sum_{j=1}^n z_{ij})$$

After calculating the above matrices, total relation matrix is obtained according to formula 4

Formula

$$T = \lim_{k \rightarrow +\infty} (H^1 + H^2 + \dots + H^k) = H \times (I - H)^{-1} \quad (4)$$

In this formula I is matrix one, Table 6 shows the matrix t.

Table 3. Total Relations Matrix

Total relation matrix	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
A1	0.49	0.53	0.53	0.53	0.51	0.50	0.51	0.50	0.49	0.47	0.51	0.55	0.54	0.53	0.52	0.51	0.49	0.51	0.47	0.45
A2	0.53	0.47	0.51	0.51	0.50	0.50	0.51	0.50	0.49	0.47	0.50	0.53	0.53	0.52	0.51	0.50	0.48	0.50	0.46	0.43
A3	0.54	0.52	0.47	0.53	0.51	0.50	0.51	0.50	0.50	0.48	0.51	0.53	0.53	0.52	0.51	0.50	0.49	0.51	0.47	0.44
A4	0.51	0.50	0.49	0.45	0.49	0.47	0.48	0.47	0.47	0.46	0.48	0.50	0.50	0.49	0.49	0.47	0.46	0.49	0.45	0.42
A5	0.48	0.46	0.45	0.46	0.41	0.44	0.44	0.44	0.44	0.43	0.45	0.48	0.47	0.46	0.45	0.45	0.44	0.46	0.43	0.39
A6	0.56	0.54	0.53	0.53	0.51	0.46	0.52	0.51	0.50	0.50	0.52	0.54	0.54	0.53	0.52	0.50	0.49	0.52	0.47	0.45
A7	0.55	0.53	0.53	0.52	0.50	0.50	0.46	0.51	0.50	0.49	0.52	0.54	0.54	0.52	0.51	0.50	0.49	0.51	0.47	0.44
A8	0.53	0.52	0.51	0.50	0.50	0.49	0.50	0.44	0.49	0.48	0.50	0.53	0.53	0.52	0.51	0.49	0.48	0.50	0.46	0.43
A9	0.52	0.50	0.50	0.50	0.48	0.47	0.48	0.48	0.42	0.46	0.49	0.51	0.50	0.49	0.49	0.48	0.46	0.49	0.45	0.41
A10	0.48	0.46	0.46	0.47	0.45	0.44	0.45	0.44	0.44	0.39	0.46	0.47	0.47	0.46	0.45	0.44	0.43	0.46	0.42	0.39
A11	0.56	0.54	0.54	0.54	0.53	0.52	0.53	0.52	0.51	0.51	0.48	0.56	0.55	0.53	0.53	0.52	0.50	0.53	0.49	0.45
A12	0.53	0.51	0.51	0.51	0.50	0.48	0.49	0.49	0.48	0.48	0.49	0.47	0.52	0.51	0.50	0.50	0.47	0.50	0.46	0.44
A13	0.53	0.51	0.52	0.52	0.51	0.49	0.50	0.49	0.48	0.48	0.50	0.53	0.47	0.52	0.51	0.50	0.48	0.51	0.47	0.44
A14	0.53	0.51	0.51	0.52	0.50	0.49	0.49	0.49	0.48	0.47	0.49	0.52	0.52	0.46	0.51	0.49	0.48	0.50	0.47	0.43
A15	0.48	0.46	0.46	0.47	0.46	0.44	0.45	0.44	0.44	0.44	0.45	0.47	0.48	0.46	0.42	0.45	0.44	0.46	0.43	0.40
A16	0.43	0.41	0.41	0.42	0.41	0.40	0.40	0.40	0.38	0.37	0.39	0.41	0.41	0.41	0.41	0.36	0.38	0.41	0.37	0.35
A17	0.48	0.46	0.47	0.46	0.46	0.44	0.45	0.44	0.44	0.43	0.45	0.48	0.47	0.47	0.46	0.46	0.39	0.47	0.43	0.41
A18	0.53	0.52	0.52	0.51	0.51	0.49	0.50	0.49	0.49	0.48	0.50	0.53	0.52	0.50	0.51	0.50	0.48	0.46	0.47	0.44
A19	0.40	0.38	0.39	0.39	0.38	0.37	0.37	0.37	0.37	0.35	0.37	0.39	0.39	0.37	0.38	0.38	0.36	0.39	0.32	0.33
A20	0.42	0.40	0.41	0.41	0.39	0.37	0.38	0.38	0.37	0.35	0.38	0.40	0.40	0.39	0.39	0.38	0.36	0.38	0.36	0.30

Explanation of the table

Teachers and artists indicators (A1), Students (A2), Higher educated employees (A3), Immigrants studying higher education (A4), Population density (A5), Research and development units (A6), Researchers of research and development units (A7), Inventions (A8), Parks and centers of science and technology (A9), Industrial clusters (A10), Research and development activities (A11), Social participation (A12), Social trust and co-operation (A13), Participation in the social networks (A14), Culture and tourism (A15), Leisure (A16), Environmental status (A17), Economic situation (A18), Physical condition (A19), Interest in the society (A20).

*: Description

The next step is to get the sum of the rows and columns of the matrix T. The sum of the rows and columns is obtained according to Formulas 5 and 6.

$$\text{formula (5)} \quad (D)_{n \times 1} = \left[\sum_{j=1}^n T_{ij} \right]_{n \times 1}$$

$$\text{formula (6)} \quad (R)_{1 \times n} = \left[\sum_{i=1}^n T_{ij} \right]_{1 \times n}$$

R and D are $n \times 1$ and $n \times 1$, respectively.

The next step is the importance of the indicators (D_i+R_i) and the relationship among criteria (D_i-R_i). If $D_i-R_i > 0$ the criteria is influential and if $D_i-R_i < 0$, the criteria is being influenced. Table 7 indicates D_i+R_i and D_i-R_i .

Table 4. The importance and influence of criteria

Result	D	R	D+R	D-R
Research and development activities	866265	926866	19.8708	0.9833
Research and development units	279321	250437	19.5248	1.0079
Teachers and artists	10.1458	10.091	20.2368	0.0547
Researchers of research and development units	10.1181	884497	19.5502	0.686
Higher educated employees	10.0627	9.721	19.7837	0.3418
Social trust and co-operation	2785584	2534298	19.8365	0.0688
The economic situation	2762209	1292473	19.4901	0.4024
Students	2741390	1970364	19.6699	0.2111
Inventions	2546717	428675	19.1945	0.58
Participate in Social Networks	2437144	1686570	19.5089	0.2055
Social participation	9.838	2783027	19.7899	-0.1139
Parks and centers for growth, science and technology	1448797	9.1859	18.7725	0.4006
Immigrants studying higher education	1301604	1988991	19.2808	-0.1882
Environmental situation	9.014	9.039	18.0531	-0.025
Culture and Tourism	9.0022	1403142	18.5764	-0.5719
Industrial clusters	2745011	2916676	17.93	-0.047
population density	2653701	1257775	18.4508	-0.6178
Leisure time	2675585	598147	17.2762	-1.4313
Great interest in the society	1571456	159094	15.8537	-0.6133
Physical condition	988164	2206644	16.2546	-1.3336

5.3. ANP (Analytic Network Process)

Obviously, the capabilities and performance of ANP model has become so diversify over the past two decades that various scientific disciplines use this model in their research. This situation is not exclusive to ANP itself, but a new approach is present to scientific and executive areas (decision-making) regarding researchers and executive departments. Based on previous studies, ANP can be combine with models beyond those of the former and existing ones. (For example, combining the ANP model with the SWOT model, combining the ANP and GP model, etc.). In ANP model, unlike GIS, and its geometric issues, the definition of criteria, sub-criteria, and nodes are matrix-shaped to explain the state of the network and provide a separate approach from the Euclidean world to researchers and decision-makers.

The analytical network process can overcome the problems governing the type of hierarchical relationship (from top to bottom or from bottom to top). Regardless of the concept of feedback, and provide a very good framework for analyzing urban issues; the reason for this ability is the possibility of studying the internal and external relations, the interrelationship among elements and variables with flexibility. The application of quantitative and qualitative criteria, the ability to adapt to judgments, the possibility of comparing binary variables in decision making and the possibility of prioritizing the proposed options.

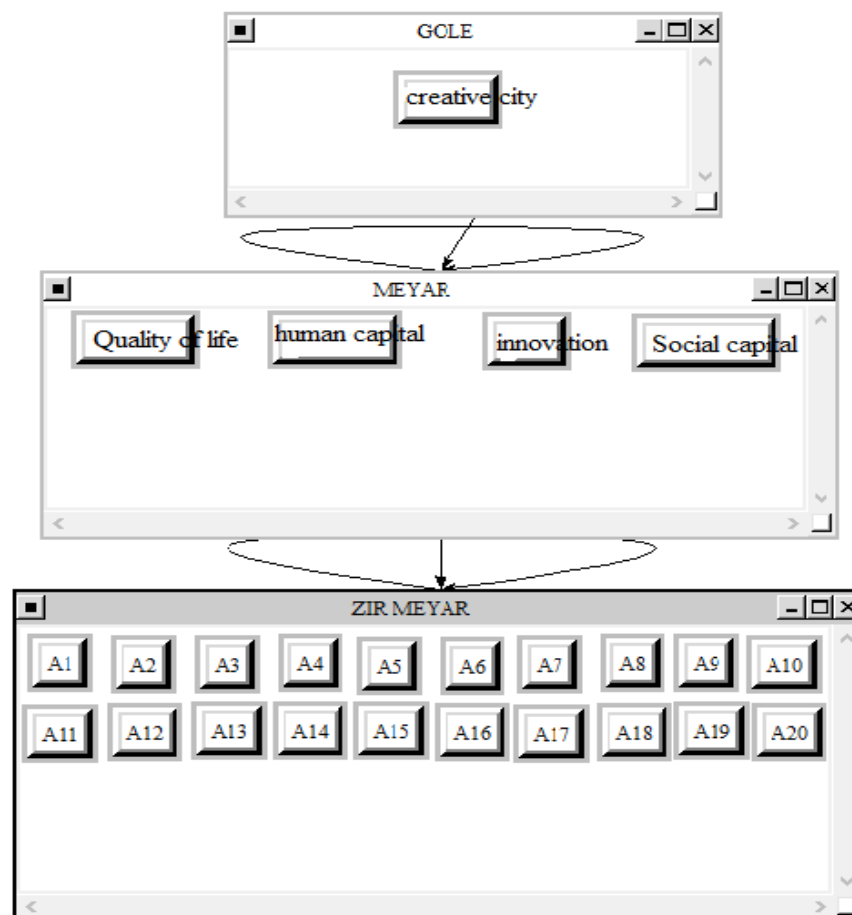


Figure 2. The analytical network process (ANP) in Super Decision Software

5.4. Analysis of citizens' opinions

Analyzing the data presented in the table, it seems that Gorganian citizens consider technology, research and development as the most important component of their creative city and have assigned an impressive score of 4.01

to it. Variety and tolerance were also given a high score of 3.52. On the other hand, environmental facilities were the least important factor with an average score of 3.49. The results of this evaluation from the citizen's point of view indicate that focusing on research and development as well as diversity and tolerance is very important to achieve a successful creative city.

Table 5 – Average of studied components

Indicators	N	Mean	Std. Deviation	Std. Error Mean
Technology, Research and Development	349	4.0122	.33962	.01818
Environmental services	349	3.4937	.32693	.01750
Human capital and creative class	349	3.5186	.37807	.02024
Diversity and tolerance	349	3.5284	.29411	.01574

Taking a closer look at the results presented in the study, it can be noted that the average ratings of the components are above the expected level of 3. This suggests that citizens perceive the investigated components of the creative city positively. Further, since the alpha value of the t-test calculation is 0.000, it indicates that the status of creative city indicators is significantly different from their average. This implies that the individual components influence the creative potential of the city in an uneven manner and thus requires separate examination and planning. Upon examining the components of the research, it has been determined that the technology, research and development section, which has a value higher than the average of 55.6, provides an ideal environment for a creative city in Gorgan. In contrast, the diversity and tolerance component, with an average of 33.5, environmental facilities, with an average of 28.2, and finally the human capital and creative class component, with an average of 25.6, follow as the next priorities in the creation of a creative city in Gorgan. Hence, all components need to be considered and planned properly for the promotion of urban.

Table 6- T-test statistics

Indicators	Test Value = 3					
	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Technology, Research and Development	55.681	348	.000	1.01224	.9765	1.0480
Environmental services	28.210	348	.000	.49368	.4593	.5281
Human capital and creative class	25.627	348	.000	.51862	.4788	.5584
Diversity and tolerance	33.567	348	.000	.52845	.4975	.5594

5. 5. Results

The higher is the D + R-value, the more interacting is the factor, and thus, the more important it is. In this study, the criteria of teachers and artists, and the physical condition have had the most and the least importance, respectively.

If the value of D-R is positive, it is a certain determinant and is a causative variable (influential) that in this research the criterion of the research and development units are consider as the influential factors.

If the value of R-D is negative, then this factor is a certain influenced factor and is a caused variable (influenced). In this research, the criterion of leisure time, and the environmental situation are the most and the least influenced factors, respectively.

Figure 2 illustrates the degree of importance, influential and influenced among the sub-criteria. The horizontal axis indicates the importance of the sub-criteria and the vertical axis shows the influences of the sub-criteria (being influential or influenced).

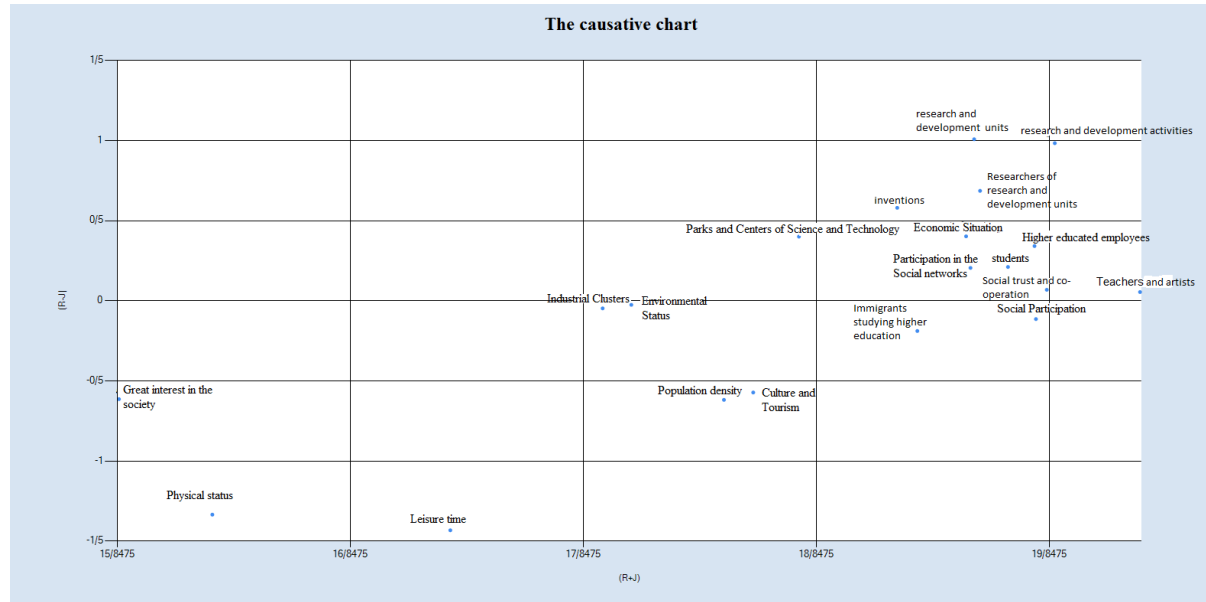


Figure 3. The degree of importance and influence among the sub-criteria

Then we calculate the value of the threshold using the total relations matrix; the numbers that are smaller than the threshold is regarded as zero and larger or equal numbers to the threshold value are regarded as one. The zero numbers in the cells indicate that the two criteria are not related, and number 1 represents the fact that the criteria are related. Here the threshold value was 0.47. The matrix of relationship between criteria given in Table (8), and according to this table, the relationship between the criteria drawn in Figure 2.

Step Five: Formation of Matrix Relations among Criteria using threshold value (threshold value = 0.47): In this step, according to the total relations matrix and the threshold value, the relationships among the sub-criteria is obtain.

Table 7. Relations matrix among criteria

The criteria of creative city	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10	A11	A12	A13	A14	A15	A16	A17	A18	A19	A20
A1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
A2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
A3	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
A4	1	1	1	0	1	1	1	1	1	0	1	1	1	1	1	1	0	1	0	0
A5	1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0

A6	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	0
A7	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	0
A8	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	0	0
A9	1	1	1	1	1	1	1	1	0	0	1	1	1	1	1	1	0	1	0	0
A10	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
A11	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
A12	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0
A13	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0
A14	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	0
A15	1	0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0
A16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A17	1	0	1	0	0	0	0	0	0	0	0	1	1	1	0	0	0	1	0	0
A18	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	1	0
A19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
A20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

According to the fifth step, the zero numbers in the cells indicate that the two criteria are not related, and number 1 represents the fact that the criteria are related.

6. Conclusion

In order to Gorgan city to as be known a creative city, increasing access and participation in urban culture art, increasing funding for culture, art, and literature, supporting diversity in culture and art, encouraging creativity and innovation in the design of the artificial environment should be given special attention by urban management.

Holding events, workshops, and exhibitions for different age groups and families and creating art houses to support creative projects in the city of Gorgan, and making it possible for people to use urban spaces at different hours are measures to support the ideas of a creative city.

In for examining of the creative city among other urban managements, paying attention to the approach of urban management to the existing capabilities among different age groups and skills of citizens. In addition to popular institutions and attracting their participation in urban issues and trying to solve problems and challenges in front of the city. The focus of urban management is on creating areas for the creativity of citizens by providing a suitable space for doing things related to urban creativity and developing a plan to create, encourage and strengthen these things.

Supporting individuals, groups, and institutions that have creativity in solving urban problems and improving the quality of the city environment can be plan in this framework. These material and spiritual supports are provided from the idea formation stage to encourage the production of goods, services, and content in the cultural, social, artistic, economic, and financial fields.

Furthermore, finally, the city management in Gorgan city should formulate its policies and programs in such a way that it moves from closed and one-sided management and policies planning, plans, and programs related to the city to the way open, dynamic, and collaborative solutions move and strengthen this management direction

over time. In addition to the expert opinions of architects, designers, engineers and artists, use the opinions of citizens as the main users of the city.

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