

Analysis of indicators and explanation of creative city development strategies (Case study: Shiraz city)

¹Alireza Pournabagheri, ²Masoud Taghvaei, ³Marjan Shafiei

¹Lecturer, Department of civil engineering, Faculty of Engineering, Fasa University, Fasa, Iran

²Professor, Department of Geography and Urban Planning, Faculty of Geographical Sciences and Urban Planning, University of Isfahan, Isfahan, Iran.

³Master student of Geography and Urban Planning, Faculty of Geographical Sciences and Urban planning, University of Isfahan, Isfahan, Iran

Abstract

As the global population continues to dominate the world, increasing trends and UN projections, city planners, innovators, and urban researchers are increasingly working on new positive innovations to create well-performing, creative, sustainable, and livable cities. Due to the importance of this issue, in the present study, the indicators and strategies for developing a creative city in Shiraz have been explored. The current research is applied-developmental in terms of its objectives; while, the descriptive-analytical survey method was implemented. The required data was obtained through library studies and field studies, and the AHP method was used to analyze the data. The participants include experts and specialists in urban planning, officials, and trustees of relevant organizations and departments in the city of Shiraz. Based on the studies' indicators' results, the range of Hafezieh to Saadieh was in the first rank, the area of Afifabad garden to Eram garden obtained the second rank, Zandieh complex was in the third rank, and Shahcheragh complex has the last rank.

Keywords: Creative City, Creative City Developmental Indicators, Hierarchical Analysis Model, Shiraz.

INTRODUCTION

Today's world is an urban world (Taghvaei and Rouydel, 2020: 80). The rapid growth of urbanization in the current century, along with the information revolution and the growth of the population, has led to a transformation in the urban structure, which manifests itself in the form of physical expansion of the city. Various views have been proposed on development throughout the history of cities so that the traditional view has focused on the physical development of cities, and recent views have focused on the economic and social development of the city (Rafieian and Shabani, 2015: 20). Global cities are in close competition with each other in the global economy, and each tries to improve its

hierarchical structure and gain more opportunities (Mokhtari Malekabadi et al., 2014: 106). Thus, the phenomenon of urbanization has nowadays become inevitable. Despite the many benefits of urbanization, many policymakers in different countries consider the growing trend of urbanization as a warning signal for the sustainable development of countries (Taghvaei et al., 2020: 2). In the 21st century, creativity in the industrial, economic, social, and urban development sectors is a driving force that guides them (Pastenegar et al., 2017: 86). The globalization and reconstruction of cities have inevitably caused many cities, especially cities with advanced economies, to transform their economic base from production to a post-

industrial and knowledge-based economy that uses creativity, innovation, and culture (Kho, 2020: 2). The city is a place of innovation and creativity. The economic context depends on intangible capital, knowledge, and information, so attempts should be made to strengthen citizen creativity and proper planning (Fotouhi Mehrabani et al., 2016: 102).

The importance of creative cities is so high that UNESCO has created a network of creative cities since 2004 in which creative cities help each other achieve goals and share their experiences (Sarbandi, 2020: 186). Achieving economic goals is also one of the policies of creative cities through culture and creativity (Kozina et al., 2021: 1). Creativity in the city eliminates managerial and physical problems and makes it possible to implement two principles of participation and efficiency of the city. Also, the idea of a creative city for managers and urban planners expands the horizon and analysis of solutions in the face of urban issues (Shaterian et al., 2017: 102). In fact, the main challenges of today's industrial world, such as climate change, the development of new technologies, political and commercial competition, and the development of the Internet, have made it a necessity to pay attention to creative cities (Soleimani, 2021: 100). Thus, to continue and increase the speed of scientific and technological progress, it is essential to develop Iran's metropolises with emphasis on creative cities (Maleki and Shanbehpour, 2019: 78), but to attract human and creative capital, cities and related areas should have unique characteristics to become a creative city (Florida, 2005: 8).

In this regard, Shiraz metropolis plays a special role in the national and sometimes international arenas and has a major role in the emergence of innovative activities and creative economics. In light of having a historical and cultural background, having historical and religious monuments and g environmental facilities and potentials to attract domestic and foreign tourists, development of industrial areas, appropriate economic structure plan and favorable economic background, public and private transport infrastructure, having a connection with other parts of the world

through telecommunications and other communications, it can quickly take steps towards progress and flourish by recognizing the appropriate strategies and applying these strategies by city managers. Identifying the components and strategies of creative city development and implementing this model in Shiraz can lead to rapid and low-cost development with minimal intervention. Due to the importance of this issue, the present study used the AHP model to prioritize effective indicators in the development of the creative city of Shiraz in various dimensions (physical-ecological, social-cultural, economic, and organizational-management) and explain the creative city development strategies.

Theoretical foundations

The idea of a creative city began in 1990. However, this idea has a long history in the American and European city narratives, which is known as a place for commercial or industrial development or modernization and a certain quality of experience (Connor et al., 2020: 2). It creates great excitement among cultural producers, creative workers, and artists in creating jobs and contributes to the city economic growth (Ovidio & Cossu, 2016: 1), which acts as a typical response to promote the economic and social growth of cities (Ovidio & Rodriguez Morato, 2017: 1). After introducing the creative city concept, urban and economic development planners in communities increasingly looked at art and culture as tools for development, and visual arts centers, festivals, folk arts, arts, and cultural centers were designed. Also, steps have been taken to revive old structures, attract tourists, preserve historical monuments and cultural traditions, create and strengthen local communities and solve their problems (Izadi et al., 2017: 25). Creative cities can present new solutions to their daily problems and emphasize the city's capacity to attract creative human capital (Mirzaei et al., 2019: 120). According to Charles Landry, cities need creativity to solve social problems. Landry asks for a creative approach to solve urban problems in various dimensions and aspects, not limiting creativity

to art, creative industries, and design. He has considered the creative city as a response to urban issues in the face of the international urban crisis in the transition to trans-industry and the global economy. According to him, ideology gives responsibility to the planner to move away from the traditional framework of physical planning towards improving urban environments and creating a creative atmosphere and soft infrastructure through new partnerships (Ghorbani et al., 2013: 3). The basis of a creative city can be considered in three areas of economy, culture, and place. Reliable urban environments are managed with recreational and cultural freedoms to attract and retain creative people. To generate wealth, cities should build culturally strong urban environments through better programs that integrate space and economy (Mafi et al., 2018: 37). Creative City has the following characteristics:

Tolerance of accepting diversity, Providing appropriate conditions for the emergence of ideas of residents and the exchange of these ideas, Creative city access to human and intellectual talents and resources, access to high technology, and having a creative economy, The special power and strength of these cities in the face of crises such as poverty, homelessness, worn-out structures, and so on, the existence of desirable governance, the special status of culture (Alizadeh and Lotfi, 2019: 664)

Methods

The present research is applied-developmental in terms of nature and a combination of descriptive, analytical, and survey in terms of method. Research steps include collecting information through library studies and using a questionnaire, interview and observation. Data were analyzed using the AHP method. The study's statistical population included experts and specialists in urban planning and officials of relevant organizations and departments in Shiraz. The most important criteria for the development of creative cities for analysis in the AHP method were classified in the form of

4 criteria, including socio-cultural (3 items), economic (3 items), physical-ecological (4 items), and organizational management (4 items).

Location of the study area

As the capital of Fars province, Shiraz is located at 52 degrees and 32 minutes east longitude and 29 degrees and 36 minutes north latitude, and at a distance of 919 kilometers from Tehran. It is limited to Bamo, Sabzpooshan, Chehel Magham, and Babakohi mountains from the north, Derak and Sefidar mountains from the west, and Shiraz plain from the southwest and northeast. The Shiraz city is divided into 11 municipal districts and has an area of 217 square kilometers. It has a rectangular shape in southwestern Iran. The height of the city from the sea level is about 1490 meters to 1700 meters. The lowest point of Shiraz plain is in the southeast (Maharloo lake), and its highest point is in the northwest of the plain. The bottom line of the plain is formed by a dry river, which starts from the northwest position along the natural structure of the Ardakan axis and leads to the Maharloo lake basin in the southeast (Shahrakhaneh Consulting Engineers, 2005: 11). In line with the aim of this study and according to observations and interviews, four axes and areas were proposed as areas with higher potential to implement creative city development strategies:

The axis of Hafezieh to Saadiyeh as tombs of two world-famous poets with a length of 3.3 km (Figure 1)

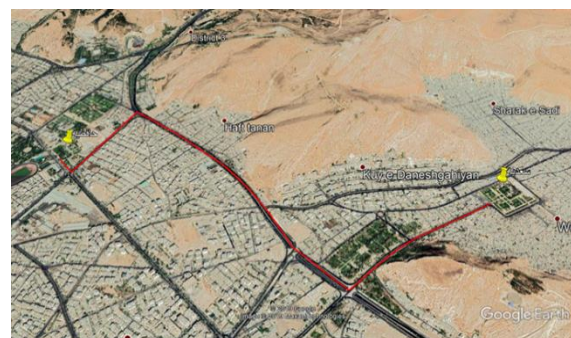


Figure 1- Hafezieh to Saadiyeh axis

The axis of Afifabad Garden to Eram Garden as two classic gardens with unique organization and national reputation and with high ecological potential with a length of 3.1 km (Figure 2)

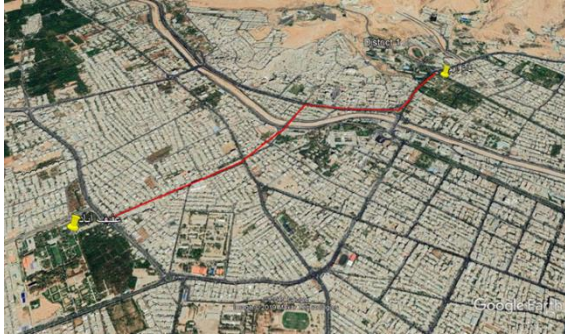


Figure 2 - The axis of Eram Garden to Afifabad Garden

Zandieh Complex includes Karim Khan Zand Citadel, Vakil Bath, and Mosque and Bazar as prominent historical monuments from the Karim Khan Zand era with an approximate area of 6 hectares (Figure 3)



Figure 3 - Zandieh Complex area

The shrine of Hazrat Shahcheragh, which introduced Shiraz as the third shrine of Ahlul Bayt and is one of the most prominent religious monuments in Iran, with an area of about 16 hectares (Figure 4)



Figure 4 - Shahcheragh complex area

Results:

Prioritization of effective indicators in the development of the creative city of Shiraz

In evaluating any subject, we need a measure or index. Selecting the right indicators allows us to make accurate comparisons between alternatives. One of the powerful tools in this regard is the hierarchical analysis process that combines quantitative and qualitative criteria in decision-making and logical comparisons to measure the relative importance of the elements at each hierarchical level and evaluate the options at the lowest level of the hierarchy to select the best decision among the multiple criteria (Taghvai and Kiomarsi, 2012: 96). To develop the creative city of Shiraz in the form of four social-cultural, economic, physical-ecological, and organizational-management criteria, the study analyzed desired indicators in a hierarchical analysis method. Research options also include four axes from Hafezieh to Saadieh, Afifabad Garden to Eram Garden, Zandieh complex, and Shahcheragh complex. The used criteria and indicators are as follows:

Socio-cultural criteria (A): Compatibility of the community culture with attractions (a1), increasing cultural diversity (a2), providing cultural exchanges (a3)

Economic criterion (B): job creation (b1), increasing income (b2), improving quality and quality of handicrafts (b3)

Physical-ecological criteria (C): Physical-ecological facilities (c1), increasing natural ecological dimensions (c2), construction of ecological city (c3), large recreational complex (c4)

Organizational-management criteria (D): development of administrative-organizational poles (d1), the tendency of young people to join organizations (d2), increasing management centers (d3), equipping lecture halls (d4)

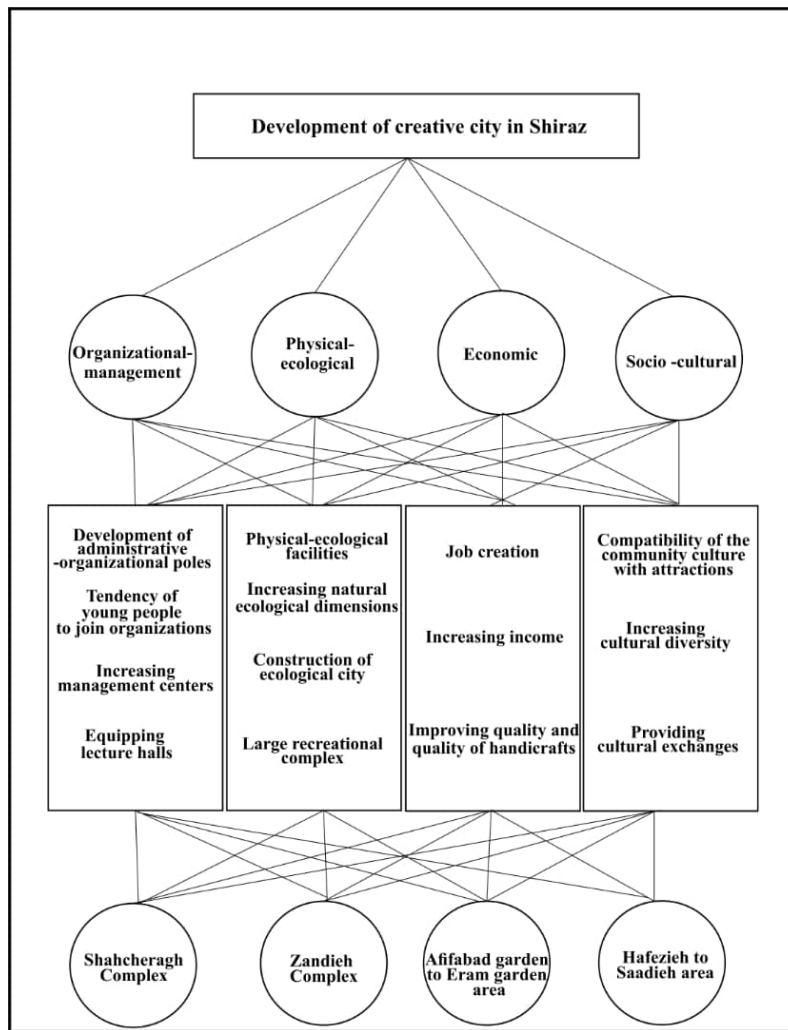


Figure 5- Hierarchical diagram of creative city development

Then, a pairwise comparison of the main criteria and sub-criteria and the options was performed, and the scores and preferences of the experts and specialists on the criteria, sub-

criteria, and options were presented, and consistency rate was obtained (According to Al-Saati studies, the consistency rate should be less than 0.1.

Table 1- level of preference

Score (level of preference)	1	3	5	7	9	2-4-6-8
score	Equal preference	low preference	High preference	Very high preference	Completely preferred	Intermediate preference

Evaluation of the main criteria

In this section, the main criteria for developing the creative city, which include four criteria of socio-cultural, economic, physical-ecological, and organizational-management criteria, were compared in pairs, and the priority of each

criterion was presented. As Table 2 shows, socio-cultural criteria with a coefficient of 0.5 had the first priority, and physical-ecological and organizational-management criteria with a score of 0.17 had the second priority. Finally, the economic criterion with a coefficient of 0.16 had the third priority.

Table 2- Pairwise comparison of criteria effective in creative city development

Criteria inconsistency rate: 0.04	Socio-cultural	Economic	Physical-ecological	Organizational-management	weight
Socio-cultural	1	5	2	2	0.5
Economic	0.2	1	1	1	0.16
Physical-ecological	0.5	1	1	1	0.17
Organizational-management	0.5	1	1	1	0.17

Source: research findings

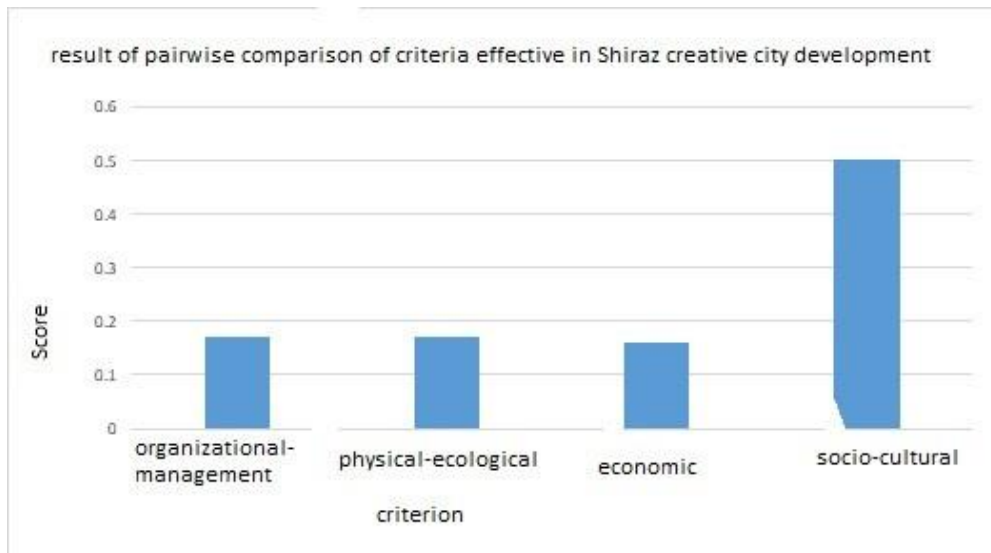


Figure 6- Pairwise comparison of criteria effective in the development of Shiraz creative city

Evaluation of sub-criteria: Pairwise comparison of sub-criteria of socio-cultural criteria

Paying attention to cultural and social elements is one of the crucial issues of the creative city. According to creative city theories, culture plays a key role in the creative city, and creativity should be a way to turn art into life, and an important source for change, innovation, development, and successful vision building. In fact, culture is one of the foundations of a creative city, and cities are perceived as cultural systems. In a creative city, factors such as cultural diversity, compatibility of

community culture with attractions, and providing cultural exchanges are valued. Therefore, to examine this criterion, three sub-criteria were used, including 1) compatibility of society culture with attractions, 2) increasing cultural diversity, 3) providing cultural exchanges. As Table 3 shows, the sub-criteria of compatibility of society culture with attractions with a coefficient of 0.61 had the first priority, the sub-criterion of increasing cultural diversity with a coefficient of 0.28 had the second priority, and the sub-criterion of providing cultural exchanges with a coefficient of 0.11 had the third priority.

Table 3- Pairwise comparison of sub-criteria of socio-cultural criteria

Socio-cultural inconsistency rate: -0.03	compatibility of community culture with attractions	increasing cultural diversity	providing cultural exchanges	Weight
compatibility of community culture with attractions	1	5	3	0.61
increasing cultural diversity	0.2	1	3	0.28
providing cultural exchanges	0.3	0.3	1	0.11

Source: research findings

Pairwise comparison of economic criteria

Economic development results from economic growth and qualitative and quantitative changes and is a great goal for all countries. Paying attention to creativity in the economy can lead to economic development and increased earnings and return.

Thus, it should be stated that creativity could be a fundamental factor in economic development.

Components of creating jobs, increasing income, and improving handicrafts' quantity and quality were used to examine this factor. In this factor, as the table shows, the sub-criterion of creating a job with a coefficient of 0.54, the sub-criterion of increasing income with a coefficient of 0.38, and the sub-criterion of improving quality and quality of handicrafts with a coefficient of 0.08 were ranked first to third, respectively.

Table 4- Pairwise comparison of sub-criteria of economic criteria

Economic inconsistency rate: -0.08	Creating job	Increasing income	improving quality and quality of handicrafts	Weight
Creating job	1	3	5	0.54
Increasing income	0.33	1	5	0.38
improving quality and quality of handicrafts	0.2	0.2	1	0.08

Source: Research findings

Pairwise comparison of physical-ecological sub-criteria

Cities compete with each other to create an environment where professionals are willing to live. Paying attention to the physical and ecological characteristics of cities plays a major role in developing a creative city. In fact, public people are in contact with the physical space of the city, and the issue of ecological, environmental capabilities has always attracted the attention of planners.

Thus, to examine the physical-ecological criterion, four sub-criteria of 1) physical-

ecological facilities, 2) increasing natural ecological dimensions, 3) construction of the ecological city, 4) large recreational complex were examined. In this criterion, the sub-criterion of physical-ecological facilities with a coefficient of 0.25, the sub-criterion of increasing natural ecological dimensions with a coefficient of 0.22, and the sub-criterion of a large recreational complex with a coefficient of 0.35 were ranked first to third, respectively, and construction of ecological city with a coefficient of 0.18 was ranked fourth.

Table 5 – Pairwise comparison of physical-ecological sub-criteria

physical-ecological inconsistency rate: 0.01	physical-ecological facilities	increasing natural ecological dimensions	construction of an ecological city	large recreational complex	Weight
physical-ecological facilities	1	1	2	0.33	0.25
increasing natural ecological dimensions	0.5	1	3	0.33	0.22
construction of an ecological city	0.5	0.33	1	0.2	0.18
large recreational complex	3	3	0.5	1	0.35

Source: Research findings

Pairwise comparison of organizational-management sub-criteria

Creative city development can eliminate managerial problems and increase efficiency in the urban area. In fact, the realization of a creative city expands the horizons of managers and planners in the face of urban challenges. Urban management has a vast scope, and as urban issues become more complex, urban management will be more difficult. Therefore, it needs measures to operate successfully. To examine this factor, four sub-criteria were used, including 1) development of organizational, administrative poles, 2) increasing management

centers, 3) equipping lecture halls, 4) tendency of young people to join organizations. Pairwise comparison of the sub-criteria of organizational management criteria showed that the sub-criteria of development of administrative-organizational poles with a coefficient of 0.48 and the sub-criteria of increasing management centers with a coefficient of 0.34 were ranked first and second, respectively. The sub-criterion of equipping lecture halls with a coefficient of 0.14 was ranked third. Finally, the sub-criterion of young people's tendency to join organizations with a coefficient of 0.05 was ranked fourth.

Table 6- Pairwise comparison of organizational-management sub-criteria

organizational-management inconsistency rate: 0.1	development of organizational, administrative poles	young people's tendency to join organizations	increasing management centers	equipping lecture halls	weight
development of organizational administrative poles	1	9	3	3	0.48
young people's tendency to join organizations	0.11	1	0.2	0.3	0.05
increasing management centers	0.33	5	1	5	0.34
equipping lecture halls	0.33	3	0.2	1	0.14

Source: Research findings

Evaluation of places in terms of main criteria

Given the importance of the factors mentioned, the desired places were examined and compared in terms of criteria and sub-criteria to develop a creative city in Shiraz. The results of these comparisons were presented as follows.

Pairwise comparison of places in terms of socio-cultural criteria

According to the pairwise comparisons of the selected places in terms of socio-cultural criteria, the Hafezieh to Saadieh area with a score of 0.5 was ranked first, and the Shahcheragh complex with a score of 0.07 was ranked last.

Table 7- Pairwise comparison of places in terms of socio-cultural criteria

socio-cultural inconsistency rate: 0.04	Hafezieh to Saadieh area	Afifabad garden to Eram garden area	Zandieh Complex	Shahcheragh Complex	Weight
Hafezieh to Saadieh area	1	3	3	7	0.5
Afifabad garden to Eram garden area	0.33	1	3	4	0.3
Zandieh Complex	0.33	0.33	1	2	0.13
Shahcheragh Complex	0.14	0.25	0.5	1	0.07

Source: Research findings

Pairwise comparison of places in terms of economic criteria

As Table 8 shows, the Shahcheragh complex obtained a higher score in economic criteria

than other places and was ranked first, and Afifabad Garden to Eram Garden area was ranked last with a score of 0.06.

Table 8- Pairwise comparison of places in terms of economic criteria

economic inconsistency rate: 0.01	Hafezieh to Saadieh area	Afifabad garden to Eram garden area	Zandieh Complex	Shahcheragh Complex	Weight
Hafezieh to Saadieh area	1	2	0.33	0.2	0.11
Afifabad garden to Eram garden area	0.5	1	0.33	0.11	0.06
Zandieh Complex	3	3	1	0.33	0.24
Shahcheragh Complex	5	9	3	1	0.58

Source: Research findings

Pairwise comparison of places in terms of physical-ecological criteria

According to pairwise comparisons in terms of physical-ecological criteria, the Afifabad Garden to Eram Garden area with a score of 0.51 was ranked first, and Zandieh complex with a score of 0.1 was ranked last.

Table 9- Pairwise comparison of places in terms of physical-ecological criteria

physical-ecological inconsistency rate: 0.05	Hafezieh to Saadieh area	Afifabad garden to Eram garden area	Zandieh Complex	Shahcheragh Complex	Weight
Hafezieh to Saadieh area	1	0.33	4	7	0.35
Afifabad garden to Eram garden area	3	1	5	9	0.51
Zandieh Complex	0.25	0.2	1	2	0.1
Shahcheragh Complex	0.14	0.11	0.5	1	0.05

Source: Research findings

Pairwise comparison of places in terms of organizational-management criteria

As the calculations show, the Hafezieh to Saadieh area with a score of 0.5 was ranked first, and the Shahcheragh complex with a score of 0.07 was ranked last.

Table 10 – Pairwise comparison of places in terms of organizational-management criteria

organizational-management inconsistency rate: 0.03	Hafezieh to Saadieh area	Afifabad garden to Eram garden area	Zandieh Complex	Shahcheragh Complex	Weight
Hafezieh to Saadieh area	1	3	3	7	0.5
Afifabad garden to Eram garden area	0.33	1	2	5	0.3
Zandieh Complex	0.33	0.5	1	2	0.14
Shahcheragh Complex	0.14	0.2	0.5	1	0.07

Source: Research findings

Evaluation of places in terms of sub-criteria

Pairwise comparison of places in terms of sub-criterion of compatibility of community culture with attractions

According to the pairwise comparison of places in terms of sub-criterion of compatibility of

Table 11- Pairwise comparison of places in terms of sub-criterion of compatibility of community culture with attractions

compatibility of community culture with attractions inconsistency rate: 0.01	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	3	1	3	0.38
Afifabad garden to Eram garden area	0.33	1	0.33	1	0.12
Zandieh Complex	1	3	1	3	0.38
Shahcheragh Complex	0.33	1	0.33	1	0.12

Source: Research findings

Pairwise comparison of places in terms of sub-criterion of increasing cultural diversity

According to Table 12 and pairwise comparisons made in terms of sub-criterion of

Table 12- Pairwise comparison of places in terms of sub-criteria for increasing cultural diversity

increasing cultural diversity inconsistency rate: 0.05	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	5	3	7	0.57
Afifabad garden to Eram garden area	0.2	1	0.5	3	0.17
Zandieh Complex	0.33	2	1	2	0.19
Shahcheragh Complex	0.14	0.33	0.5	1	0.07

Source: Research findings

Pairwise comparison of places in terms of sub-criterion of providing cultural exchanges

According to the comparisons made in terms of sub-criteria of providing cultural exchanges, it was found that the Hafezieh to Saadieh area

community culture with attractions, the Hafezieh to Saadieh area and Zandieh complex with a coefficient of 0.38 were ranked first, and Afifabad garden to Eram garden area and Shahcheragh complex with a coefficient of 0.12 was ranked second.

increasing cultural diversity, Haftieh to Saadieh area with a coefficient of 0.57 was ranked first, and Shahcheragh complex with a coefficient of 0.07 was ranked last.

with a coefficient of 0.6 was ranked first and Shahcheragh complex with a coefficient of 0.07 was ranked last.

Table 13- Pairwise comparison of places in terms of sub-criterion of providing cultural exchanges

providing cultural exchanges inconsistency rate: 0.01	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	4	5	7	0.6
Afifabad garden to Eram garden area	0.25	1	1	3	0.18
Zandieh Complex	0.2	1	1	2	0.15
Shahcheragh Complex	0.14	0.33	0.5	1	0.07

Source: Research findings

Pairwise comparison of places in terms of sub-criteria of job creation

Pairwise comparisons of places in terms of job creation sub-criterion show that Shahcheragh

complex with a coefficient of 0.45 was ranked first and Hafezieh to Saadieh area and Afifabad garden to Eram garden area with a coefficient of 0.14 were ranked last.

Table 14- Pairwise comparison of places in terms of sub-criteria of job creation

job creation inconsistency rate: 0.002	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	1	0.5	0.33	0.14
Afifabad garden to Eram garden area	1	1	0.5	0.33	0.14
Zandieh Complex	2	2	1	0.5	0.27
Shahcheragh Complex	3	3	2	1	0.45

Source: Research findings

Pairwise comparison of places in terms of sub-criteria of increasing income

As Table 15 shows, the Shahcheragh complex was ranked first in the sub-criterion of increasing income with a coefficient of 0.48, and the Afifabad garden to Aram garden area was ranked last.

Table 15- Pairwise comparison of places in terms of sub-criteria of increasing income

Increasing income inconsistency rate: 0.01	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	2	1	0.5	0.2
Afifabad garden to Eram garden area	0.5	1	0.33	0.2	0.09
Zandieh Complex	1	3	1	0.33	0.23
Shahcheragh Complex	2	5	3	1	0.48

Source: Research findings

Pairwise comparison of places in terms of sub-criteria of improving the quantity and quality of handicrafts

Table 16 shows that the Hafezieh to Saadiyeh area and Zandieh complex with a score of 0.37 were ranked first, and Shahcheragh complex with a score of 0.09 was ranked last.

Table 16- Pairwise comparison of places in terms of sub-criteria of improving the quantity and quality of handicrafts

improving the quantity and quality of handicrafts inconsistency rate: 0.01	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadiyeh area	Weight
Hafezieh to Saadiyeh area	1	3	1	3	0.37
Afifabad garden to Eram garden area	0.33	1	0.5	2	0.17
Zandieh Complex	1	2	1	4	0.37
Shahcheragh Complex	0.33	0.5	0.25	1	0.09

Source: Research findings

Afifabad garden to Eram garden area with a coefficient of 0.43 was ranked first, and Shahcheragh complex with a coefficient of 0.09 was ranked last.

Pairwise comparison of places in terms of sub-criterion of physical-ecological facilities

In a pairwise comparison of places in terms of sub-criteria of physical-ecological facilities, the

Table 17- Pairwise comparison of places in terms of sub-criteria of physical-ecological facilities

physical-ecological facilities inconsistency rate: 0.03	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadiyeh area	Weight
Hafezieh to Saadiyeh area	1	0.5	3	3	0.32
Afifabad garden to Eram garden area	2	1	3	4	0.43
Zandieh Complex	0.33	0.33	1	2	0.16
Shahcheragh Complex	0.33	0.25	0.5	1	0.09

Source: Research Findings

increasing natural ecological dimensions, the Afifabad Garden to Eram Garden area with a coefficient of 0.55 was ranked first, and Shahcheragh complex with a coefficient of 0.1 was ranked last k.

Pairwise comparison of places in terms of sub-criteria of increasing natural ecological dimensions

According to Table 18 and pairwise comparisons made in terms of sub-criterion of

Table 18- Pairwise comparison of places in terms of natural ecological sub-criteria

natural ecological inconsistency rate: 0.01	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadiyeh area	Weight
Hafezieh to Saadiyeh area	1	0.33	2	3	0.25

Afifabad garden to Eram garden area	3	1	5	5	0.55
Zandieh Complex	0.5	0.2	1	1	0.11
Shahcheragh Complex	0.33	0.2	1	1	0.1

Source: Research findings

Pairwise comparison of places in terms of sub-criteria of construction an ecological city

According to the comparisons of the places in terms of sub-criteria of construction of the

Table 19- Pairwise comparison of places in terms of sub-criteria of construction of an ecological city

ecological city inconsistency rate: 0.08	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	0.33	5	5	0.33
Afifabad garden to Eram garden area	3	1	7	7	0.52
Zandieh Complex	0.2	0.14	1	2	0.1
Shahcheragh Complex	0.2	0.14	0.5	1	0.05

Source: Research findings

Pairwise comparison of places in terms of sub-criterion of the large recreational complex

Pairwise comparison of places in terms of sub-criterion of large recreational complex, the

Table 20- Pairwise comparison of places in terms of sub-criterion of the large recreational complex

large recreational complex inconsistency rate: 0.01	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	0.5	2	1	0.24
Afifabad garden to Eram garden area	2	1	3	2	0.42
Zandieh Complex	0.5	0.33	1	1	0.15
Shahcheragh Complex	1	0.5	1	1	0.19

Source: Research findings

Pairwise comparison of places in terms of sub-criterion for development of administrative-organizational poles

ecological city, it was found that the Afifabad Garden to Eram Garden area with a coefficient of 0.52 was ranked first and Zandieh complex with a coefficient of 0.1 was ranked last.

Afifabad Garden to Eram Garden area with a coefficient of 0.42 was ranked first, and Zandieh complex with a coefficient of 0.15 was ranked last.

As Table 21 shows, the Afifabad Garden to Eram Garden area with a coefficient of 0.46 was ranked first. The Shahcheragh complex with a coefficient of 0.06 was ranked last in the sub-criterion of development administrative-organizational poles.

Table 21- Pairwise comparison of places in terms of sub-criterion of development of administrative-organizational poles

development of administrative-organizational poles inconsistency rate: 0.1	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	0.33	0.5	5	0.24
Afifabad garden to Eram garden area	3	1	2	7	0.46
Zandieh Complex	2	0.5	1	3	0.23
Shahcheragh Complex	0.2	0.14	0.33	1	0.06

Source: Research findings

Pairwise comparison of places in terms of sub-criterion of young people's tendency to join organizations

Pairwise comparison of places in terms of sub-criterion of young people's tendency to join organizations

Table 22- Pairwise comparison of places in terms of sub-criterion of young people's tendency to join organizations

young people's tendency to join organizations inconsistency rate: 0.00	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	3	3	1	0.41
Afifabad garden to Eram garden area	0.33	1	1	0.5	0.14
Zandieh Complex	0.33	1	1	0.5	0.14
Shahcheragh Complex	1	25	2	1	0.31

Source: Research findings

Pairwise comparison of places in terms of sub-criterion of increasing management centers

According to Table 23 and pairwise comparisons of places in terms of sub-criteria

Table 23- Pairwise comparison of places in terms of sub-criteria for increasing management centers

increasing management centers inconsistency rate: 0.04	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	0.5	1	3	0.23
Afifabad garden to Eram garden area	2	1	2	4	0.38
Zandieh Complex	1	0.5	1	5	0.32

organizations showed that Hafezieh to Saadieh area with a coefficient of 0.41 was ranked first and Afifabad garden to Eram garden area and Zandieh complex with a coefficient of 0.14 were ranked last.

of increasing management centers, the Afifabad Garden to Eram Garden area with a coefficient of 0.38 was ranked first, and Shahcheragh complex with a coefficient of 0.07 was ranked last.

Shahcheragh Complex	0.33	0.25	0.2	1	0.07
---------------------	------	------	-----	---	------

Source: Research findings

Pairwise comparison of places in terms of sub-criteria of equipping lecture halls

As Table 24 shows, the Hafeziyeh to Saadieh area in the sub-criterion of equipping lecture halls was ranked first with a coefficient of 0.54, and the Shahcheragh complex was ranked last with a coefficient of 0.06.

Table 24- Pairwise comparison of places in terms of sub-criteria of equipping lecture halls

equipping lecture halls inconsistency rate: 0.02	Shahcheragh Complex	Zandieh Complex	Afifabad garden to Eram garden area	Hafezieh to Saadieh area	Weight
Hafezieh to Saadieh area	1	5	3	7	0.54
Afifabad garden to Eram garden area	0.2	1	0.5	2	0.12
Zandieh Complex	0.33	2	1	5	0.28
Shahcheragh Complex	0.14	0.5	0.2	1	0.06

Source: Research findings

The Shiraz city, with a population of 1.6 million people as one of the country's metropolises, has experienced more rapid growth and development in recent decades. The growing population has created inadequacies and problems. Thus, providing a suitable environment to improve the efficiency and performance of the city can help identify and understand the existing weaknesses and inadequacies and help urban planners take measures to manage and reduce these inequalities consciously. Due to its position as a mother city and its important potentials, this city should provide the conditions for developing a creative city by presenting various solutions to adapt to the indicators of a creative city in a global position. Shiraz metropolis is a dynamic city with economic, social, cultural, historical, and scientific diversity, and it has the capabilities of development of the creative city. Like any other urban environment, it includes different economic, socio-cultural, management, and physical dimensions and eliminates the challenges of each of these dimensions. It is necessary to implement solutions that make all the dimensions of the city as efficient and productive as possible.

The idea of a creative city is a topic that focuses on improving the urban environment,

and it has various areas, including cultural, social, and economic areas. They help managers and urban planners expand the horizons of their vision and analysis of solutions. The development of a creative city in Shiraz as a new approach that focuses on culture and cultural planning and includes issues such as cultural diversity and cultural exchanges, etc., can also positively impact other sectors using this strength. Also, given Shiraz's position in tourism, medicine, agriculture, etc., the development of a creative city can lead to the formation of economic opportunities and their growth, and ultimately to job creation and wealth creation. This metropolis has high environmental and ecological potentials. The physical and ecological characteristics of the city affect various aspects of urban life, and any defects and problems in one of them affect the other. They are constantly interacting with each other. Thus, the development of a creative city and its solutions can significantly increase the attractiveness of the urban environment and increase the efficiency and productivity of this urban environment.

Finally, it should be noted that this metropolis needs a management that can function properly and guide the city towards sustainability. Thus, urban management in the creative city approach will play the role of facilitator that

provides the conditions for creativity. Since the urban environment is directly affected by urban issues, the creative city as a strategic approach can affect the quality of the living environment and help achieve urban managers' goals. In line with the dimensions used in the present study for the development of the creative city of Shiraz and based on the research results and pairwise comparisons made in terms of socio-cultural, economic, physical-ecological, and organizational-management criteria as well as their sub-criteria, the results show that among the selected places, Hafezieh to Saadieh area was ranked first, Afifabad Garden to Eram Garden area was ranked second, Zandieh complex was ranked third, and Shahcheragh complex was ranked last. Figure 2 shows the score of these places in the mentioned criteria and their sub-criteria. Also, calculating the inconsistency rate for the following matrix with a value of 0.08 showed that the used matrix had the required reliability.

Table 25- Ranking of selected places for creative city development using a hierarchical analysis process

Criteria and sub-criteria place	A	a1	a2	a3	B	b1	b2	b3	C	c1	c2	c3	c4	D	d1	d2	d3	d4	Average score	Final score	rank
Weight of criteria and sub-criteria	0.5	0.61	0.28	0.11	0.16	0.54	0.38	0.08	0.17	0.25	0.22	0.18	0.35	0.17	0.48	0.05	0.34	0.14	-	-	-
Hafezieh to Saadieh area	0.25	0.23	0.16	0.07	0.16	0.08	0.08	0.03	0.17	0.08	0.06	0.06	0.08	0.09	0.12	0.02	0.08	0.08	0.09	0.32	1
Afifabad Garden to Eram Garden	0.15	0.07	0.05	0.02	0.02	0.08	0.03	0.01	0.06	0.11	0.12	0.09	0.15	0.05	0.22	0.01	0.13	0.02	0.08	0.29	2
Zandieh complex	0.06	0.23	0.05	0.02	0.01	0.15	0.09	0.03	0.09	0.04	0.02	0.02	0.05	0.02	0.11	0.01	0.11	0.04	0.06	0.21	3
Shahcheragh complex	0.03	0.07	0.02	0.01	0.04	0.24	0.18	0.01	0.02	0.02	0.02	0.01	0.07	0.01	0.03	0.02	0.02	0.01	0.05	0.18	4



Figure 7- Score of selected places in the criteria and sub-criteria of creative city development

Conclusion and Recommendations

In recent decades, the tendency to live in cities has increased dramatically. The rapid growth of the urban population, especially in developing countries, has created many problems. The lack of planning for the required infrastructure has predicted an unfavorable future for these cities. This problem requires cities to pay attention to approaches such as developing a creative city. Improper management makes cities increase air and water pollution, high unemployment and unsafe environments, traffic congestion, reduced health, etc. In this regard, moving towards the realization and creation of creative cities is a fundamental solution to solve such crises. Undoubtedly, a successful urban environment develops talents, increases economic, socio-cultural, management and physical capabilities, and creates new opportunities for cities at national and transnational levels. Shiraz metropolis, with more than one and a half million people, is the most populous city in the south of Iran and can quickly take steps towards progress and flourish due to having a historical and cultural background, the existence of historical and religious monuments in the city and having environmental facilities and potentials to attract domestic and foreign tourists, and favorable economic background, if appropriate strategies are used and applied by managers and officials of this city.

This article was conducted to prioritize the criteria of the creative city development in Shiraz using the hierarchical analysis to rank the selected places (Hafezieh to Saadieh area, Afifabad garden to Eram garden area, Zandieh complex, and Shahcheragh complex) that have a higher potential for implementing creative city development strategies. These places were compared in pairs in terms of socio-cultural criteria (compatibility of community culture with attractions, increasing cultural diversity, providing cultural exchanges), economic criteria (job creation, increasing income, improving the quantity and quality of handicrafts), physical-ecological criteria (physical-ecological facilities, increasing natural ecological dimensions, construction of the ecological city, and extensive recreational complex), organizational-management criteria (development of administrative-organizational poles, the tendency of young people to join organizations, increasing management centers, and equipping lecture halls). As the results of the hierarchical analysis showed, the Hafezieh to Saadieh area was ranked first, Afifabad garden to Eram garden was ranked third, Zandieh complex was ranked third, and Shahcheragh complex was ranked last. Then, based on the main objective of the research for the development of the creative city in Shiraz metropolis in the form of social-cultural, economic, administrative-organizational, physical-ecological factors which are effective and important indicators on the development of

the creative city in Shiraz, the following recommendations are presented:

Table 26- Recommendations for the development of the creative city of Shiraz separately based on spatial and temporal priority

Recommendations	Factor	Spatial priority	Temporal priority			
			immediate	Short-term	Mid-term	Long-term
Identifying practical and economically justifiable plans for the creative city in Shiraz	Economic	Hafezieh to Saadieh area	√			
Training of economic experts in the area of the creative city	Socio-economic	All creative city centers	√			
Defining employment-oriented perspectives and policies with a creative approach in Shiraz	Economic	Hafezieh to Saadieh area	√			
Creatively providing economic goods and products in green packaging	Economic	In the service areas of the city	√			
Strengthening the socio-cultural role of Shiraz by highlighting the historical background of the city;	Sociocultural	The central part of Shiraz, Shahcheragh area	√			
Strengthening prominent historical works and handicrafts and creative customs of Shiraz by holding exhibitions and so on	social	In the vicinity of Zandieh historical area		√		
Strengthening and expanding the public transport network, especially the metro Strengthen hiking and biking trails	Physical				√	
Development of urban furniture with creative ideas and the use of waste materials and parts	Physical	Around the historical religious and recreational place	√			
Strengthening walking and biking routes	Physical	Around the historical religious and recreational place		√		
Revitalization of textures and historical sites by providing new uses	Physical	Center of city		√		
Creating employment opportunities based on the development of the creative city in Shiraz	Economic			√		
Increasing natural ecological dimensions	ecological	Southeast of Shiraz		√		
Construction of an ecological city	ecological	Southeast of Shiraz				√
Creating art houses to support creative city designs near historic buildings in Shiraz	Socio-cultural	Central part of the city			√	
	Manageme	All offices in	√			

Creating a creative city section in the institutions responsible for planning in the city of Shiraz, such as the Cultural Heritage and Tourism Office	nt-organizational	Shiraz				
Encouraging people and organizations to invest in creative work and eliminating all risks and uncertainties in this area	Socio-economic	-----			√	
Design and implementation of cultural symbols of Shiraz in the squares and historic and new parts of the city by designing public spaces	Physical culture	-----				√
Holding traditional music ceremony on Shiraz day	Socio-cultural	Afifabad garden to Eram garden	√			
Appropriate and effective satellite, radio and television, publications, and cyberspace advertising to introduce the capabilities of the creative city	Socio-cultural	-----			√	

References

- [1] Izadi, P, Hadiani, Z, Hajinejad, A, Ghaderi, J (2017), Urban reconstruction with an emphasis on identification and analysis of creative cultural clusters (Case Study: Historical-Cultural Texture of Shiraz), *Quarterly Journal of Urban Economics and Management*, Issue 35, pp. 21-40.
- [2] Bastenegar, M and Hassani, A, 2018. Toleration, spiritual strategy or strategic spirituality in the development of creative tourism, *Bagh-e Nazar Monthly Journal*, 15 (60), pp. 37-50
- [3] Taghvaei, M, Kiomarsi, H (2012), Application of techniques and models of tourism planning and management, Moazi Publications, Isfahan.
- [4] Taghvaei, M, Balideh, A, Rahimi, H (2020), An analysis of the importance of environmental quality components from the perspective of tourists (Case study: Isfahan metropolis), *Sustainable urban and regional development studies*, Volume 1, Issue 1, Pp. 1-21
- [5] Taghvaei, M, Rouydel, J (2020), Analysis of population distribution and urban services from the perspective of spatial justice (Case study: Yasuj city), *Quarterly Journal of Urban and Rural Management*, Issue 59, pp. 79-91
- [6] Sarbandi, F (2015), The capacities of creating a creative city in upstream documents and presenting strategies for the future, *Quarterly Journal of Urban and Regional Development Planning*, Volume 3, Issue 7, pp. 185-218
- [7] Soleimani, A (2021), Identification and analysis of elements affecting the development of creative cities in metropolitan areas of Iran, Case study: Tabriz metropolis, *Scientific Journal of Physical Development Planning*, Volume 6, Issue 1, pp. 99-110
- [8] Shaterian, M, Heidari Sourshajani, R, Varfinejad, J (2017), The effects of tourism potential on the development of infrastructure and the creation of a creative city, Case study: Kermanshah, *Geography (Scientific and International Quarterly Journal of Iranian Geographical Association)*, Volume 15, Issue 52, pp. 201-216
- [9] Rafieian, M, Shabani, M (2015), Analysis of urban creativity indicators in the residential system of Mazandaran Province, *Geography and Urban-Regional Planning*, Issue 16, pp. 19-34.
- [10] Fotouhi Mehrabani, B, Kalantari, M, Rajaei, SA (2016), Creative city and indicators of the Iranian creative city, *Geography (Scientific and International Quarterly Journal of Iranian Geographical Association)*, Volume 14, Issue 51, pp. 101-118
- [11] Ghorbani, R, Hosseinabadi, S, Torani, A (2013), Creative Cities, Cultural Approach to Urban Development, *Geographical*

- Studies of Arid Areas, Volume 3, Issue 11, pp. 1-18.
- [12] Alizadeh, MRa, Lotfi, H (2019), Explaining the effect of membership in the network of creative cities on sustainable urban development, *Journal of Planning Studies of Human Settlements*, Volume 14, Issue 3, pp. 661-675
- [13] Mafi, R, Ghadami, M, Mazaheri, MM, Farahani, F, (2018), Presenting the desired model of a creative city in the metropolis of Tehran, *Iranian Journal of Social Development Studies*, Volume 11, Issue 1, pp. 33-61
- [14] Maleki, S, Shanbehpour, F (2019), Measuring the level of using indicators of the creative city by Ahvaz urban areas, *Haft Hesar Environmental Studies*, Volume 29, Issue 8, pp. 77-88
- [15] Mirzaei, M, Arghan, A, Zand Moghadam, MR (2019), Analysis of the role of effective indicators in the creative city to create interactive urban spaces (Case study: Rey city), *Journal of Geography (Regional Planning)*, Volume 9, Issue 4, pp. 117-126
- [16] Mokhtari Malekabadi, R, Saghaei, M, Fatemeh, I (2014), Leveling 15 districts of Isfahan in terms of creative city indicators using regional planning models, *Journal of Research and Planning*, Volume 15, Issue 16, pp. 105-120
- [17]
- [18] d'Ovidio, M, Rodríguez Morat, A, (2017), Introduction to SI: Against the creative city: Activism in the creative city: When cultural workers fight against creative city policy, *City, Culture and Society*, (8), 1-4.
- [19] d'Ovidio, M, Cossu, A, (2016), Culture is reclaiming the creative city: The case of Macao in Milan, Italy, *City, Culture and Society*, (8),1-6.
- [20] Florida, R., *Cities and creative class*. Routledge. UAS, 2005, p54
- [21] Khoo, S, (2020), Towards an inclusive creative city: How ready is the Historic City of George Town, Penang?, *City, Culture and Society*, (23). 1-14.
- [22] Kozina, J, Bole, D., Tiran, J, (2021), Forgotten values of industrial city still alive: What can the creative city learn from its industrial counterpart?, *City, Culture and Society*,(25), 1-13.
- [23] O'Connor, J, Gu, X, Kho Lim, M, (2020), Creative cities, creative classes and the global modern, *City, Culture and Society*, (21).