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Urban Regeneration by Emphasizing on Identification and Analysis of Cultural Creative Clusters (Case Study: Shiraz Historical-Cultural Fabric)

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Abstract: Different strategies and theories have been proposed to solve problems of urban decline phenomenon and its different economic, social, physical, and environmental aspects summarized in urban regeneration approach. Based on the production of culture as a new regeneration approach, regeneration supports creative industries and uses cluster development of these industries as a centerpiece of regeneration. With descriptive-analytical method, this research tries to evaluate the position of Shiraz historical-cultural fabric in relation with creative city indicators, to investigate cluster development of cultural industries in this area, and realize possibilities of regeneration based on cultural production in the studied area. The findings indicate that Shiraz historical-cultural fabric (municipality-district8) with coefficient of 0.58 is ranked in partially prosperous in terms of creative city indicators in the city of Shiraz. Yet, studies related to cluster development of cultural industries and businesses indicate despite geographical and cluster concentration of domestic and handicraft industries, and publishing industry, lack of cooperation network and effective links between related entities with each category have helped not to fulfill cluster development of creative industries. Other known cultural categories including museums and cultural institutes do not have cluster geographical distribution and they enjoy low level of density link in their institutional network.

Keywords: Creative industries, cluster development, creative city, regeneration, city of Shiraz
JEL Classification: O14, O16, P25, N15

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1- Introduction

Today, Iranian historical cities, despite their brilliant background, face many problems and inner part of these cities is one of the most problematic urban areas due to physical-activity problems, which affect the whole city. These problems become more intense when presented detailed regeneration plans have not been successful in practice and it has caused more destruction in many cases.

Many strategies and ideas have been presented in theoretical literature of urban decline in order to solve the problems caused by the phenomenon of urban decline and its various economic, social, physical and environmental dimensions, which are summarized in the urban regeneration approach. Urban regeneration approach has presented different solutions to eliminate the urban decline. In recent years, the shift in the nature of development and economic growth, and the trend towards de-industrialization and globalization, have put cities in an never-ending competition for attracting tourists, taxpayers, business owners and businesses. In this competition, cities have adopted a soft model for the development of urban infrastructure, so that over the past 40 years, a kind of cultural planning has been created gradually in the urban planning literature and, consequently, urban regeneration (Rasmussen et al., 2010, 2). The confrontation of today's cities with the unpredictable economic system has made them more reliant on their internal resources, such as history, spaces and creative power. Globalization, and consequently the problems that arose due to the restructuring of the economy, as well as the need for a new identity, led cities to use their cultural assets to differentiate identity and to regenerate urban texture(Richard & Palmer, 2010). Culture-based regeneration as a new approach supports creative industries and also protects the local identity and culture of the region. The purpose of this approach is to find cultural, historical, religious and artistic backgrounds. In this way, the factor of culture enters the cycle of regeneration as Coherent Component (Lotfi, 2010).

Today, the historical area of Shiraz has lost its attraction due to various social, cultural, economic and physical problems. The growth of the city of Shiraz continues to the south and northwest while the historic area has become one of the most suburban residential areas of Shiraz, with the loss of its original and ancient inhabitants. Therefore, in this research, we have studied the historical area of Shiraz city in relation to the indicators of the creative city and also the cluster development of creative industries has been investigated in order to find out the realms of implementation of regeneration based on cultural production in the studied area. In this regard, the sub goals of the article are:

- Classification and ranking of Shiraz municipality areas based on the indicators of the creative city and recognition of the location of the study area;
- Identification of creative cultural clusters in the historical-cultural region of Shiraz

2- Literature Review

a) Foreign Researches

Landry is one of the most famous pundits who have read about creative cities and has a radical new perspective on the subject. In his view, cities need creativity, not because of competition in new value added industries, but also to solve social problems. In other words,

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Landry wants a creative vision for solving urban problems in different dimensions, rather than creativity limited to artistic, creative and designing industries (Ghorbani, 2012).

Landry and Bianchini published the book Creative Cities, in which the concept of creative cities is considered as a response to urban issues in the face of the international urban crisis that occurred during the transition to the trans-industry and global economy.

McCarthy (2006) explores the regeneration experience of the Temple County Historical District of Dublin City by utilizing the use of cultural industries in the form of creative clusters. This medieval historical region, after faced with numerous physical, social, and economic problems, encountering abandoned and untapped sites, has begun a new and dynamic period of life, by using cultural and creative industries and clusters.

Mommas (2004) in a paper titled "Cultural Clusters and Post-industrial City: Towards the Remapping of Urban Cultural Policy" has explored the phenomenon of cultural clusters in the Netherlands, and reviewed government policy in relation to creative clusters. He considers change of relation between culture (place) and business (market) as the most important factor in developing cultural clusters.

Binns (2005) in the paper "Capitalizing on Culture: An Evaluation of Culture-led Urban Regeneration Policy" outlines culturally-led regeneration models. He considers investment in cultural production a move towards the development of cultural industries, which is considered as the main factor of urban regeneration.

Bagwell (2008) in an article referring to the economic cluster development policy as a means of regeneration of inner areas in the city of London paid an assessment of "City Fringe" where the six creative clusters were planned. He explores the extent to which the clusters have a competitive advantage due to the location of the city center and how much they have contributed to the regeneration of the area.

b) Iranian Researches

Malek Abadi et al. (2014) in his research introduced the indicators of the creative city and evaluated these indicators in the municipalities of Isfahan. These indicators include the number of cinema institutes, media-related institutions, publishing units, coffee shops, museums, libraries, open spaces, number of key elements, educational institutions and the percentage of immigrants entering the region, in line with the analysis of creativity in municipalities. The result of this research showed that the fifteen Isfahan municipality's districts do not fairly enjoy indicators of creative city.

Mohamadi & Changlavayi (2013) interpreted the strategy of clusters and creative cultural industries in the regeneration of urban historic area and categorized these strategies into two groups of substantive indicators including three spatial, participatory and functional spheres, and procedural indicators including development planning, financial system and investment and ultimately, explained the subject in terms of conceptual framework.

3- Theoretical Framework

In the past few decades, many cities in the world have experienced de-industrialization and have redeployed from industrial production to the service sector in their economic reorganization. In the post-industrial economy, new resources were introduced for the production

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and growth of the economy, and thus cultural activities, which were supposed to have side effects on economic growth in the past, have become more important in economic policymaking, so that local governments have a strong interest in investing and developing cultural resources as criteria for economic development (Roberts, 2006). The new vision of culture as a driver of economic development also changed the definition of cultural resources. Landry recasts the definition of cultural resources and introduce these sources as creativity, skill, and talent (Landry, 2006). In this way, as the regeneration strategies were created in the context of the post-industrial economy, the concept of the creative city was born and adapted to cultural policies. The creative city is a good cultural environment for creating creative ideas and solutions (DiMaggio, 2000, Pawell, 1983) and leads to the expansion of cultural resources with the concept which Landry had explained. The creative city is the place that transforms cultural and social capital into productive activities (Landry, 2000). Edensor et al (2009) believed that creativity has become part of the language of professionals of regeneration and urban planners. The idea of using culture and creativity as an incentive for economic development provides an opportunity for the city to increase its economic competitiveness by using creativity and it prepares the ground for urban development (Edensor et al., 2009).

Since the mid-1990s onwards, the creative city has emerged as a new strategy. The creative city is a cultural approach to urban development. In this approach, the city should be able to become an attractive environment for the attraction and development of talents, innovations and ideas, and can benefit from the ideas and creativity of particular people, such as artists, scholars, writers, and the ideas of ordinary citizens in solving basic issues and also in foundation of creative development. In this approach, culture is the main pillar of development, and the other sections are affected by this (Sasaki, 2008).

Investment in production and the creation of a creative city is based on the development of creative industries that is rooted in the talent and creative skills of individuals (DCMS, 2004). According to the UNESCO definition, the creative industries are industries that engage in the creation, production and commercialization of intangible and cultural content. These themes are typically sponsored by copyright and they can take the form of goods and services (Cave, 2000).

There is strong relationship between space and creativity. Creative people need space for life, work, inspiration and display of their work. By creating stable and secure spaces, artists, individuals and creative businesses are not forced to migrate because their migration can be a threat to the survival of creativity and innovation. Public spaces can play a very important role. In the creative city, public spaces serve as a place for gathering people and strengthening citizenship (Mohamadi & Majidfar, 2011). After the widespread use of the concept of a creative city, urban and economic development planners in the communities increasingly focused on art and culture as development tools. Visual and performing arts centers, festivals, and cultural centers were designed. Also, efforts have been made to regenerate old area of cities, attract tourists, preserve monuments and cultural traditions, build and strengthen local communities and solve their problems. In fact, at this time,

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art and cultural activities are considered as organizers of urban changes and factors in the growth of new cultural industries, such as digital media (Markusen & King, 2006).

Indicators of creativity indicate whether a community encourages its people to participate and engage in creative activities. Richard Florida in his study introduced the indicators of a creative city, including the high level of technology, the number of undergraduate graduates, the per capita of innovations and inventions of the community, and the number of elites entering the region. Florida's main argument is that some levels of creativity and innovation come into contact with space conditions (Brecknock, 2003). The creative presence of people requires the existence of creative spaces in that community.

Today's trading conditions show its globalization, a process that has led to the close presence and competition of various business capacities. Small and medium enterprises are the main players in this global industry. Michael Porter, for the first time in 1990 with the publication of "cluster theory", recognized the success of small and medium enterprises as a result of their organization and management and states that the main reason for the weakness of the competitiveness of nations is the lack of powerful clusters in these countries. He defined the cluster as "the geographical focus of a certain group of companies and organizations in a given space" (Zargham & Haji Mohammad Amini, 2010).

With regard to cultural activities in the context of urban policies and programs, the cluster development approach was also taken into consideration in activities, corporations and cultural units and over the past years, the development and strengthening of cultural clusters as a means of cultural development of the city have increasingly been emphasized. The combination of activities and cultural functions from production to consumption, from theater and visual arts to pop music are grouped together in various spatial forms (Mommaas, 2004). In general, cultural cluster refers to business units in the field of cultural activities that are focused in a geographic area, have specialized communication and cooperation, and also have common challenges and opportunities.

In the cultural cluster strategy, culture and art are used as endless resources for regeneration. In the past, this strategy involved the establishment of large and costly projects and symbols such as the Grand Project in Paris and the Guggenheim Museum in Bilbao. Today, many of the world's major cities have created attractive festivals, luxurious museums and theater halls. Therefore, the orientation of urban regeneration policies based on culture has changed over the last few years from the mere focus on creating amazing projects (Mommaas, 2004). In addition, creative cultural clusters are also used as a means of encouraging the rehabilitation of inner city areas. In the cluster approach, positive aspects and potentials of the inner cities and deprived areas are more considered than their problems. Resources focus on supporting key clusters of businesses, which ultimately lead to the development of local economies and generate wealth and money among local residents (Bagwell, 2008). In this way, recognizing business clusters is important from the following two dimensions:

a) Geographic focus: From a Florida perspective, the creative cluster is an area where a group of cultural institutions

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operate (Florida, 2002). Ciniti (2008) also describes the creative cluster as "a well-known region of the city where a great deal of concentration of cultural activities has brought the presence of related activities and services" (Ciniti, 2008). According to the definition of UNIDO, the cluster is a collection of companies that are focused on the geographic area and face common threats and opportunities. In these definitions, "geographic focus" is referred to as a basic concept in the definition of cluster.

b) Cooperation relations: Altenburg and Stammer (1999) state the importance and benefits of industrial clusters that what makes clusters more attractive for policy-makers is opportunities obtained from collective labor that take advantage of scale-based costs, lower transaction costs and collective action. In this way, the mere accumulation of firms that do not interact with each other cannot increase collective efficiency (Altenburg & Stammer, 1999). Therefore, a positive relationship between collaboration and cluster performance improvement has been recorded. This means that the more cooperation caused more ability of active units of creative cultural industries to overcome the challenges (Nordin, 2003). The integration of partner companies or related businesses leads to a set of external costs in place which reduces the cost of cluster manufacturers (Malekan, 2011). In general, the concept of collaboration can be debatable from two perspectives: First, external connections, the connection between the active units of the cluster outside of their collective action and the second is internal competition, which can be separated into two types of "horizontal" and "vertical" relationships (Gollub & et., 2007). Collaborative networks generally operate as union. The relationships between the firms of a union are called horizontal relations (for example, relationships between handicraft manufacturers and supplier units) and the relationships between unions are called vertical ties (fig.1).

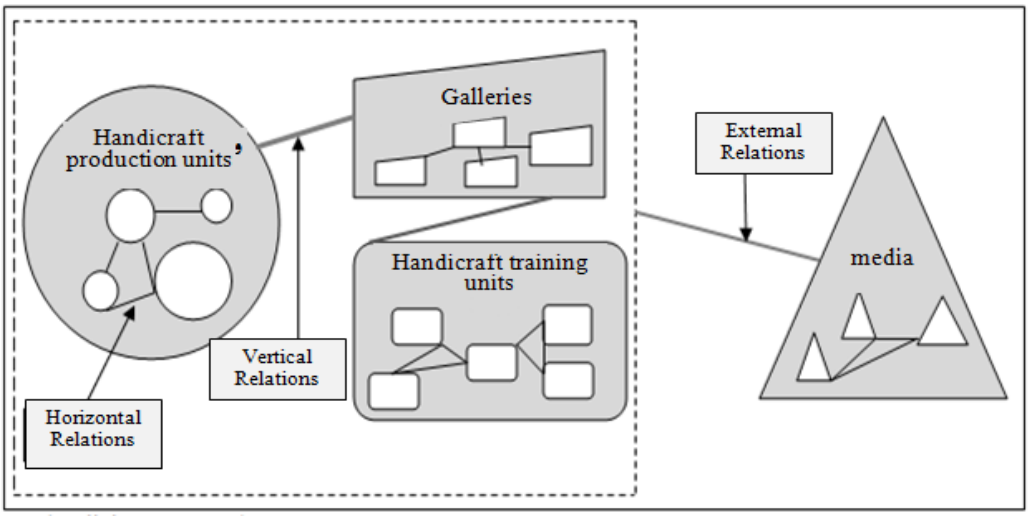


Fig.1. the overall structure of the cluster of creative industries
Reference: (Gullub et al. 2002)

1- United Nations Industrial Development Organization

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In order to understand the matter of the study, in this section, the reference frame work of the research is presented in the form of a conceptual model. By summarizing theoretical literature around the urban regeneration, creative city and cluster development approaches, the conceptual model of the research was developed by linking these three topics as fig. 2. In this model, the regeneration of the studied area based on cultural production has been compiled in the form of two components including “benefiting from creative city indices " and "cluster development of creative industries". By extracting the sub-criteria of each component from theoretical literature and research background, the operational framework of the research is determined.

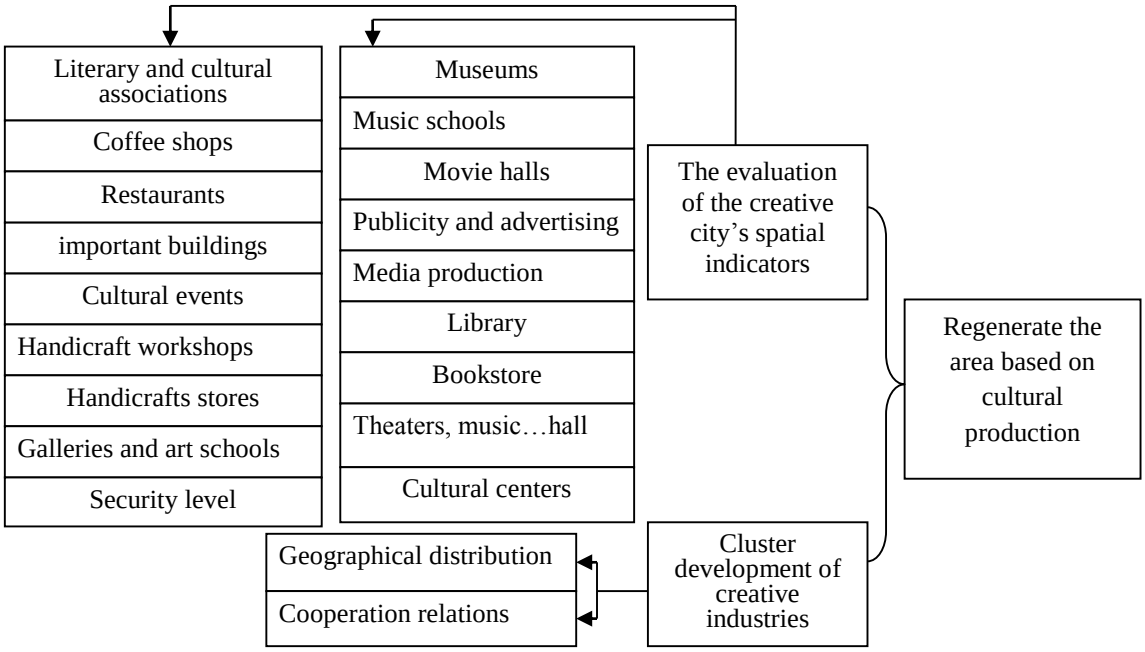


Fig.2.Conceptual model of research

Reference: (Researchers’ findings)

4- Research Method

The method of this study is descriptive-analytical. Documentary data that shows the operational characteristics of the city’s creative indicators are from official sources such as Statistical Center of Iran, Shiraz Municipality, and Shiraz Chamber of Commerce. TOPSIS model was used to rank and classify creative indices of Shiraz city. The calculations of the TOPSIS technique are done in Excel. Then, by using ArcGis, the map of the spatial distribution of creative indicators of city in Shiraz was drawn. Indicators are weighted by Shannon entropy method.

Average Nearest neighbor models were used, to study the dispersion pattern of creative indicators and network analysis model to assess the level of cooperation of relevant business units. The three models used are described.

1- TOPSIS Model

In TOPSIS method, a matrix of n*m, which contains m option and n criterion, is evaluated. In this algorithm, it is assumed that each indicator in the decision

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matrix has an incremental or decreasing utility. In other words, the higher values that the criteria get in this matrix, if it was of a kind of profit, it has higher utility and if it was of cost type, it has lower utility (Hajinejad, 2015).

2- Average Nearest Neighbor Model

This indicator is based on measuring the distance between each user and its closest neighbor and is used to determine the convergence and divergence of different types of uses. The purpose of this type of analysis is to determine whether the distribution of points is random or not and how is the type of distribution pattern (Camarero et al, 2000). In this method, the average nearest neighbor indicator is calculated based on the average distance from each use to its nearest neighbors. This index is expressed as the ratio of the average observed distance to the expected distance. The expected distance in this method is obtained as a result of the Z score analysis, if this value is between 1.96 and -1.96; there is no significant difference between observed distribution and random one. Otherwise, cumulative distribution will be uniform. The nearest neighbor's index is obtained from the following equation:

$$D_O = \frac{\sum_{i=1}^{n} di}{n} \qquad D_E = \frac{0.5}{\sqrt{n/A}}$$

In this equation, D_O is the average distance between each of the indices to the nearest neighbor and D_E is equal to the distance between the index I and its nearest neighbor. N is the total number of indices and A is equal to the total area studied (Ahadnejad et. al 2013). In this research, GIS software was used to analyze and calculate the nearest neighbor's index.

3- Network Analysis

In order to measure the level of cooperation, the macro-level indicators of the institutional network have been used. Some of these are explained in follow.

-Density: This index includes the number of links in the network to the total links. Increasing network density indicates the strengthening of links and the high level of collaboration in the network.

- Centrality: The percentage of the network being controlled by the limit number of people with a central position. This index is calculated on the basis of internal and external links.

-Reciprocity: Reciprocity rate is one of the important indicators in determining the stability of a given network.

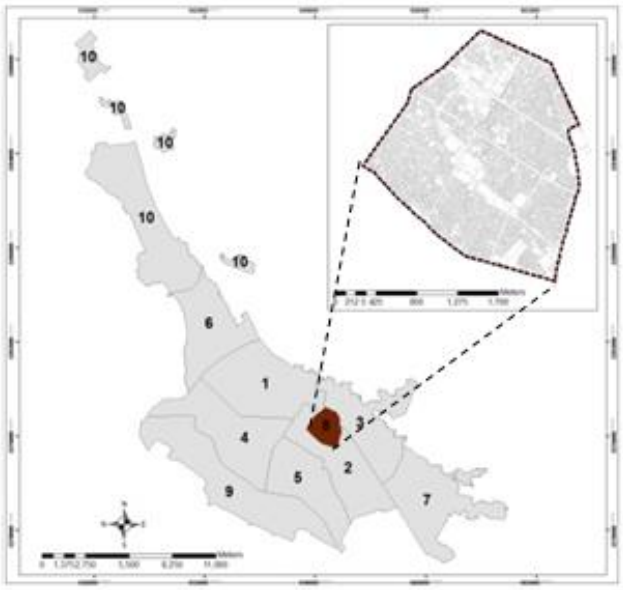
In order to evaluate the level of cooperation, a symmetric matrix was first formed of the relationships between relevant institutions and data were analyzed in the UCINET 6.0 network analysis software.

Introducing the Studied Area

Shiraz is one of the historical and tourism cities of the country. The existence of the historical texture of Shiraz dates back to the Achaemenid period. The historical-cultural area of Shiraz, with an approximate area of 378 hectares, is part of the central area of the city of Shiraz (CBD) (Varesi et. al, 2012) It had a population of 44,379 in 2011. This area consists of eight neighborhoods. This area, which is the origin Shiraz, was the most suitable place to live in the city at the time, but nowadays, it has lost its attraction due to various social, cultural, economic and physical problems (Map1).

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Map1. Location of studied area in Shiraz
Reference: (Researchers' findings)

Based on the theoretical literature of the creative industries, a wide range of activities can be found in this group. Business units and cultural activities associated with creative industries in the historical-cultural district of Shiraz were identified in four categories: "handicrafts", "publishing and media", "cultural and artistic institutions" and "museums". A total of 278 units of manufacture and supply of products and services related to creative cultural industries are identified with 383 people employed.

Table1. The number of units and employees involved with cultural industries in study area

Type of unit	Number of sales product units or supply services	Number of production units	Total Workers
Handicrafts units	117	49	197
cultural and artistic institutions	38	-	68
publishing and media	45	17	102
museums	12	-	16

Reference: (Researchers' findings)

5- Research Findings

Classification and Ranking of Shiraz Areas Based on the Indicators of the Creative city

In order to investigate the spatial distribution of the indicators of the creative city in the areas of Shiraz, these indicators were studied using TOPSIS technique. In this study, 21 indicators were used to classify the level of Benefiting which respectively includes: X1: Number of museums, X2: number of movie halls, X3: Number of publications, X4: Number of institutions associated with the production and distribution of media, X5:Number of music schools, X6: Number of library, X7: Number of bookstore, X8: Number of theaters hall, X9: Number of literary and cultural associations, X10: Number of coffee shops, X11: Number of restaurants, X12: Number of distinctive and important buildings, X13: Number of handicrafts

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educational centers, X14: Number Handicraft Production workshops, X15: The number of handicrafts stores, X16: The number of cultural institutions, X17: The number of halls of publicity and advertising, X18: The number of galleries and art schools, X19: The number of students and graduates of the Arts and Literature, X20: The number of cultural events in a recent year, X21: Security level.

Step one: At this stage, the basic matrix of the TOPSIS technique was formed. Here, this matrix is the number of each of these indicators in 10 municipalities of Shiraz (tab.2).

Table2. Primary matrix of creative city indicators in 10 districts of Shiraz

District	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21
1	3	4	21	7	17	5	32	3	2	40	48	3	3	69	9	37	9	32	8090	130	7
2	1	2	19	5	3	5	6	1	0	20	13	1	2	31	5	22	3	6	3645	97	7
3	2	0	2	1	3	9	12	3	2	37	18	10	3	42	1	11	5	5	4602	54	5
4	0	0	8	0	3	2	6	1	0	13	14	4	0	21	1	12	3	6	6718	35	3
5	0	0	3	0	1	2	4	0	0	7	2	2	1	8	0	6	1	2	2300	47	5
6	0	1	6	3	10	3	7	2	1	26	13	8	3	16	3	6	8	6	4847	38	7
7	0	0	0	0	1	4	4	0	0	13	3	2	0	6	1	9	0	1	2759	25	1
8	10	1	16	5	2	7	12	0	2	20	20	20	5	103	100	9	4	2	533	150	1
9	0	0	2	0	0	3	3	0	0	2	1	1	0	12	0	5	0	0	2000	35	5
10	0	0	1	0	2	0	3	0	0	10	1	1	0	19	0	1	0	3	2309	44	5

Reference: (Researchers' findings)

Steps two and three: In the second stage, a standard matrix (no weight) is created and then in step three we first weigh each of the indices and form a weightless matrix with the standard matrix in its weights. Because the significance of the indexes is not the same, therefore, each creative city indicator is weighted by using the Analytical Hierarchy Process (AHP) method in Export choice software (tables 3 and 4).

Table3. Weight of indicators by AHP

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21
weight	0.071	0.072	0.041	0.05	0.047	0.019	0.027	0.067	0.08	0.018	0.031	0.041	0.051	0.03	0.076	0.026	0.044	0.041	0.015	0.07	0.107

Reference: (Researchers' findings)

Table4. Standard Matrix (Weighted)

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21
1	0.02	0.061	0.025	0.034	0.39	0.006	0.023	0.041	0.45	0.010	0.023	0.005	0.020	0.015	0.007	0.019	0.028	0.036	0.009	0.037	0.047
2	0.007	0.031	0.023	0.024	0.007	0.006	0.004	0.014	0	0.005	0.006	0.002	0.014	0.007	0.005	0.012	0.009	0.010	0.004	0.028	0.047
3	0.013	0	0.002	0.005	0.007	0.011	0.009	0.041	0.045	0.009	0.009	0.017	0.020	0.009	0.003	0.006	0.015	0.008	0.005	0.016	0.033
4	0	0	0.010	0	0.007	0.003	0.004	0.014	0	0.003	0.007	0.007	0	0.004	0.001	0.006	0.009	0.010	0.007	0.010	0.020
5	0	0	0.004	0	0.002	0.003	0.003	0	0	0.002	0.001	0.003	0.007	0.002	0	0.003	0.003	0.003	0.002	0.014	0.033
6	0	0.015	0.007	0.014	0.023	0.004	0.005	0.028	0.022	0.007	0.006	0.014	0.020	0.003	0.002	0.003	0.025	0.010	0.005	0.011	0.047
7	0	0	0	0	0.002	0.005	0.003	0	0	0.003	0.002	0.003	0	0.001	0.001	0.005	0	0.002	0.003	0.007	0.007
8	0.067	0.015	0.019	0.024	0.005	0.009	0.009	0	0.045	0.005	0.010	0.034	0.034	0.022	0.076	0.005	0.012	0.003	0.001	0.043	0.007
9	0	0	0.002	0	0	0.004	0.002	0	0	0.001	0	0.002	0	0.003	0	0.003	0	0	0.002	0.010	0.033
10	0	0	0.001	0	0.005	0	0.002	0	0	0.003	0.012	0.002	0	0.004	0	0.001	0	0.005	0.002	0.013	0.033

Reference: (Researchers' findings)

Steps four and five: Identifying positive and negative ideals (Table 5).

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Table5 .Positive ideal option values and negative ideal option based on the studied indicators in TOPSIS technique

	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11	X12	X13	X14	X15	X16	X17	X18	X19	X20	X21
Positive Ideals	0.0667	0.0614	0.0249	0.0336	0.039	0.0114	0.0227	0.0413	0.0445	0.01	0.0233	0.0338	0.0339	0.0218	0.0218	0.0193	0.0277	0.0361	0.0085	0.043	0.465
Negative Ideals	0	0	0	0	0	0	0.0021	0	0	0.0005	0	0.0017	0	0.0013	0	0.0005	0	0	0.0006	0.0072	0.0066

Reference: (Researchers' Findings)

Step Six: Determining the distance criterion for the ideal alternative and the minimum alternative (best and worst status). The result of table no 6 shows that region 1 of Shiraz Municipality has the shortest distance from the ideal solution and the farthest distance from the most inefficient place which is District 7.

Table6. Positive and negative ideal distance for each indicator in 10 districts of Shiraz Municipality

	Region1	Region2	Region3	Region4	Region5	Region6	Region7	Region8	Region9	Region10
$+d_{\mathrm{i}}$	0.0898	0.1307	0.1319	0.1578	0.1635	0.1312	0.1707	0.0935	0.1677	0.1643
$-d_{\mathrm{i}}$	0.1336	0.0705	0.0781	0.0295	0.0292	0.0726	0.0084	0.1329	0.0272	0.0307

Reference: (Researchers' findings)

Steps 7 and 8: Calculating the relative closeness of the options to the ideal situation and rank the alternatives (Table 7). The ranking of options is based on the benefiting coefficient(C_{i}).

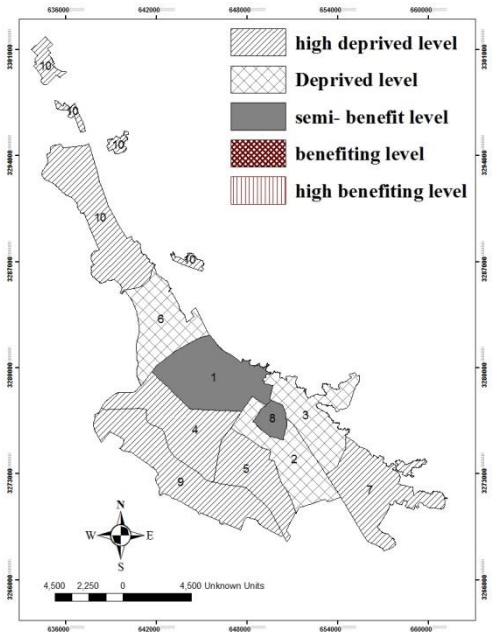
Table7.The benefiting level of Shiraz region in terms of creative city indicators

Municipal districts	benefiting coefficient(C_{i})	Ranking	Level of benefiting
District1	0.5981	1	Semi-benefiting level
District2	0.3505	5	Deprived
District3	0.3720	3	Deprived
District4	0.1565	7	High deprived
District5	0.1512	8	High deprived
District6	0.3561	4	Deprived
District7	0.0468	10	Highly deprived
District8	0.5872	2	Semi-benefiting level
District9	0.1397	9	Highly deprived
District10	0.1575	6	Highly deprived

Reference: (Researchers' findings)

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Map2.The benefiting level of Shiraz districts map in terms of creative city indices
Reference: (Researchers' findings)

According to TOPSIS model, the city's districts are ranked in five levels of creative city indicators. These districts, based on the Likert scale, are classified to high-deprived level (0 to 0.2), deprived level (0.2 to 0.4), semi- benefiting level (0.4 to 0.6), benefiting level (0.6 to 0.8) and high benefiting level (0.8 to 1). Thus, out of ten districts of Shiraz, districts 1 and 8 with a level of 0.5981 and 0.5872 are in semi-benefiting level, districts 3, 2, and 6 respectively with benefiting coefficient of 0.3720, 0.3505, and 0.3561 are in deprived level and districts of 4, 5, 7, 9, and 10 with a level of 0.1565, 0.1512, 0.0468, 0.1397 and 0.1575 respectively, are in a very deprived class. As shown in Table 7, none of the urban regions of Shiraz is at benefiting levels or high level of benefiting of creativity indices. The important role of municipality8 (historical-cultural district) in tourism in the city of Shiraz and the concentration of historical-cultural attractions have created complementary activities of this role, many of which are related to the indicators of the creative city in the region. In addition, the existence of historic markets and buildings has provided a good place for the establishment of some branches of cultural industries such as the production and supply of handicrafts. However, the decline in the quality of socio-demographic, physical and economic indicators in this region has made the region unable maximize its capacity to realize the indicators of a creative city. In the following, the formation of creative cultural industries is evaluated in order to answer these questions; has the benefiting of creative indicators in the region followed the cluster development pattern? Which cultural clusters are appropriate for study district?

Evaluation of Cluster Development of Creative Cultural Industries in the Studied Area

Regarding the cluster concept, the evaluation of the cluster development of the creative cultural industries has been

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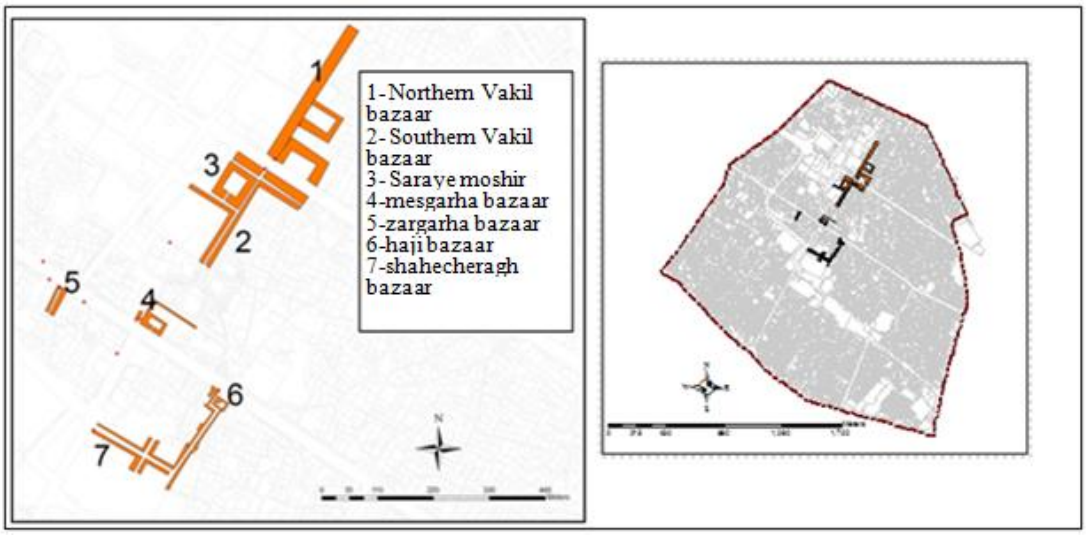
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evaluated from the two dimensions of geographical distribution of the units related to the creative industries as well as the relations of cooperation between the units and institutions involved in the study district. In this regard, answering two questions makes it possible to identify clusters of creative cultural industries in the district:

Question one: Do business units of creative industries, within the studied area, have a cluster geographic distribution?

The cluster geographic distribution of business and industries is an important step in cluster development. With a historical look at the business spaces in the historical-cultural area of Shiraz, it can be concluded that the spatial pattern of the business, in terms of the type of activity, has been centrally, clustered, and interconnected and the distribution of business in bazaar in the form of specialized orders, led to the realization of business cluster development. For example, Vakil Bazaar consists of four orders that are perpendicular to the north - south and east – west and Charsoogh is located in the middle of it. From the Charsoogh, in the west, Tarkeshdosan order (types of carpets), in the east, Alaghebandan order (types of yarn, tufts, silk ribbons ...), in the south, Bazazan order (types of textiles), and in the north, Kolahdosan order have been located. The market for Shamshirgaran, the new market, the Urdu market, the Mesgarha market, the Haji market and the market for Zargarha, are the regional markets, each of which has its own activities.

By changing the economic structure and opening the city's gates to imported goods, the former activities gradually disappeared and new ones replaced them. Commercial services were moved from bazaar to edge of the streets, and thus the former orders continue to live without any specific activity identity. By reviewing the activities of orders, it can be seen that nowadays, the activities of orders are mainly include wholesale services, clothing shops, household appliances stores, technical, scientific and professional services and food stores which have not been formed in terms of the cluster development of cultural industries.



Map3. Historical order

Reference: (Researchers' findings)

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In order to answer question one, first, business units that related to the creative industries of culture were identified in the district (table8).

Table8.Institutions and units associated with creative cultural industries

Type of Activity	Type of unit	Type of Activity	Type of unit
Units for the production and supply of handicrafts	Traditional print	Publication units And media	Publications units
	Traditional textiles		Printing office
	Carpet weaving		Advertising units
	Traditional clothing		Bookstore
	Leather handicrafts		Library
	Stone handicrafts		Retail of tape and cassette
	Metal handicrafts		Magazine and newspaper office
	Wooden handicrafts		
Cultural and artistic institutions	Cultural center	museums	-
	Galleries		
	Technical and professional institutions		
	Handicraft Training Institutions		
	Musical institutions		

Reference: (Researchers' findings)

By identifying creative business units in the studied area, GIS software was used to determine the geographical distribution of business units (table9 and figure3).

Table9.Distribution scores of creative cultural industries units using the average nearest neighbor index

	Handicrafts unites	Publication units and media	cultural and artistic institutions	museums
Average Nearest neighbor rate	0.64	0.69	1.09	0.95
Z -Score	-2.32	-1.96	0.79	-0.31
P-value	0.00	0.00	0.42	0.75

Reference: (Researchers' findings)

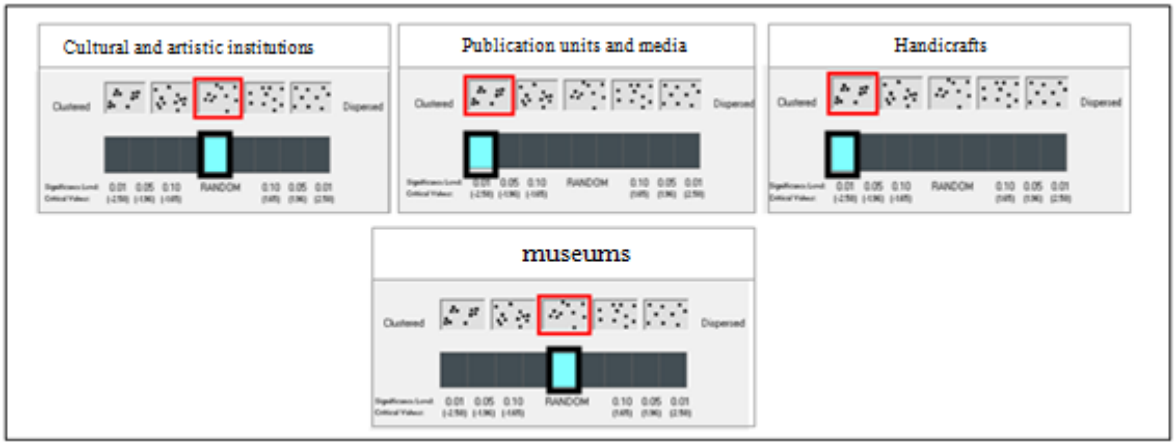


Fig6.The spatial distribution pattern of institutions and units related to creative cultural industries using the average nearest neighbor model

Reference: (Researchers' findings)

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The results of the nearest neighbor model, which is suitable one for showing the pattern of distribution, are presented at three patterns; regular pattern (with a Z score of 1.65 to 2.58), randomized pattern (-1.65% <Z score< 1.65) and cluster pattern (with Z score of -1.65 to- 2.58). In this regard, the distribution pattern of "handicraft units" and "publication units and media "with z score of -2.32 and -1.96, have cluster patterns and "cultural and artistic institutions" and "museums" with z score of 0.79 and -0.31, have randomized pattern. In the next step, to explore the formation of creative clusters, the relationships between business units related to creative cultural industries in the district has been studied. In this regard, the second question is raised as follows:

Second question: Are there any cooperative relationships between the institutions and creative industries in the study district?

In order to evaluate the cooperation between related businesses and activities, in the first stage, symmetric matrixes are formed for each type of activity. To form these matrixes, we provided a questioner and asked the level of connections between related institutions. The level of communication is given a point from 0 to 4. In this way, the score 0 was given for non-communication or just one communication over more than one year, score 1 for annually one connection, score 2 for one communication over six months, score 3 for monthly one communication and score 4 for weekly one communication or more.

Table10. List of key institutions associated with each cluster

Units for the production and supply of handicrafts	Cultural and artistic institutions	Publication units And media	museums
Union of handicrafts (x1)	Organization of Cultural Heritage, Tourism and Handicrafts (x1)	Union of stationery (x1)	Education of handicrafts institutions (x1)
Organization of Cultural Heritage, Tourism and Handicrafts (x2)	Organization of cultural & Islamic guidance (x2)	Organization of cultural & Islamic guidance (x2)	Organization of cultural & Islamic guidance (x2)
Cooperative of Handmade carpet (x3)	Arts and crafts production units (x3)	Shiraz Publishers Co-operative (x3)	Organization of Cultural Heritage, Tourism and Handicrafts (x3)
Handmade carpet stores (x4)	Foundation of Fars study (x4)	Press office of the province(x4)	Technical and professional organizations(x4)
Union of Handmade carpet (x5)	Shrine of Shahecheragh tutor (x5)	Publication offices (x5)	Cultural and literary associations (x5)
Union of khatamkaran (x6)	Municipality (x6)	Advertising agency (x6)	Art education agency (x6)
Production and supply of handicrafts Cooperatives (x7)	-	-	-
Handicraft workshops (x8)	-	-	-
Supply units (stores, exhibitions, etc.) (x9)	-	-	-
Municipality (x10)	-	-	-

Reference: (Researchers' findings)

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According to table (11), the highest percentage of density (36.4%) belongs to the network of handicraft-related institutions, which means that the institutions of this network have the highest degree of interconnection. At the same time, the figure of 36.4 percent represents a low level of network link (less than 50 percent) among the entities associated with this business.

The highest centrality degree of the total network based on the incomes of each entity in the cluster of "museums" is about 89 percent. This indicates that roughly 89 percent of the network's links to museums are belongs to key actors and key institutions, in which the "Organization of cultural & Islamic guidance" and "Organization of Cultural Heritage, Tourism and Handicrafts" are at the heart of the focus. Centrality degree of Publication units and media, handicrafts units and Cultural and artistic institutions respectively are 58.3percent, 43.5 percent and 47.5 percent which shows that approximately half of the network links control by central actors that in these cases includes Organization of cultural & Islamic guidance and Organization of Cultural Heritage, Tourism and Handicrafts. Figure 9 illustrates the relationship between the institutions of each class. In this image, the thickness of the lines indicates the intensity of the connection and the number of lines connected to each node represents the number of links of each entity.

The study of the centrality degree of institutions shows that unions have a direct role in establishing interpersonal relationships after government agencies. In this regard, it seems that unions can play a role in facilitating clustering as a link between the active guilds and institutions related to cultural activities.

Table11. Indicators of density, reciprocity and centrality in the network of creative cultural institutions

	Density (%)	Reciprocity (%)	Centrality degree (%)
Museums	18.16	34	89
Publication units and media	23.71	44.3	58.3
Units for the production and supply of handicrafts	36.4	49.5	43.5
Cultural and artistic institutions	20	32.5	47.5

Reference: (Researchers' findings)

The result of the reciprocity indicator shows that the level of interconnection in the institutional network of all cultural sectors in the study district is lower than the average level (50%). By strengthening the reciprocity indicator, sustainability and coherence of network will also increase, and a more coherent network structure will be created that will undoubtedly be effective in inter-institutional collaboration and cultural clustering.

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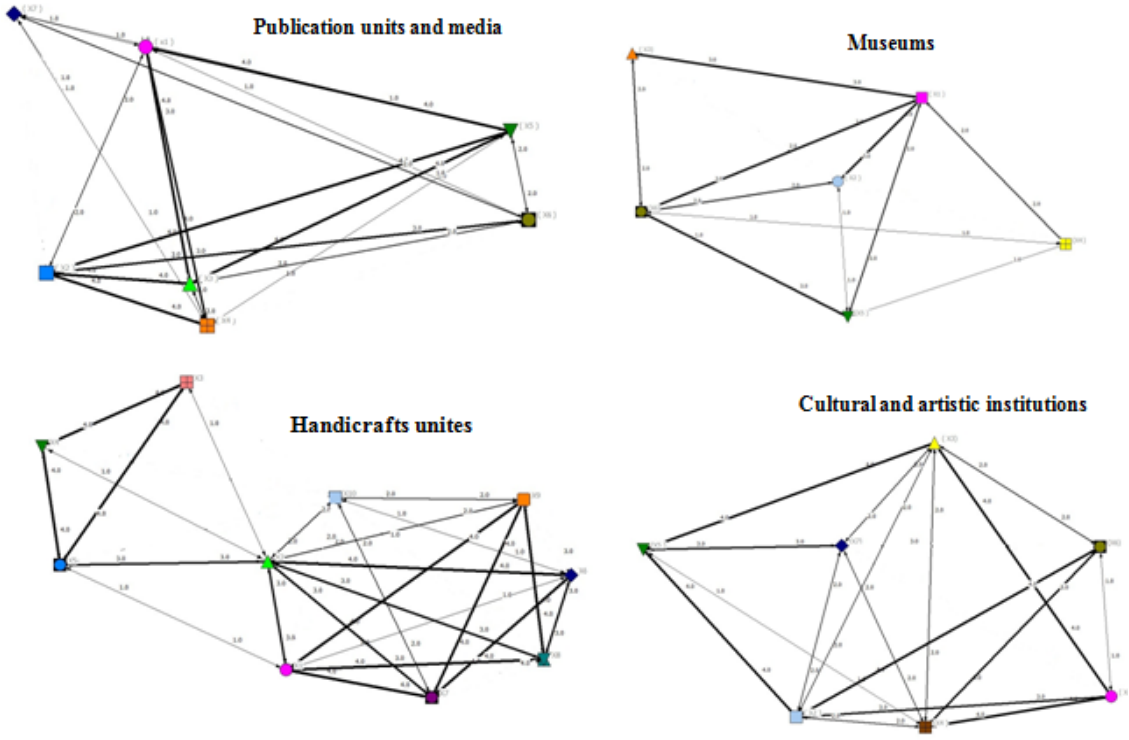


Fig.4. Relationships between the relevant institutions of cultural clusters
Reference: (Researchers' findings)

6- Conclusion and Discussion

This study aimed at investigating the historical-cultural regeneration of the city of Shiraz based on cultural production, first, studied the status of this district in the city of Shiraz in terms of indicators of Creative city and then evaluates the cluster development of cultural activities in the region. Considering the assessment of the location of the study district in Shiraz, this district with a benefiting coefficient of 0.58 is in "semi-benefiting" level in terms of indicators of the creative city. The important role of the Eight Municipality (historical-cultural district) in tourism in the city of Shiraz and the concentration of historical-cultural attractions have created complementary activities of this role, many of which are related with the indicators of the creative city in the region. Also the existence of historical bazaars and buildings has provided a good place for the establishment of some branches of cultural industries, such as the production or training of handicrafts. In addition, some of the activities that today are known as cultural industries have traditionally been within the district and continue to survive today. So that this area has achieved a favorable position in terms of indicators of the creative city in Shiraz, which in this study has been considered as the potential for regeneration. However, the use of this potential as a stimulus for regeneration requires the "cluster development" of the creative business. Therefore, the cluster development of cultural activities has been evaluated in terms of the two components of "geographic distribution" and "the degree of cooperation."

According to the analysis and evaluation of the cluster dual characteristic (geographic focus and cooperation relationships) in the creative industries of the historical-

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cultural district of Shiraz, two classes of cultural activity includes "handicraft units" and "publication units and media "with z score of -6.7 and -4.8, have cluster geographical patterns. However, the examination of the relationship between the relevant units and institutions in the form of network analysis indicators shows a very low level of relationships and cooperation between these institutions and enterprises. High level of centrality degree of the four networks indicates that limited numbers of governmental institutions are central actors in the creative industries network of the district, which means that private and public institutions have a key role in this network.

The sustainability level (reciprocity) of links in all four types of cultural activity was also lower than the average, which still indicates the weak and unstable relationship between the related institutions and firms. Unions have important role in facilitating clustering as a link between the active guilds and institutions related to cultural activities.

By analyzing the issue, it is concluded that, despite the cluster geographical distribution of the "handicraft units" as well as the "publication units and media" business, the low level of cooperation and linkage of related institutions has caused no cluster development in the creative cultural industries in the region and two other categories of creative industries in the region also lack both cluster characteristics including geographic focus and cooperative relationships.

From one hand, the traditional management of businesses, divergence of related organizations and institutions, lack of attention to institutional relationships, multiplicity of decisions, and the lack of understanding of the importance of cooperative relationships among businesses and institutions have directed the cultural activities to small, fragmented, and thus vulnerable movements; On the other hand, the construction of luxury shopping centers and the transformation of traditional market patterns into pseudo-modern patterns that have been influenced by misunderstanding of development have led to the creation of projects such as Bienalharameiyn, Nikann and Zandiye shopping malls which have caused to destroy more than 400 historical pieces in the district (buildings that are physical basis for the formation of cultural clusters) and also shaped their activities without any identity and unrelated to the potentials of the district in the development of creative industries. Avoiding these types of scattered and destructive projects requires changing the perspective of redeveloping the scope and developing a comprehensive plan for the development and strengthening of creative industries.

Despite the lack of formation of the cluster development of creative industries in the district, the activities associated with these industries have the following advantages to become clusters.

- Possessing favorable indicators of the creative city
- Significant diversity and variety of active members related to creative industries in the area (various activity categories)
- The activity of more than 278 units producing and supplying products and services related to creative cultural industries in an area of 378 hectares
- Unique historical and cultural attractions
- The existence of historical bazaars and passages that traditionally have been the location of old and indigenous industries
- Appropriate demand conditions

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Moreover, strengthening the clustering and development of related activities requires a series of basic and executive actions. Some of these actions include:

- Implementing effective policies of changing land use in related to the development of creative and cultural industries of district;
- Policymaking for regeneration of historical bazaar with the gradual shift of activities to cultural industries
- Strengthening and establishing effective links between guilds, institutions and enterprises by creating supportive institutions
- Specializing unions as institutions that play an important role in establishing communication
- Policymaking to expand and facilitate private sector participation and investment

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