

Article

Measuring and evaluating the quality of urban walkways from the perspective of the creative urban space

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Abstract: In recent years, urban planners and designers have paid attention to improve the creative factors in big and small cities in order to make the urban environment more attractive. It seems that improving desirable urban environmental qualities and walkability approaches such as flexibility, happiness, and vitality, provides the necessary background for creating creative urban spaces. The case study zone is urban walkways in Rasht that which has been completed four years ago. In this paper, after conceptualizing the nature of the creative city, as well as reviewing the views of the thinkers regarding the qualities of the environment, a conceptual model of creative urban space has been developed. Then, the indicators and criteria of creative urban space have been evaluated through the questionnaire and analysis through SPSS software and regression model, Pearson and Friedman. The result of the analyses of the five spatial, functional, social, perceptual, and environmental components and their relationship is expressed that factors such as paving streets, the development of local markets, the Suitability of urban walkways for physically and mentally handicapped people, the use of cultural elements, the use of diverse urban furniture and nightlife after building urban walkways play an important role in the realization of urban creative space in Rasht city.

Keywords: Urban walkways; Creative city, Urban Space

1. Introduction

Cities have always been centers of invention, innovation, and creativity. They have played important roles in the history of human development, creativity, and growth (Volker & Kistemann, 2011; Hosseini et al., 2021). Mumford believes that there are many relationships in the early cities that lead to social innovation and creativity in urban life (Shar'e Poor, 2010). In his view, the city is the manifestation of civilization, which has created many innovations over the centuries. Urban space can also be a good environment for creativity in the city. Since one of the elements of creativity of development in the city is space, therefore, the existence of a favorable public space in the city can provide a suitable platform for attracting the creative class and the emergence of the activity of this social group (Jacobs, 1969). Spaces including desirable environmental qualities such as: diversity, vitality, flexibility, etc., can be the basis for attracting people, profitability to various dimensions of society, such as: production of knowledge and creativity, increasing social capital, creating and strengthening the urban social network and so on. These spaces, due to their very nature, allow the right of entry and the presence of any class, age, race, and trade without any limitations to the general public. It provides a suitable space for gathering and collecting citizens by establishing communication and interactions between them through building communication with the urban

environment. On the other hand, public spaces can be a place to show the creativity of every citizen, because today, the cost of displaying creativity, for example, exhibitions or art galleries, makes creative people more likely to prevent their creativity (Sa'idi, 2010).

In the past two decades, creativity and its relationship with urban spaces have become important discussions in the fields of economics, geography, sociology, and urban studies (Durmaz, 2014). The city's creativity movement emanates from two basic approaches to reaching a creative city, one that was introduced by Charles Landry (2000) and another by Richard Florida (2005). The first person to discuss the "creative city" is Charles Landry, who writes in 1995-2000 in relation to the creative cities and its branches (Landry, 2004). The main idea is that creative professions simply are not motivated by material rewards, but they want a "creative", "tolerable" and "exciting" place for life (Florida, 2002, Vanolo, 2008). In addition, Richard Florida believes that cities are the ground for creativity, which have always been the wheels of the movement, focus, and guidance of human creative energy. Having a creative city needs a ground through which citizens can shape a creative city (Florida, 2002). Also, the creative city is home to art creativity, scientific and technological innovation, and the voice of growing cultures (Ebrahimi, 2008).

On the other hand, urban walkways, having the most social interaction and the appropriate place to establish collective activities and improving the quality of urban space (Aram, Solgi and Holden, 2019), can be a good foundation for becoming a creative space (Nosal, 2009). In fact, once the creativity is put in place, there is an opportunity for citizens to engage in interactions, and this can only be done in urban spaces (Rezghi, 2017). The purpose of this study is to measure the quality of cultural urban walkways from the perspective of the creative city. In a field study on the pedestal of the central part of Rasht city in Iran, physical, functional, social, perceptual and environmental components are studied to measure the quality of the realization of creative urban space.

2. Urban Walkways

Due to the dominance of the car in cities and the diminution of pedestrian presence, the importance of walkability in developing countries is steadily increasing (Iranmanesh, 2008; Chahardowli et al., 2020). Creating a desirable urban environment requires adequate knowledge of walking characteristics and needs, abilities and desires to traffic. It is only based on these features that the walking can be successfully promoted (PQN final report, 2010; Fathi et al., 2020). Walkability capability is the level of utility of the artistic environment for the presence of people, life, shopping, meeting, spending leisure time and enjoying it in one area (Baghaee et al., 2021). The diversity of people's presence, especially the presence of children, the elderly and people with special disabilities, indicates the quality, success, health and safety of a walkway space (Nosal, 2009; Mansournia et al., 2021; Aram et al., 2020). There are several goals for urban walkways construction projects. Most importantly, urban walkways are designed to improve the safety and mobility of the pedestrians, in addition to helping to walk as a transport mode with an enjoyable experience of walking. Another goal of the sidewalk construction projects is to create a space for various social, cultural and tourism activities and contribute to the region's economic growth (Iranmanesh, 2008).

2.1. The history of the creative city

The term "creativity", which has been defined and discussed in many disciplines, including psychology, sociology, anthropology, and economics, has been transformed into an inclusive field of study. The definition of creativity depends on the general characteristics of the community and on the particular discipline to be examined. This term can be broadly defined as the emergence of something transcendental and appropriate from the perspective of a person, group or community (Sawyer, 2006:33). The philosophy of the creative city is that in every city there is always a much greater capacity than imagined in the first place. In this city, urban authorities provide public services and social and economic infrastructure with the most up-to-date, most efficient, most beautiful and most productive way (Mashhad Islamic Council's research center, 2006). A creative city is predicted by Momford (1983) and Jacobs (1961), a diverse city, and a different city is, in fact, a fair city (Kate Shaw, 2014:9). Part of this widespread expansion of creative city ideals was achieved through the

launch of the World Wide Web Ideas Network at UNESCO in 2004 and was quickly taken into consideration in Europe, America, Asia, and developed countries around the world. (Akbari Motlaq:2013). The creative city has a long unknown history. The idea of the creative city originates from the work of Lewis Mumford (1938), named *Cities of Culture* and Jane Jacobs (1961), in the book *The Death and Life of American Cities*. Both of them portrayed a good city as a diverse city with community, economics, culture and art, diversified from production, public participation, and creativity. Years later (Landry & Bianchini, 1995) they suggested that creativity is effective in the local economy. Charles Landry described the creative city as a tool for urban innovators and emphasized that, in modern urban economics, the value of cultural industries as the interconnected sector is the fastest growing (Landry, 2000: 6). Landry and Bianchini also emphasize the creative talent of the native, who, if nurtured, can renew the public and social life of the city (Landry, 2000:22).

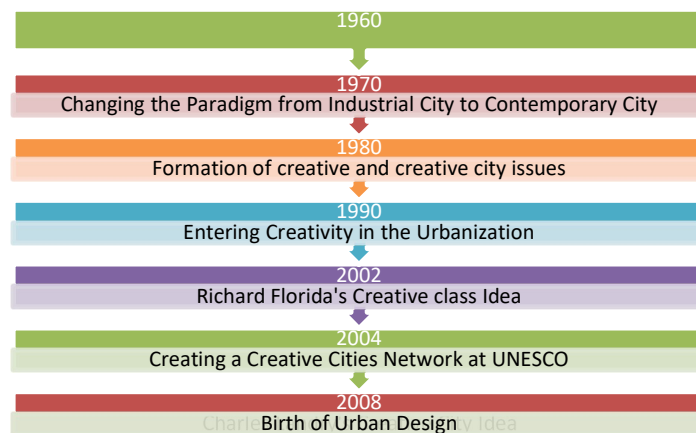


Figure 1. Evolutionary Process of Creativity Approach

2.2. The theoretical framework of the creative city

The foundations of the creative city can be considered in three areas of economy, culture and location. Trusted urban environments are managed with recreational and cultural freedoms to attract and retain creative people. Cities are formed as a cultural system by human and natural heritage and are the product of the values and beliefs of their citizens. For this reason, cities must create strong urban environments in order to generate wealth, and culturally establish integrity through better programs of location, economy and culture (AuthentiCity, 2008:21). People, businesses, spaces, links and prospects are the five pillars of creative cities, which considering them is vital for the creation and development of creative cities in the future (Ebrahimi, 2008). There is a strong link between space and creativity. Creative people need space to live, work and show their work. The spaces of a city, both natural and artificial, arouse, adapt and express the creativity of their inhabitants. Because of the most important elements of the creative city, there are desirable and efficient spaces for attracting creative society and displaying innovation and creativity. The idea behind the Florida Theory is known as the "Creative Class"; in short, the city's economic development depends on the level of attendance and concentration of technology professionals, artists, musicians and, in general, the highly educated group of society, which he calls the "creative class". Florida believes this is a creative class that creates a dynamic and growing community and attracts other elites. On the other hand, society embraces a creative class that has three components of technology, talent and adaptability (Florida, Gates, Knudsen & Stolarick, 2006). Florida has revealed the pivotal role of "quality of space" in attracting a creative group to a city or metropolis, according to its extensive research on the factors attracting the creative class to cities around the world, especially the United States. Indeed, contrary to previous theories, which considered the attraction of people to a city as a good job and economic factors, he claims that, in the creative group's perspective the quality of the place together with economic criteria, and even in some cases more than them is important to choose one city for working

and living. As a result, he is one of the most important ways of attracting and retaining the creative group by promoting the quality of the place and providing the environmental preferences of the creative group (Dadpour, 2011).

By reviewing Florida's many criteria for recruiting a creative group, as well as Landry's criteria in relation to the creative city, the following are achieved. These are general features of a place to attract more people, especially the creative community. (Florida, 2002). The quality of the urban environment as a kind of concept, on the one hand, is created by the representation of tangible features from the physical environment and, on the other hand, by observer through the perception and identification and evaluation of tangible features (Gulkar,1996:45). In fact, the quality of the place can be influenced by the users who are present at that location, including the minds, activities etc. on the contrary, this quality influences the absorption or repulsion of individuals, the type and manner in which individuals perform activities, conceptions and mental imagery etc. The public space has the advantages and characteristics that can play a crucial role in creating a creative city, such as: vitality, diversity, identity, attractiveness, economic value and participation, and subsequently improving the quality of life of citizens (Mohammadi, Majid far: 2010). In order to attract a creative class in a city, that city should include the elements that have been raised by various theorists: dynamic public spaces, multicultural diversity, restaurants and cafes, historical and cultural architecture, leisure facilities, investing in artistic fields (Kate Shaw, 2014:3).After reviewing various sources and exploring the ideas of urban planners, effective qualities on the desirability of the spaces and environmental factors affecting the development of the creative pedestrian have been gathered, which includes the following table with 5 components and 44 scales.

In order to achieve the final quality of the urban walkways quality, the criteria have been developed in different aspects in accordance with the creative city approach. selected criteria have been formulated as a form based on the precise adaptation of the indicators and factors affecting the improvement of quality of life and the creation of urban walkways, after studying scientific resources from various thinkers in the field as well as accurate field studies on the case study and the final model of the qualities of the creative urban walkways.



Figure 2: Qualities of the walk from the perspective of creative theorists.

Table 1,Creative City Indicators from the Viewpoint of Theorists

index	Sub index	theorist	Measurement metrics for creative city qualities
physical		Pakzad(2007) Hatefi farajian(2016) Smith(2002) Landry(2004)	* Existence of rhythm and harmony in elements * Existence of rhythm in the view * Existence of rhythm on the floor * Continued walking distance from beginning to destination * Space unity along the way * Creative scheme * Visual Art
	Variety	Pour ahmad (2013) DETR(2000) Gehl(2002) Florida(2002) Landry & Bianchini(1995) kate shaw(2014)	* Different usability in space * Ability to use space at different times * Flexibility in doing planned and unplanned activities * The existence of proper construction proportions
optional	flexibility	Pakzad (2007) Pour ahmad (2013) Detter(2000) Mateo&babiano(2003) Montgomery(2003) Farajian(2016) Hatefi	* Existence of diverse and dynamic range of color spectra along the specific path * User variety * Variation of activities: formal, inclusive, participatory and individual activities * A combination of relaxed and exciting spaces and attention to the human scale of space * Indigenous and local economy * All inclusiveness
social	vitality	Landry(2000) Florida(2002) Montgomery(2003) Hatefi Farajian(2016) kate shaw(2014) Pakzad (2007) Pour ahmad (2013) Abbas Zadeh and Tamri(2012) Mohammadi (2010)	Pleasant space for the presence of the people * Psychological comfort * 24-hour usage * Existence of walking activity after working hours
	Dynamism	Landry(2000) Montgomery(2003) Hatefi Farajian(2016)	* Existence of vibrant activity at different hours of the day * Existence of complexity, attractiveness and visual pleasure in the city's artificial environment
	Sociability	Gehl(2002) NZTA(2012) Hatefi Farajian(2016) Leyden(2003) kate shaw(2014) Shojaei (2014) Abbas Zadeh (2012) Shokouhi (2010)	* Performing night shows * Presence * The existence of pause spaces and behavioral sites * The existence of diverse furniture in the path * Providing spaces for gatherings at different night hours * Organized and random social communication * Long presence in space

cognitive	identity	Landry(2000)	* Comfort and pleasure in space
		Montgomery(2003)	* Festivals and cultural events
	Readability	Hatefi Farajian(2016)	* Street performances
		Partoei (2012)	* The existence of collective memories in space
		Pour ahmad (2013)	* The existence of valuable and outstanding architectural buildings
			* The existence of historical works
	Sense of belonging	Stubbs(2004)	* The existence of native and memorable activities
		Pour ahmad (2013)	* Ability to distinguish paths from other paths and identify them
environmental	greenery	Florida(2002)	* The presence of outstanding physical, visual and sign elements
		Landry(2000)	* The existence of memorable buildings
	sustainability	Florida(2002)	* The existence of memorable usages
			* The existence of memorable environmental elements

Table 2, The qualities of creative urban walkways from the viewpoints of theorists

Theorists	Indicator of creativity	
Richard Florida	Desirable features of the creative group include: informal activities, interactive activities, inclusive activities	
	Cultural facilities include: special music halls, art exhibitions, theater and more	
Charles Landry	Health and cleanliness of the city and the natural environment	
	Preservation of historic buildings and old neighborhoods in the city	
UNESCO	Variety of people in terms of: race, age, cultural, gender and, etc.	
	The desirability of a common territory, such as: favorable transportation, convenient housing, proximity to the workplace, proximity to nature etc.	
Charles Landry	Differentiation, tolerance, vitality	Viability and well-being
	Educational environment	Clarity, trust, access
	Communicability	Exploration and Innovation
UNESCO	Folk art	Nutrition
	Media art	Literature
	Design	Movie and Music

3. Materials and Methods

In order to measure the quality of urban walkways to improve the creative urban space from the studied area, based on 5 components of spatial, social, functional, perceptual and environmental quality, a questionnaire of 60 questions including indicators and criteria of the creative city was set. 300 questionnaires were considered to select sample size according to the busiest hours of presence of people in the range and by the Morgan test. SPSS software version 19 was used to analyze the questionnaires. The reliability of the questionnaire was measured by Cronbach's alpha method and the number was 0/088, which indicates the reliability and validity of the questionnaire. Also, with field observations and observation carried out on the urban walkways and recording the cultural and creative activities of space at different times and hours, a category and field observations of activities have taken place, which is compared and analyzed with a better understanding of the questionnaire analysis.

3.1. Introducing the scope of the study

The collection of urban walkways of Rasht city is located in the central part of it. The project was launched in 2011 with constructing urban walkways in Alam Al-Hoda, one of the 4 streets leading to the municipality square. And in 2016, the Municipality Square and its other three streets also turned into an urban walkway.

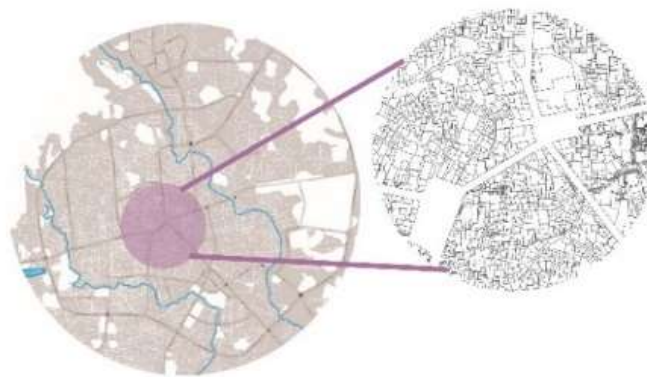


Figure 3, The study area

The cultural urban walkways of Rasht city on the three routes of Imam Khomeini Street from the big market to the Shohadai Zahab Square, Saadi Street from Shahid Beheshti Square to Shohada Square and Shariati Square to the municipality square. This project is the first central part recreation project at the metropolitan level in the country. The area of the central part of Rasht is 26,500 square meters. The route studied has the main square of the city and the four routes leading to it. The construction of this urban walkways in the center of Rasht is the first step in the reconstruction of the city of Rasht, which starts from the Zarjub River and extends to the Aynak Lagoon.

4. Results

One of the output tables of the multivariate regression test is the Model Summary table, which evaluate the correlation coefficient between the variables and the adjusted coefficient of determination. The results of the table indicate that the correlation coefficient (R) between the variables is 0.558, which indicates that there is a strong correlation between the set of independent variables and the dependent variable. On the other hand, the value of the adjusted coefficient (R Square) is 0.311, which indicates that 1.31% of the total creative city index in the central urban

walkways of Rasht depends on the variables listed in the equation. Then, the fitness of the model is evaluated in the ANOVA table. Considering the significance of the F value at the error level of less than 0.002, it can be concluded that a regression model consisting of 5 independent variables and a dependent variable was a good model. and it determines which of the five spatial, social, functional, perceptual, and environmental components are more important than the level of satisfaction in this urban walkways. The next output is the coefficients table, which shows the effect of each of the components in the model.

Table 3, The qualities of creative urban walkways from the viewpoints of theorists

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1						
Table 4, ANOVA						
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	57.805	5	11.561	138.17	.000 ^a
	Residual	128.174	190	675.		
	Total	185.980	195			

a. Predictors: (Constant), cognitive, environmental, social, physical, functional

Table 5, multivariate regression test

The table above shows the impact of each of the five urban walkways indicators on realization of the creative with urban walkways of Rasht city. According to the above results, only 3 indexes including functional (β : 0.150), social (β : 0.326), and environmental (β : 0.188) have sig less than 0.05. This suggests that there is a meaningful relationship between these three indicators of the quality of these urban walkways and the dependent variable of satisfaction, and has gained citizens' satisfaction. The most influential indicator according to people is the standardized coefficient (β) of the social index. in table 6, using Friedman's test, we examine the difference between the average user

Coefficients

Model	Non-standard coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
Citizens' satisfaction	1.190	0.473		-2.519	0.013
physical	0.091	0.171	0.047	0.531	0.596
functional	0.307	0.151	0.150	2.027	0.044
social	0.772	0.182	0.326	4.242	0.000
environmental	0.188	0.078	0.188	2.402	0.017
cognitive	0.135	0.096	0.092	1.402	0.163

opinion of the indicators of urban creative space. in this table, based on the value of the Chi-Square test, which is meaningful at an error level of less than 0.01, it should be noted that the significance and role of each of the substructures in the creative arena in assessing the level of satisfaction of the people with this urban walk has been meaningful. The results show that diversity and quality of

couches, indigenous activities and the presence of different classes of society, women, children and the elderly respectively, the attachment and memory of space, the quality of coffee shops and the diversity of uses, especially cultural and climate-related uses are at the top of the list, and on the other hand, people's level of satisfaction is low in components such as creative imagery, indigenous

Chi-Square:1785.528			Asymp.Sig:0.00							
environmental			cognitive	social	functional			physical		
29.95	Preservation of nature heritage	20.94	Memorable	40.58	Women presence	21.85	Attractive uses	21.85	creative view	
	Attention to climate	16.58	appointment	34.08	Child friendly	28.88	Uses compatibility	23.11	Space Unity	
30.57	Variety of green space	21.11	Sense of belonging	30.42	Elderly presence	27.42	Café shop	25.43	Paving	
			Cultural message	23.80	Disabled presence	32.98	Cultural uses	30.88	Building	
		21.11	Historical building	24.95	Street activity	31.94	Variety of uses	30.35	View satisfaction	
				28.89	exhibitions	26.80	Active uses at night	30.85	Color satisfaction	
				22.64	24-houre uses	27.23	Recreational uses	36.01	furniture	
				23.07	vitality	23.11	Local economic			
				22.89	Security at night	29.78	Space variety			
				21.31	Special occasions					
				29.63	Interact with stranger					
				26.12	Presence in space					
				26.37	Mental comfort					
				23.11	All inclusive					
				40.58	Native activity					

economics, attractive uses, vitality, and street activities.

Considering that, according to Table 5, social, functional and environmental factors had a significant relationship with the realization of creative urban space, Pearson correlation coefficient was used to measure the correlation of these components in Table 7 The results of the analysis show that there is a significant relationship between environmental, social and functional (meaningful level less than 0.05). The beta coefficient also shows the degree and level of this effect, the environmental and social component has a beta coefficient of 0.207, which indicates a direct and two-way relationship with 0.207, There is also the highest correlation between functional and social components with 0.578. In another analysis of interpreting of certain activities in space, the existing activities are categorized and the following figures are extracted.

Table 7: Pearson correlation coefficient

		environmental	social	operational
environmental		1	.207**	.091
	Sig. (2-tailed)		.003	.202
	N	200	200	200
social		.207**	1	.578**
	Sig. (2-tailed)	.003		.000
	N	200	200	200
functional		.091	.578**	1
	Sig. (2-tailed)	.202	.000	
	N	200	200	200

Field observations also confirm the validity of questionnaire analyzes, as shown in the diagram above. In this walkway, by organizing various events at various festivities and events as well as diverse activities all day and, most importantly, to provide a suitable field for the presence of different people, has caused the involvement of people in space so that spontaneous activities such as street music, street performances, nightlife, and other artistic and cultural activities are always seen in these streets.

**Figure 4,** Cultural and Creative Activities in the City of Rasht

5. Discussion and Conclusion

This research has been conducted to measure the quality of urban walkways from the perspective of creative urban space. Among the determined components and their qualities in realizing the creative urban walkway, social, functional and environmental components show a direct and indirect impact. On the other hand, between the three components mentioned, the social component is directly related to both the functional and environmental components. In this sense, by promoting the indicators mentioned in the social component, environmental and functional components are also promoted. Also, by measuring the indices of the mentioned components separately, we found that in terms of citizens, the qualitative and qualitative characteristics of the coffee shops (27.42), cultural usage(32.98), and general variety of uses(31.94), Native activities(40.58) exhibitions (28.88), interactions with strangers (29.63), the presence of women(40.48), the presence of the elderly(30.42),

the presence of children(34.08), memorability(35.98), attention to the historical building (21.11), place attachment (21.11), attention to environmental climate features (35/89) have the greatest impact on improving the quality of the environment in order to reach the creative urban walk.

This paper seeks to measure and evaluate the rate of feasibility of making creative urban spaces after turning the streets in central urban fabric into urban walkways. based on this, the research findings showed that after turning the streets in central fabric of Rasht city into urban walkways implemented by public sector, the participation of inhabitants for paving streets, improving urban furniture as well as considering showcases and building facades for shops have been increased by their owners and activities like holding cultural and artistic ceremonies and festivals, public arts, developing collective memories, the presence of different age and sex groups, the presence of physically and dynamically disables, developing nightlife, developing local economy, preserving cultural heritage, the participation of inhabitants in promoting spatial qualities, urban happy spaces and etc. which all are indicators of creative urban space, has increased in these walkways.

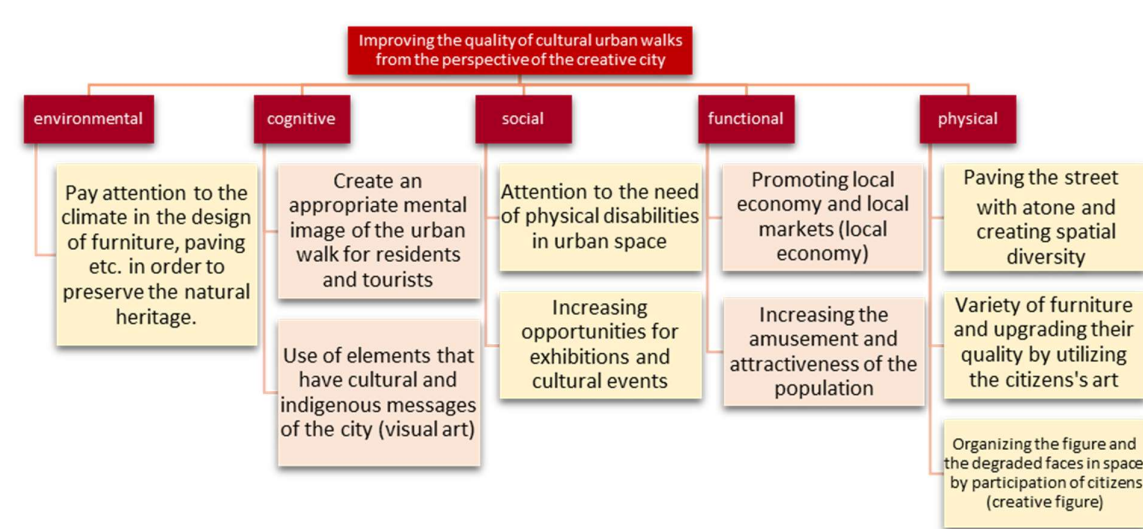


Figure 5, Strategies to promote the city's creative indicators on the cultural urban walkways of Rasht, Source: authors

Based on this, suggestions important can be made for turning urban walkways into creative urban spaces.

- Creating a suitable field for activities related to local arts, tourism attraction, creative industries
- Facilitate citizen participation in urban walking
- Attention to holding celebrations, commemorations and local celebrations in the process of urban walkways
- Attention to the facilities necessary for the participation of all strata as well as diverse social groups in the process of urban walkways

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