

An Analysis of the Impact of Creative City Components on Improving the Quality of Urban Life Using GIS (Case Study: Bandar Abbas City)

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ABSTRACT

Objective: Creative cities have a diverse approach and lead to initiatives in the field of creating an active environment temporarily or in open environments or built spaces. In this case, it provides opportunities to improve the quality of life of the residents of these cities.

Methods: The aim of this research is to investigate the role of creative city components in improving the quality of life in the urban spaces of Bandar Abbas. The type of applied research and its research method are descriptive-analytical. The data collection method is a combination of documentary or library studies as well as field study (questionnaire). The statistical population is 100 thousand people of working age who work or live in the city of Bandar Abbas. The sample size is 384 people based on the Morgan table. In order to analyze the data and prove the relationship between the variables, as well as to formulate strategies, policies and final programs, inferential statistical methods and models such as regression coefficients, variance analysis, and path analysis have been used.

Results: The results of the studies showed that the quality-of-life indicators will improve when the components of the creative city reach one-third of their desired status in the indicators of the desirability of urban spaces, the use of human capital, the use and appreciation of innovations, and the provision of the grounds for the realization of the smart city. In this regard, the results of the regression coefficient indicate that there is a direct and strong correlation between the components of the creative city and the improvement of the quality of life in different areas of Bandar Abbas city.

Conclusion: The components of the creative city, as the input basis for the model, explain 93.2 percent of the changes in the quality of life in this city. The findings regarding the prioritization of the impact of the components of the creative city on the quality of life in Bandar Abbas city showed that social capital is in the first place. In addition, among the components of realizing a creative city in Bandar Abbas, the following are significant with a confidence level of 99%: the components of improving urban spaces (creating interactive spaces, revitalizing and reconstructing individual buildings, and allocating economic activity to buildings, constructing urban facilities and equipment along the routes of economically oriented and people-friendly urban spaces, etc.), innovation, social and human capital, smart city components, and the city's gross income.

1. Introduction

It has a long history of paying attention to environmental issues. Since the 1960s, following the formation of environmental movements, various conferences centered on the environment and development were held in different regions of the world, including the UNESCO conference in Paris

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(1968), the ecological aspects conference in Washington (1968), the Stockholm conference (1972), as well as the Kokoyuk declaration with an ecological development approach (1974), which led to the formation of the World Commission on Environment and Development, chaired by Mrs. Brantland (1983). (Bagheri Kashkouli, 2017: 6).

With the holding of the Rio de Janeiro conference in 1992, the issues of evaluating the quality of urban life took on a new dimension in such a way that 130 indicators for evaluating the quality of urban life were proposed in this conference (Pour Asghar Sangachin et al., 1389: 68). These indicators have a direct relationship with the formation of a knowledge-oriented society and a creative city (Leonie, 2005: 103). Because the creative city is a place with strong flourishing of art and culture, creativity and innovation by applying quality of life indicators.

Quality of life indicators seek low-cost and flexible interventions that lead to improvements in the quality of urban living spaces (Dube, 2009). It can be said that interventions to improve urban living spaces will be accelerated by observing the principles and elements of creative cities (Nello-Deakin, 2022). Mike Lydon et al. (2012) considers the feasibility of creative cities as an intervention approach to stimulate change in a step-by-step manner, providing local solutions to plan for the challenges of the quality of urban spaces, short-term commitment and realistic expectations, low risk, with a high probability of achievement, develop social capital among citizens and build organizational capacity between public, non-profit and private institutions and constituents (Lydon, 2012).

In explaining the concept of creative cities, Mike Lydon has introduced five main parameters, namely foresight, location selection, prioritization of development-stimulating projects, reducing project implementation time, and low project cost, in order to improve the environmental quality of urban spaces. Therefore, creative cities are a concept that represents a special approach to understanding urban development. Creative cities are based on the use of short-term, low-cost, and scalable interventions to stimulate long-term changes in urban spaces. Eric Reynolds described this term with complementary concepts such as creative industries, creative human resources, and new technologies. The basic idea of a creative city is to energize creative industries by using creative human resources to organize urban spaces in the shortest possible time and by trying to change the shape and quality of urban life in accordance with the needs of its residents (Brenner, 2015).

In order to achieve this goal, creative cities benefit the most from "public participation". A look at urban spaces shows how much the approach of creative cities gives importance to the various capabilities available in the scope of its action and how it uses a set of these capacities in a single framework (Bianchini and Ghiraldi, 2007). Reaching this level brings urban living spaces into a close competition to gain a superior position and a more attractive image. In this way, a cycle of competition between urban spaces begins, which leads to the environmental quality of urban spaces by defining a variety of implementation plans (Smyth, 2005).

Bandar Abbas city as the capital of Hormozgan province with an area of 45 km is located in a coastal position and 1470 km southeast of the Center of Tehran. The population of this city was equal to 526,648 people according to the latest census of population and housing in 2015. Bandar Abbas is known as the biggest port of Iran. This city has become a special economic zone because of the convenient geographical location of Bandar Shahid Rajaei and Bandar Shahid Bahonar. The people of this city make a living through fishing, agriculture, trade, and handicraft distribution. A very important point is that gray spaces such as warehouses, abandoned workshops, dilapidated and destroyed houses are not used in this city to create favorable interactive spaces for improving the quality of life. In this regard, the aim of this research is to investigate the role of the creative city components in improving the quality of life in the urban spaces of Bandar Abbas.

2. Theoretical Foundations of the Research

The conceptual basis of creative cities goes back to the ideal revolutionary approaches of urban spaces. Peter Arlt (2006) explains the origin of its conceptual divergence. He writes that strategists

have enough wealth and power to achieve their goals regardless of external conditions, because they can increase such variables in principle (Arlt, 2006). Activists called urban management contractors who have wealth or influence can only achieve their goals by coordinating themselves with the environment and urban spaces and collaborating with other stakeholders (Ibid, 20). In addition, a number of these contractors who have urban management and planning expertise have control over the existing conditions of urban spaces (Purcell, 2014). An urban planner should consider all components of urban management in planning to improve the environmental quality of urban spaces and with an emphasis on integrated urban management (Purcell, 2014)). In general, creative cities, in addition to complying with and respecting the law, should also operate as civic participation. One of the important activities for the realization of the creative city is the Living Yard Project (Dutchman Voorhoff in 1976), which was formed under the guidance of citizens and led to smooth traffic flow and prioritizing streets for pedestrian use.

Today, urban planning literature often discusses the ideals of the realization of the creative city (Chase et al, 2008). Harrison Fecker describes the characteristics of this approach as the formation of everyday space for public activity and that this feature of everyday urban activity is the result of social product and people's participation (Nello-Deakin, 2022). Such approaches in urban spaces make citizens feel that they are creative in the city every day, because they pursue flexible planning in the use of urban spaces and demand active participation in shaping urban space and improving their environmental quality (Ibid, 12). It can be concluded that citizen participation is the first factor in realizing planning and the creative city in improving the environmental quality of urban spaces. In this way, the lack of attention and participation of citizens will lead to the lack of desired results (Chase et al, 2008).



Fig (1): An example of the prosperity of economic activities with the creative improvement of the street in order to improve the quality of life in urban spaces

Source: David Webb, 2017

The slogan “Be creative or die” is the new urban imperative. Cities must attract the “new creative class” with stylish neighborhoods, an artistic sensibility, and a humane atmosphere, or they will go the way of Detroit (Peck, 2005: 740). The idea of the creative city is a completely positive theory and emphasizes that any type of relationship between citizens and organizations, etc., should be completely two-way based on solving urban problems and improving the quality of life. The creative city theory tries to strengthen the qualities that make the mental image of a city more beautiful for citizens (Gharib and Hosseinpour, 2012: 11). Moving towards the creation and realization of the creative city is very

necessary and important due to the city's position as the place where the knowledge society platforms are formed, the importance and centrality of cities in economic development (knowledge economy), the position and importance of the city as one of the basic requirements for the formation of science and technology clusters, and the role and position of cities in attracting, using, and maintaining creative human capital (creative class) (Rabbani et al., 2012: 160).

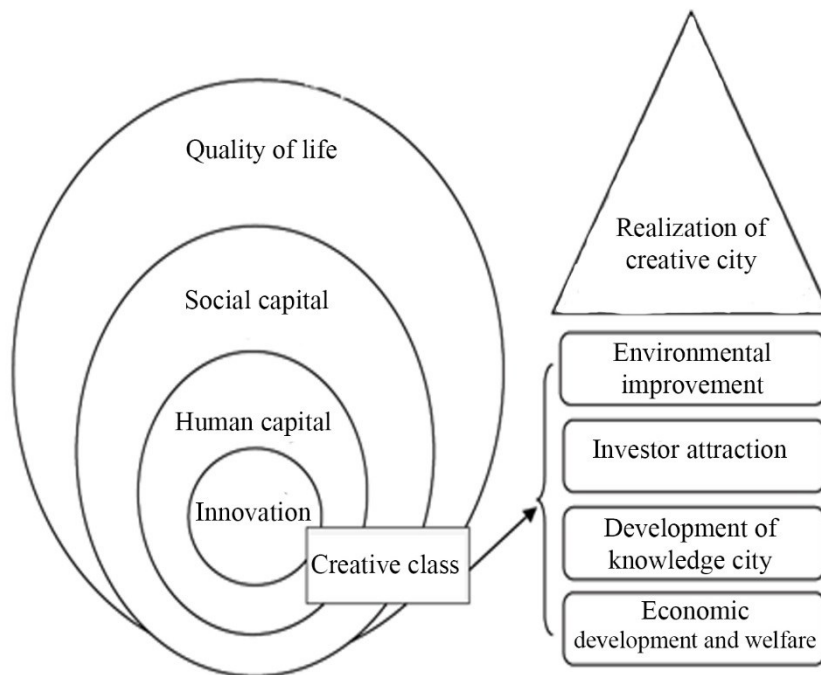


Fig (2): The role of the creative class in realizing the creative city

Source: Mousavi, 2014

The characteristics of a creative city are:

1- Environmental quality: healthy environment, clean climate, clean and hygienic water and environmental protection, access to green spaces and recreational areas and goods and services that are free of pollution and greenhouse gases).

2- The existence of economic patterns: The dynamism of the local space for investment at the local level and with the aim of exporting to target markets, are indicative of a dynamic economy.

3- Establishment of public policy: The role of laws in the development, implementation and maintenance of a creative city must be open and enforceable. Transparency and participation to support the balance between the elements of life is one of the most basic requirements for the establishment of an integrated public policy (Rezaeian et al., 2012: 45).

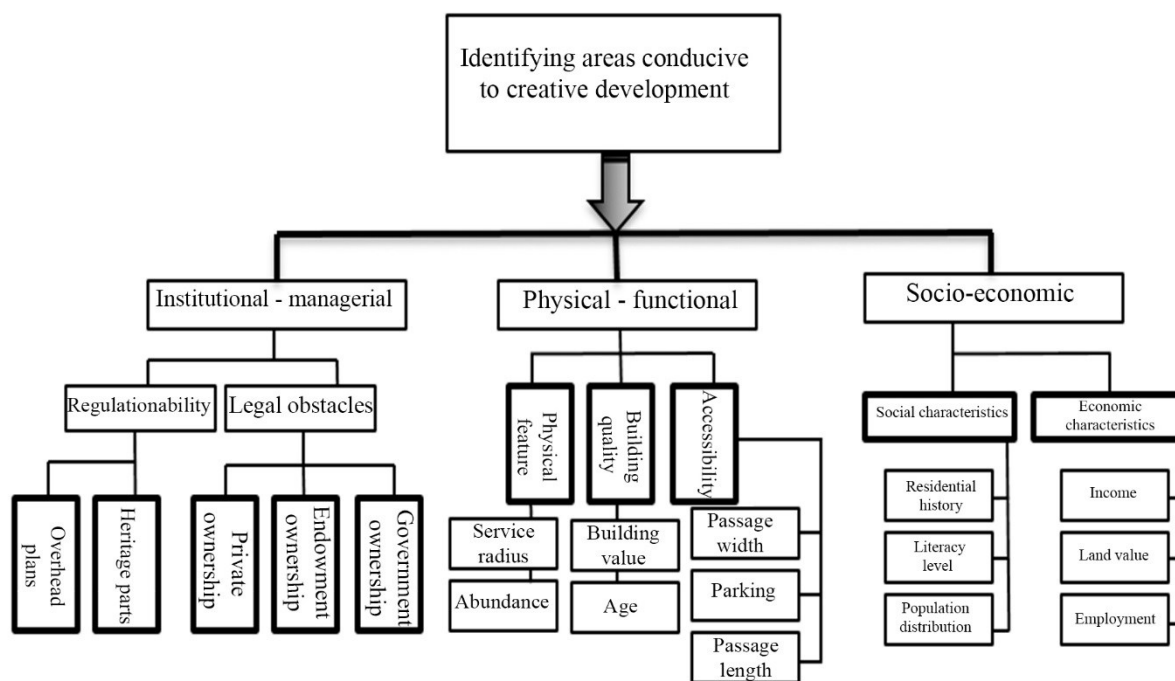


Fig (3): Hierarchy of factors, criteria, and indicators used in the model for identifying areas conducive to creative development of dilapidated infrastructure.

Source: Rafiian et al.; 2010; 28

The use of creative city components is based on strong organizational structures (social, cultural, economic and other) and has two-way relationships with the physical environment in such a way that they both create the environment and are made by it (Merker, 2011). According to this concept, the elements of creative cities play a major role in improving urban spaces and residential environments. Creative cities have a diverse approach and lead to initiatives in the field of creating active environments temporarily or in open environments or built spaces. Such initiatives are created by community organizations, creative groups, small entrepreneurs, enthusiasts, small industries and owners of vacant properties with a view to common goals, to bring together the residents of urban neighborhoods. These participants strive to create dynamism and vitality at the local level and on a small scale for people and in some way help to improve the quality of life of residents (Lydon., 2012).

This approach often lacks formal planning, requires public participation, and is somewhat removed from the urban management process. Therefore, one of the main goals of creative cities is to strengthen urban streets as important urban spaces. The concept of "urban pulse and movement" proposed by the ArtPlace organization in the United States refers to attracting people, activities, and value to a place, increasing desire and economic opportunity in urban spaces, improving social interactions in urban spaces, creating urban spaces that create identity, and forming collective memory, all of which play an effective role in improving the quality of life of residents in urban spaces (Corijn & Groth, 2005).

Therefore, considering the role of citizen participation in creating urban spaces, shortening the implementation time of urban space design projects, reducing the cost of implementing urban space projects, creativity and innovation in urban space design, and flexibility of urban spaces can be considered effective measures to address problems such as lack and inefficiency of urban services,

improving social security, economic prosperity of urban spaces, and improving the quality of life of residents (Chase et al, 2008).

The category of urban quality of life is one of the first areas of study in the field of urban growth, which has been the focus of attention of urban experts since the 1930s and has increasingly become the subject of scientific research in various fields and systems. The study of this concept is based on the fundamental hypothesis that the social and physical environment can affect the happiness and well-being of people living in a place (Limber, 2006). The concept of quality of life is assumed to be a comprehensive reflection of a person's sense of well-being, including all factors that contribute to human satisfaction and is largely influenced by the social, economic and environmental quality of the city (Van poll, 1997). Quality of life is a comprehensive concept that is used to assess the standard of living of a society in all aspects of life (Chen, et al, 2016).

The concept of urban quality of life takes on a role and meaning with factors such as mentality, self-esteem, personal perception, satisfaction, performance, self-control, interpersonal relationships, happiness, well-being, development and improvement of life, objective evaluation, empowerment, independence, achievement of goals and aspirations and capacities (Pinto et al, 2017). In the meantime, the social health of citizens is one of the key components and the most important areas of the quality-of-life level of societies. This aspect of health is an indicator to show the level of mental health of citizens and a measure of satisfaction or dissatisfaction of groups with the quality of social life. The quality of the environment is also considered, with emphasis on the construction of the city, elements such as the identity of the street pattern, etc., as influential factors in determining the level of quality of life. On the other hand, today, improving the quality of life in societies is the result of improving economic factors such as income distribution, access to public services, economic growth and the amount of savings. Table 2 - Components and indicators related to the quality of urban life are listed (Ulengin, 2001).

Table (1): Components and indicators related to the quality of urban life

Row	Components	Indicators
1	Economic quality	Cost of living, employment and unemployment rate, satisfaction with the cost of living, satisfaction with job opportunities, balance of social deciles, per capita income
2	Physical quality	Housing quality, housing diversity, adaptation to climate, green areas, infrastructure and services, building regulations, public transportation capability, traffic flow
3	Society-culture quality	Participation, safety and security, level of education, level and rate of educational services, level and rate of health services, level of cultural and recreational activities
4	Environmental quality	Level of environmental pollution, level of vegetation cover, public transportation

Source: Author, 2022

3. Research Method

The present study is applied research in the geographical area of Bandar Abbas city and its research method is descriptive-analytical. The data collection method is a combination of documentary or library studies and field study (questionnaire). The statistical population is 100 thousand people of working age who work or live in Bandar Abbas city. The sample size is 384 people based on the Morgan table, and the questionnaire was distributed among them. In this study, the research population in the qualitative section is experts, professors in the field of urban and regional planning, officials and urban managers related to the creative city and quality of life. The sample size of experts and managers was selected through snowball sampling and 35 people completed the questionnaire.

In analysing data and proving the relationship between variables, as well as formulating strategies, policies, and final programs, inferential statistical methods and models such as regression coefficients,

variance analysis, path analysis, and to prioritize the influential elements of the creative city on the quality of life, the network analysis method was used, and the SWOT model was used to formulate strategies.

Bandar Abbas city is located in the north of the Strait of Hormuz. Its area is 27,316 square kilometres. This city is limited to Haji Abad city to the north, Minab and Rodan cities to the east, Bandar Lengeh city to the west, and the Persian Gulf and Qeshm Island to the south. Bandar Abbas city is the centre of Bandar Abbas city (Figure 4). The area of this city, which is located on the coast of the Persian Gulf, is about 45 square kilometres and its altitude is 10 meters above sea level. The closest city to Bandar Abbas is Qeshm city, about 28 kilometres away. The distance from Bandar Abbas to Tehran is 1333 kilometres. The climate of this city is a coastal desert and the humidity is high. In Bandar Abbas, the rainfall is less than 150 millimetres. Due to the specific geographical and strategic conditions of the region, it has caused widespread migrations during the previous decades. So that the population of Bandar Abbas city has increased from 17710 people in 1956 to 526648 in 2016 (Statistical Centre of Iran, 2016). Apart from its historical trend, this city has occupied a high position in the country's economy due to the rapid development of the national economy (volume of imports), and it seems that this development trend will continue in the coming decades. The expansion of the physical structure of the city is linear along the coast and is limited to the north by heights and unsuitable areas.

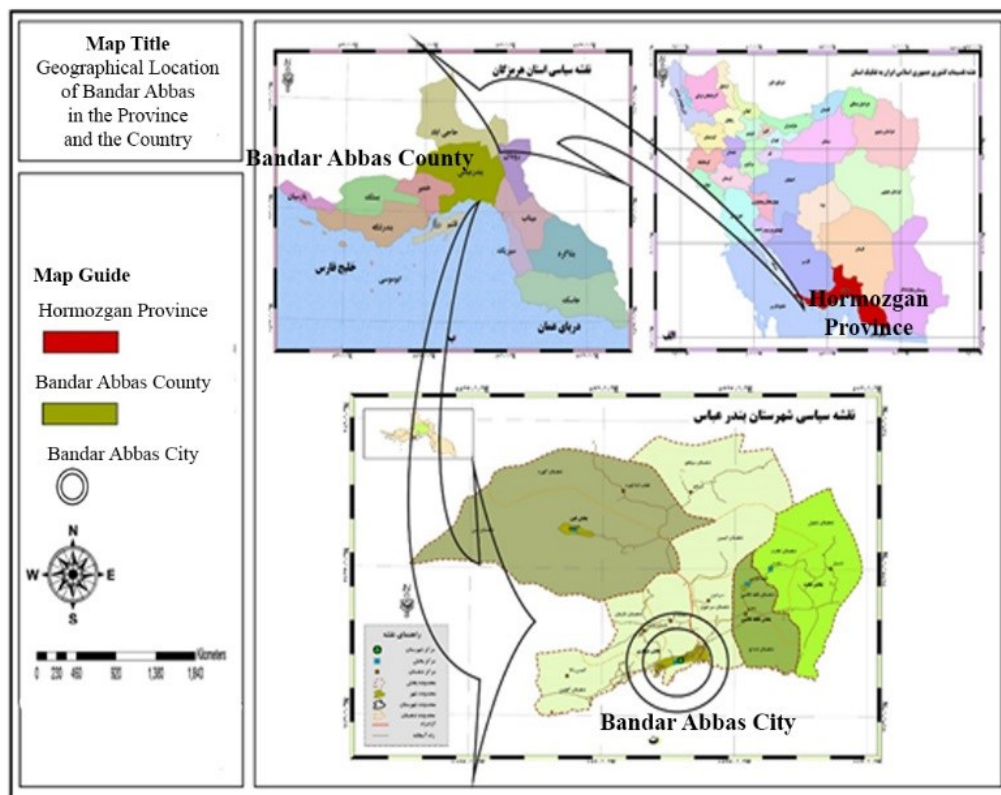


Fig (4): Geographical location of Bandar Abbas city in the province and country

Source: Statistics Center of Iran, 2016

4. Research findings

4.1. Population changes in Bandar Abbas city

Population changes in Bandar Abbas city the population of Bandar Abbas city in 1956 was 17,710 people, and based on the latest available statistics, the 1390 census, the population of Bandar Abbas city is 435,751 thousand people. The absolute increase in the city's population is estimated at 56,450 people and the relative growth is 14.8 compared to the previous period (1385). This means that the city's population has increased approximately 25 times over the past 55 years, based on an average growth rate of 57.5 percent (Table 2). The growth rate of Bandar Abbas until 1986 shows an increase and then a decrease (General Department of Civil Registration of Hormozgan Province, 1394). The rapid and unplanned increase in the population of Bandar Abbas city is due to immigration and natural population growth, following the trend prevailing in the country for several consecutive decades. This rapid population growth is a factor in the mismatch between urban managers' planning and the needs of the urban population, which has led to planners' failure to achieve qualitative development in proportion to its quantitative development.

Table (2): Population changes in Bandar Abbas city during the 1956-1966 censuses

Year	1956	1966	1976	1986	1995	2005	2010	2015
Population	17710	34627	87981	201642	273578	379301	435751	526648

4.2. Consequences of population growth and rapid urbanization on the quality of life in Bandar Abbas city

The instability and semi-stability of housing in Bandar Abbas city has automatically led to the creation and expansion of dilapidated structures in informal neighbourhoods, which, according to conventional research in studies of dilapidated structures, require reconstruction and renovation. These structures are very weak in the face of earthquakes, floods, and other natural and human disasters such as war, etc., and endanger the lives and property of residents (Nohagar et al., 2011: 77).

A study of the occupational structure of men in the marginal areas of Bandar Abbas shows that labour and peddling are the occupations of most of them. Other occupations such as cigarette selling, gasoline selling, and brokerage are among the occupations of men in the marginal areas of Bandar Abbas city. Given that most of the people seeking work in the region lack the education or professional capabilities and job skills necessary to obtain suitable job opportunities, this has affected the quality of life of the people and even some people are unemployed, and unemployment is seen in abundance in these areas. Living conditions in marginalized areas are such that they create special cultural conditions for them, such that on one hand, cultural poverty and financial problems, and on the other hand, seeing the life of city dwellers who benefit from modern facilities, causes deep dissatisfaction and the spread of relative deprivation among these segments of society, and in this way affects their level of satisfaction and quality of life. This cannot be considered a sin, as the social consciousness movement (Barabadi, 2002: 49). The belief in progress and a better life among the marginalized and achieving the status of reference groups (groups with which individuals compare themselves and have a better status) causes individuals to move towards goals that are easier to achieve but illegitimate, and this leads to the spread of socially undesirable behaviours among this segment of society. Therefore, the security situation (as one of the most important indicators of quality of life) in the city is affected.

The most important infrastructure problems in the marginalized areas of Bandar Abbas include the lack of a sewage disposal system, urban water problems, lack of welfare, cultural and educational facilities, lack of asphalt in the alleys, high levels of illegal water and electricity connections, very

inadequate traffic and transportation networks within the neighbourhood, etc. These issues and problems have affected the quality of life in the marginalized areas of Bandar Abbas.

One of the most important consequences of the rapid growth of urbanization and physical development of the city in the past decades has been the disintegration of the distribution system of urban service centres, which has led to inequality in the level of enjoyment of urban service uses in the city. The rapid growth of the urban population and the inability to respond to the needs of this population, which was due to the lack of preparation to face this situation, became the starting point for the emergence of various inequalities. Social inequalities are reflected first of all in living standards and, in turn, are related to the concept of opportunities and quality of life (Hatami Nejad et al., 2012: 42). Therefore, the irregular development and uncontrolled growth of Bandar Abbas city in the last few decades has been accompanied by a random distribution of urban uses and per capita, which has led to an imbalance in the allocation of urban per capita. The area of various uses, in addition to expressing the concentration and dispersion of uses and activities among the urban areas of Bandar Abbas, also expresses the level of enjoyment of urban services by the resident population.

4.3. Study of quality of life and creative city indicators in Bandar Abbas city

Based on the data extracted from the questionnaire, the results of the 5 creative city indicators show that the quality-of-life index will improve when the components of the creative city reach one-third of their desired status in the indicators of urban space desirability, use of human capital, utilization and appreciation of innovations, and provision of the grounds for realizing a smart city in this city (Table 3).

Table (3): Calculation of the percentage of quality of life and creative city components in Bandar Abbas city

Row	Components	Bandar Abbas city	Average
Creative City Components	Urban space as a platform for creativity	21.2	26.18
	Human capital	24.7	
	Innovation and creativity	31.5	
	Social capital	36.4	
	Smart city	17.1	
Quality of Life Components	Economic quality	16.3	28.25
	Environmental quality	25.4	
	Society-culture quality	39.7	
	Physical quality	31.6	

Source: field survey, 2022

It should not be said that considering that the current state of the quality-of-life components in Bandar Abbas is not desirable, it is the reason for not utilizing the creative city components in urban management. Rather, considering the importance of these indicators in the field of urban management, the lack of access to sustainable sources of income for the municipality of this city has led to the failure to realize the proposed urban management programs to achieve a high quality of life in this city. In recent years, the urban management of Bandar Abbas has focused most of its programs on social capital in the field of moving towards a creative city. This is equivalent to giving importance to the issue of public participation in the realization of urban management development and social programs, because building trust between the urban management and the people is the basis for the complete realization of urban management development and social programs in this city.

The results of the regression coefficient indicate a direct and strong correlation between the components of the creative city and improving the quality of life in different areas of Bandar Abbas. The components of the creative city, as the input basis of the model, explain 93.2 percent of the changes in the quality of life in this city (Table 4).

Table (4): Multivariate regression analysis statistics of creative city components in Bandar Abbas city.

Standard error	Corrected coefficient of explanation	Coefficient of explanation	Multiple correlation coefficient
1.204	0.901	0.932	0.991

Source: Authors' calculations, 2022

In Table (5), the significance of the regression relationship between the variables is confirmed with a significance level (Sig: 0.000), which indicates its significance at 99%.

Table (5): Multiple regression analysis of variance of quality of life in Bandar Abbas city.

Source of variation	Sum of squares	Degrees of freedom	Mean square	F-quantity	Significance level
Regression Effect	1420.105	2	1321.521	1145.302	0.000
Residual	10.001	8	2.803		
Total	1430.106	10	-		

Source: Authors' calculations, 2022

As a result, in terms of prioritizing the impact of creative city components on the quality of life in Bandar Abbas, social capital ranks first. The results of past Bandar Abbas urban management programs show that social capital indicators such as trust-building and fair service distribution have the greatest impact on improving the status of public participation as the main criterion and component of the creative city. Creativity and innovation, human capital, urban space conducive to creativity, and smart city are in the next ranks. It should be noted that almost all creative city indicators have a similar impact on improving the quality of life of residents in Bandar Abbas urban spaces, but their effectiveness and the extent to which the context and context for realizing this indicator depend on other components and indicators can vary. Certainly, utilizing all of these indicators, along with institution-building and capacity-building for the full realization of these indicators, will definitely lead to the improvement of all quality-of-life indicators in different parts of this city.

4.4. Regression fitting model of social components explaining the desired quality of life in urban spaces of Bandar Abbas using GIS

Using GIS statistical analysis and using a multiple regression model, the factors and indicators affecting the improvement of the quality of life in different areas of Abbas city were identified. The results indicate that among the components of realizing a creative city in Bandar Abbas city, the components of improving urban spaces (creating interactive spaces - revitalizing and reconstructing single buildings and allocating economic activity to buildings, constructing urban facilities and equipment along the routes of economically oriented and people-friendly urban spaces, etc.), innovation, social and human capital, smart city components and gross city income are significant with a confidence level of 99%, and the liveability of the city and creative industries sectors have a weak relationship with the dependent variable. All components included in the model explain 99.1% of the changes in the quality of life in Bandar Abbas city, and the remaining small variances are explained and predicted by unknown factors that were not included in this study (Table 6).

Table (6): Multiple regression analysis statistics of quality of life in Bandar Abbas city.

Standard error	Corrected coefficient of explanation	Coefficient of explanation	Multiple correlation coefficient
0.0135	0.983	0.991	0.993

Source: Authors' calculations, 2022

Looking at the β values, it is clear that one unit change in the standard deviation of the components of improving urban spaces (creating interactive spaces - revitalizing and reconstructing single buildings and allocating economic activity to buildings, constructing urban facilities and equipment along the routes of economically oriented and people-friendly urban spaces, etc.), innovation, social capital, human capital, smart city components, and gross city income will create 0.836, 0.749, 0.629, 0.687, and 0.586 units of change in the quality of life in Bandar Abbas city, respectively. While the components of city liveability and creative industries have relatively less effects in predicting the quality of life in Bandar Abbas city, because a large part of creative industries, due to the lack of necessary financial support from government institutions and the inability to attract investors for the prosperity and financial sustainability of these industries, have lacked the necessary impact on indicators such as increasing the city's gross income for the financial dynamism of urban management and providing the grounds for realizing sustainable financial resources for the municipality of this city. It should be noted that increasing sustainable revenues for urban management is the result of exploiting creative industries and paying attention to human and social capital, which leads to urban management development investments to improve the quality of life in different areas of Bandar Abbas city (Table 7).

Table (7): Multiple regression analysis of variance of quality of life in Bandar Abbas city based on the components of creative city.

Source of variation	Sum of squares	Degrees of freedom	Mean square	F-quantity	Significance level
Regression Effect	0.652	2	0.251	4.854	0.000
Residual	0.013	8	0.00		
Total	0.652	10	-		

Source: Authors' calculations, 2022

4.5. Investigating the relationship between the realization of a creative city and improving the quality of life in Bandar Abbas city based on Moran coefficients with the help of GIS software

From a modern perspective, a creative city is considered a tool, a means of work, and the ultimate beneficiary of the process of promoting development for a city and improving the quality of urban life. This creative view does not consider development as only a quantitative category, but also considers its qualitative structure. One of the important issues in this regard is paying attention to the indicators of a creative city, including urban spaces that create a platform for creativity, human capital, generosity and innovation, social capital, and a smart city, which are known today as the potential and capacity for creating various economic, cultural, and social spaces in order to form interactive spaces. To compare these criteria of a creative city with the criteria for improving the quality of life in different regions of Bandar Abbas city, the Moran two-variable autocorrelation method has been used. This situation has been identified for the two indicators of the creative city, x-axis and improving the quality of life, y-axis, which shows the relationship between each creative indicator and improving the quality of life in this city. The value of Moran's coefficient is 0.33 and the Moran's regression line has a gentle positive slope. This indicates the level of attention to the creative city indicators in order to improve the quality of life in the entire city. Of course, given the dispersion of the criteria in different areas of the city, some areas and neighbourhoods of this city have considered using the creative city development capacities to improve the quality of life of the residents of the areas and neighbourhoods to a very high level, but some neighbourhoods still have not implemented the creative city in terms of the feasibility of developing the city and creating new urban activities. Figure 5 shows a classification of four types of spatial correlation.

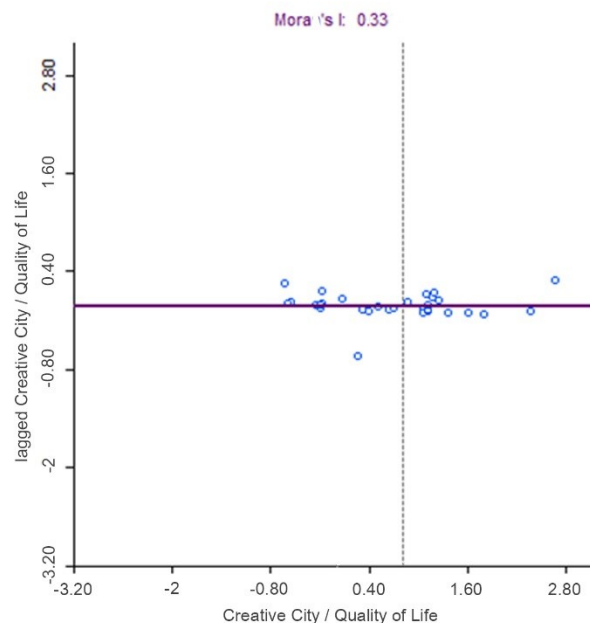


Fig (5): Moran coefficient value of creative city and improvement of quality of life in Bandar Abbas city

Class One High-High: In this class, which is shown in red, the level of creative city realization capacities is high. These capacities have led to the establishment of major economic and recreational activities such as major smart service centres. The establishment of these activities, as well as the attractiveness of creative urban spaces in this axis, has led to the formation of green spaces, parks, interactive spaces, and most importantly, a creative class with creative activities, which has greatly contributed to the promotion and improvement of the quality of life of the residents of these areas.

Class Two High-Low: Areas in yellow are in this class. In this area, the creative city realization indicators are at a desirable level due to the presence of capacities such as social and human capital formed with the approach of forming creative urban spaces, but restrictive cultural heritage policies have led to a slight acceleration of improving the quality of life in these areas. In these areas, renovation measures, widening of passages, density, and floor height face major restrictions in terms of cultural heritage criteria, and this has led to the weakening of creative urban development measures and the creation of creative spaces.

The third category, Low-High: This group includes parts of the areas that are in light blue and light green. In these areas, the creative city realization capacities are relatively good, but the quality of life is still low.

The fourth category, Low-Low: This category includes the upper parts of areas 1, 2, and 4, which have low creative city realization capacities and are in an unfavourable situation in terms of improving the quality of life. What is important is that due to the lack of creative city infrastructure, they are still at the deprived level in terms of improving the quality-of-life indicators (Fig 5 and 6).

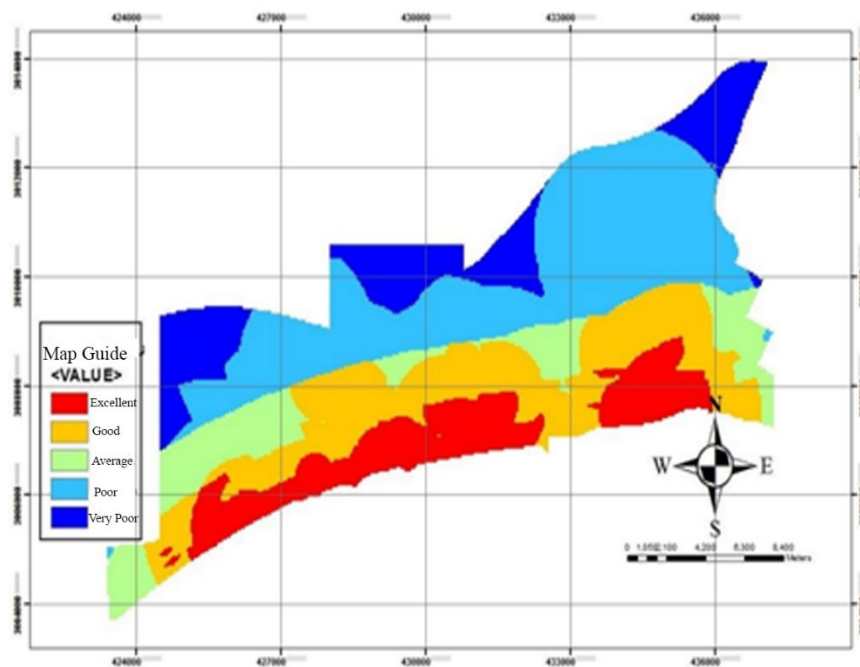


Fig (6): Scatter of Moran coefficient value of creative city and improvement of quality of life in Bandar Abbas city

5. Discussion and Conclusion

Quality of life indicators seek low-cost and flexible interventions that improve the quality of urban living spaces. It can be said that interventions to improve urban living spaces will accelerate with the observance of the principles and elements of creative cities. In this regard, the use of creative city components is based on strong organizational structures (social, cultural, economic and others) and has two-way relationships with the physical environment in such a way that they both create the environment and are made through it. According to this concept, the elements of creative cities play a great role in improving urban spaces and residential environments. Creative cities have a diverse approach and lead to initiatives in the field of creating an active environment temporarily or in open environments or built spaces. Such initiatives are created by community organizations, creative groups, small entrepreneurs, enthusiasts, small industries and owners of vacant properties for common goals, considering local stakeholders, to bring together residents of urban neighbourhoods. These participants are trying to create dynamism and vitality at the local level and on a small scale for people and in a way, help improve the quality of life of residents.

The results of the study of the creative city indicators in the city of Bandar Abbas show that the quality-of-life index will improve when the components of the creative city reach one-third of their desired status in the indicators of the desirability of urban spaces, the use of human capital, the use and appreciation of innovations, and the provision of the grounds for the realization of a smart city in this city. In relation to prioritizing the impact of the components of the creative city on the quality of life in the city of Bandar Abbas, social capital ranks first. The results of past programs of the urban management of Bandar Abbas show that social capital indicators such as trust-building and fair distribution of services have the greatest impact on improving the state of public participation as the main criterion and component of the creative city. In addition, the results of the studies indicate that among the components of realizing the creative city in Bandar Abbas, the components of improving

urban spaces (creating interactive spaces - revitalizing and reconstructing single buildings and allocating economic activity to buildings, constructing urban facilities and equipment along the paths of economically oriented and people-friendly urban spaces, etc.), innovation, social and human capital, smart city components, and gross city income are significant with a confidence level of 99%. Based on the results of the path analysis, improving urban spaces and innovation in different sectors has the greatest impact, and the creative industries sector has the least impact. Regarding the direct effect, the city's liveability component has the least direct effect, and the component of improving urban spaces (i.e., fair distribution of services and facilities in different areas of the city) has the greatest impact.

Finally, the following suggestions and solutions are presented for implementing the creative city approach to improving the quality of urban life in Bandar Abbas.

- Creating a suitable platform in urban management for citizen participation
- Facilitating the participation of the creative class and specialized human resources in achieving a creative city
- Establishing a connection between industry and urban management with universities and valuing innovation
- Anticipating service uses that ensure the continued creative presence of citizens.
- Creating urban spaces with the capacity to attract and retain the creative urban classes
- Creating and paying attention to creative social centres instead of neighbourhood centres
- Strengthening the economic strength of households by creating conditions for economic and commercial activities
- Using artists and their artistic styles in the urban landscape

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