

## Impact of the Right to City on Sense of Belonging among Gender Groups (Case Study: Urmia Public Spaces)

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### Extended abstract

#### Introduction

One of the main issues of urban areas in Iran is that the right to a city as a collective right is confiscated in favor of private rights and profits of individuals. In other words, over the past decades, the value of use has been discarded in favor of exchange value. This approach is directly destroying the living areas of the residents. It is one of the most important manifestations of citizens' evacuation from urban areas with the loss of social function and use. The purpose of this study is to investigate the sense of belonging of gender groups with the impact of the right to the city in urban public places with an emphasis on the city of Urmia. To prove this hypothesis, I use the methods of belonging of men and women to urban public places during everyday life. In this regard, the relation between the right to the city and the concepts of belonging to the city are considered in their everyday experiences in the scale of everyday living places.

#### Methodology

Since this research seeks to determine the relationship between the variable factors of the right to the city and the sense of belonging, it is practical in terms of purpose and collecting descriptive information. There are a lot of methods to investigate the relationships between variable factors. One of these methods is the structural equation model with multivariate analysis. Structural Equation Modeling is a comprehensive statistical approach for testing hypotheses about the relationships between observed and latent variables. Through this approach, we can test the acceptability of theoretical models in specific societies. In the analysis model of this research, the influence of the variable of the right to city is sense of belonging with significant factor loads.

#### Results and discussion

Among the internal latent variables, the highest influences on the of the right to the city are including the variables of component of citizenship right with a direct effect of 0.90, the right of social interaction with a direct effect of 0.74, the right of allocation of place with 0.67, the right of centrality with a direct effect of 0.52, and the right of participating with direct effect of 0.51. The most influential effect of sense of belonging structure is on urban belonging (0.67). There are numbers on each of the observed variables which shows the degree of explained variance by the latent variable. Maximum Structural Explanation of the right to the city is the variable of the right of allocating to urban places. Variable of city belonging is explained 45% by latent

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variable of sense of belonging. Standard model estimation is observed for two groups. The estimated impact of the sense of belonging to the city is 0.87 in the men's group and 0.80 in the group of women. Therefore, it is concluded that the group of men feels more belonging.

### Conclusion

The findings showed that the estimated impact of sense of belonging to the city was 0.87 in men and 0.80 in women. This represents a greater sense of belonging in the male group. From these findings, we can conclude that the right to the city has been neglected among women. This refers to gender inequalities and the gendered nature of urban place, the domination of power relations and patriarchy is one of the main reasons. The right place is where all citizens consider it to be their own. We emphasized on three good fitness indicators from one hand and the experimental data on the other to test theoretical models of research. Therefore, suitable adaptation was provided between the models depicted or the structured model with experimental data and with emphasis on structural equations. A suitable model was developed for the relationship between independent and dependent variables. The optimal fit of the extracted models represents the structural equation modeling.

**Keywords:** right to city, sense of belonging, gender, Urmia.

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## Analysis of Fear of Crime in Women's Daily Mobility Patterns (Case Study: Municipality District 6)

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### Extended abstract

#### Introduction

When a crime is committed, the society's view to the victim is like an injured who has lost his/her property, health, and other offences. Besides physical and financial harms of these crimes, there is a mental problem that is fear of crime, not actual probability of being a victim of crime. This can affect one's life style and quality of life. Fear of crime is mental aspect of security that is a complicated phenomenon with various psychological, sociological and economical aspects. But all people don't feel equally frightened of being a victim of crime. Researchers have found that women in their daily community feel more frightened and this affects their life style. They usually go where they feel more secure and where they know as secure through their experience, the news and so on. Therefore, when feeling insecure, the women avoid going certain times and certain places. Thus, this study examines the effects of individual characteristics and woman's transportation patterns on fear of crime in Tehran Metropolis (The Case Study of Municipality District 6).

#### Methodology

This study has been conducted by descriptive-analytical method. The data of this study have been collected by studying literature and documents and then field study using questionnaires in two levels of experts and inhabitants. The questionnaires of the study were filled by 20 selected experts. Then, the questionnaires were specially designed for women living there. Random sampling was used to select subjects among the women aged 18 and above at the sixth municipal district (98164). Using Cochran formula, we have selected 321 people as sample.

The Cronbach's alpha for the questionnaires was 0.896 and this indicated a accepted reliability. Eventually, the extracted data were entered SPSS for inferential statistical tests.

#### Results and discussion

The results of this analysis have indicated that most of the women (80%) answered that they feel insecure when commuting during evening and this number increased to 95% for commuting at night. Results of linear regression showed that level of fear is higher among younger people.

The results of T-test with two independent sample indicated that single people feel more insecure than married persons. Thus, we can say that the highest level of fear of crime belongs to young single women at night. Also, the level of fear of crime was different in different days

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of week and it was increased at weekends or holidays. They felt more insecure when they go walking compared with using a vehicle, using public transportation compared with their own car, alone journeys compared with going with someone else, and going to an unfamiliar place compared with familiar areas.

### Conclusion

Since the transportation is decreased in weekends, we can say that feeling of insecurity is resulted from empty streets and an absence of citizens. At the end of the night, presence of citizens at the public places is decreased and causes a sense of fear. This can emphasize on the importance of informal surveillance to secure these places and consequently to increase the sense of security. They stated that they don't like to use public transportation, when they have to wait at the station or they have to go on foot. At public places, they feel insecure where in enclosed places they feel more secure. They prefer to be accompanied with another person, specially a man, but the interesting point is that, being accompanied by children, they feel more secure than being accompanied by a woman. They might be afraid of sexual violations. Referring to an unfamiliar place, they experience the highest level of fear compared with other situations, and this is because of a lack of knowledge and personal information to distinguish secure and insecure places. This can be generalized to the situation in which the individual does not know where he wants to go and whether it is secure or not.

It can be suggested that night economic activities and available emergency services can improve security on gender perspective at designing public transportation infrastructure. This can be helpful to solve the problems of feeling insecurity.

**Keywords:** feeling of security, fear of crime, public transportation, Tehran.

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## **Evaluation of a Region-Based Management Plan Based on the Electronic Municipality Criteria with Vikor Model (Case Study: Districts 6 and 15, Tehran Municipality)**

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### **Extended abstract**

#### **Introduction**

Urban planners have recently paid much attention to the preparation and implementation of certain projects on neighborhood and region scales to make urban facilities available to all citizens in urban spaces. One of the most important projects is the region-based plan. The main objective of this plan is to achieve fast and easy services and easier access of citizens to municipal services. As a matter of fact, if an area-based plan approved by the municipality is favorable enough and correctly implemented, e-municipality will be effectively established. As for Iran, this plan was operationalized in the municipality of Tehran in 1952. Tehran municipality tried to implement the plan for the efficient management of the newly emerging metropolis of Tehran and the improvement of services given to Tehran residents.

In recent decades, various urban plans have been provided to develop the metropolitan regions of Tehran, but they have not been evaluated by the corresponding organizations. In fact, after an urban plan is implemented, it is better to evaluate the plan based on proper criteria. It is clear that various types of urban planning have a great impact on different aspects of public lives, including income, employment, well-being, housing, health, education, social relationships, comfort, environment, personal security, and peace. Therefore, it is necessary to evaluate urban plans based on appropriate indicators.

Urbanization is occurring rapidly throughout the world, and soon the dominant model of human habitation will be performed in urban life. The increasing urbanization has many consequences, including an increase in the number of cities, population of cities, urban population of a country or a region, and the physical-spatial surface occupied in cities. In fact, the physical expansion of cities, which is nowadays significant in academic research, is gaining increasing importance due to its effects on other aspects of life and leading to stability or instability. These problems associated with the growth of urbanization in Iranian cities, especially in a metropolis like Tehran, have had undesirable consequences. The objective of the study is to evaluate the area-based plan based on the criteria of the electronic municipality.

#### **Methodology**

In the analysis section, Fuzzy Delphi method and expert opinion were used to identify the important indicators. Using the path analysis and confirmatory factor analysis and structural equations, the research indices were analyzed in terms of importance and impact. Using the

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VIKOR decision-making technique, the areas of districts 6 and 15 were ranked in terms of the area-based plan and e-municipality management indicators. The statistical population of the study is consisted of two statistical societies. The first statistical population is 8 members of the Department of Information and Communication Technology of the Municipality, which have 5 to 15 years of experience in the field of ICT and are employed in management positions. The statistical population of the second part is the employees working in the specialized units of the districts of 6 and 15. In this study, the sample size was determined based on the Kurdish and Morgan tables with a 95% confidence level and a margin error of 5% with a population of 700 people, equivalent to 248 people in the area. Data were analyzed using SPSS, SPLS software and the maps were produced by ArcMap Geographic Information System (GIS).

### Result and discussion

Based on the leveling of the areas based on the Viktor model, the status of the area of the district 6 is better than that of district 15, because the two regions 1 and 5 of this region are ranked 1 and 2 and have a very high score among all districts. Three districts of 3, 2, and 6 have an average score and only one score is too low. The Municipality of District 15 has three upper and lower boundaries (1.6 and 8), an average area of 3, three lower zones (5, 2 and 4) and a very low area.

### Conclusion

The analytic study of such variables as human, social, cultural, hardware, and software aspects as well as geographic and spatial resources indicated that they can influence area-based management plan implemented based on e-municipality criteria. There were, indeed, positive significant relationships found between them. However, there was no significant relationship in the case of the economic aspect. Since one of the most important objectives of urban plans is to provide high-quality services to citizens, it is recommended to establish continual appointments between managers and citizens so as for managers to get acquainted with citizens' views on the improvement of affairs. As the results of the impact of the area-based plan on the electronic municipally show, it can be concluded that in order to influence the design in all the criteria, it should be done to change the attitudes of managers and experts towards the design of the area-based plan, so that the main concern of all employees is the effort. In order to achieve the policies and objectives of the plan according to the current needs of citizens, it is necessary to know and to try to improve these attitudes. This will encourage executives and professionals to gain the goals.

**Keywords:** area-based management, electronic city, electronic municipality, Vikor Model.

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## Evaluation of the Indicators of a Favorable Elderly City (Case Study: Tabriz City)

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### Extended abstract

#### Introduction

In order to overcome many problems faced by the elderlies in urban areas, the United Nations presented the elderly friendly cities. The elderly friendly cities are based on the WHO standards in eight urban open spaces, inland urban transport systems, buildings and public and religious sites, safety and ease of use, social participation and communication, social respect, cultural-recreational, and health-care. Each of these indicators will play an important and effective role in creating an elderly friendly city (WHO, 2007). Iran today is one of the very young countries in the world and more than 50% of its population is the people under twenty years of age. Population control policies and promotion of nutritional and health quality increased life expectancy. Thus, it is natural that in the next fifty years, it would contain one of the highest proportions of the elderly population in the world. According to the census of 2016, more than 6 million people (8.2%) of Iran population would be 60 years old (Iran Statistics Center, 2016). Tabriz City has also many elderlies like other cities in Iran. About 91.81% of the citizens of Tabriz city out of the total population of 1494998 people would be old people.

According to the World Health Organization (WHO), elderly friendly cities are among those urban areas where the distribution of public services is in such a way that they are fit to the needs and limitations of the elderly as possible. According to this definition, it is important to provide transportation services, administrative affairs, telecommunication networks and media communications, construction of premises and urban architectural design, cultural and health services. In such cities, attention is paid to the needs of the elderly as a necessity in cultural indicators and interpersonal interactions (WHO, 2007). These indicators are including urban open spaces, public buildings and public spaces, transportation, safety and ease of use, social resilience, participation and social relations, health, culture and recreation (WHO, 2007: 69).

The elderly city of active aging supports maximizing the health, social and healthcare of the old people. The World Health Organization's World Guide for the Elderly Cities was published by the World Health Organization on the World Elderly Day of October 2007. This guide is set up through an study of 35 cities of the world by counseling the elderlies, managers and specialists in the elderly with the identification of important physical and social barriers to active aging. The Elderly Society is beneficial for all age groups. The safe environment for the elderly is undoubtedly safe for other segments of society as well. Buildings and unobstructed streets increase the mobility and independence of the elderly, thus helping the whole society to benefit from its partnership in both fortune and nonprofit as well as civil activities.

#### Methodology

This is an applied descriptive-analytical research in methodology. The data have been collected

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via documentary and survey. A questionnaire was used to collect data. The statistical population includes all people more than 60 years old based on the census of population and housing in 2016 in the districts 1 and 10 of Tabriz Municipality. Using Cochran formula, the sample size was 138 for district 1 and 138 for district 10, respectively. Then, questionnaires were distributed among the districts 1 and 10 of Tabriz municipality. Statistical analysis and structural equation modeling (SEM) have been used in data analysis. In this regard, the empirical findings of this study indicate that there is no significant difference between respondents in terms of gender and marital status and housing; but, there is relationship between the characteristics of the residential area (region 1 and 10 of Tabriz) and urban open-air indices with a t-value of -3.408 and a significant level of 0.001..

### Results and discussion

The results of this study indicated that there is a significant difference between the characteristics of the residential area (District 1 and 10 of Tabriz) and the desirable city indicators of the elderly. However, the results of measuring the significance of the difference in mean values of the indicators by the level of education and income showed that there is no significant difference between any of the studied indicators. However, in the field of daily activities, the conditions were slightly different, and we found difference between the average urban outdoor indicators and communication. Similarly, there is a significant positive relationship between all the indicators of the desirable city of the elderly in the alpha level of 0.05. The amount of communication and information impact on urban transport is equal to 0.55, the amount of urban open space impact on Inner city transportation is equal to 0.37, and the impact of civil participation on intra-urban transport is equal to 0.11.

### Conclusion

For an improved management of urban areas, it is essential to consider the needs, behavioral patterns and preferences of the elderly people in the design and refurbishment of urban public spaces such as streets, squares, parks, and etc. The urban furniture of this space can provide the basis for participation, presence and establishment of the social interactions of the elderlies. These spaces provide effective physical and spiritual well-being of the elderlies and the achievement of successful aging goals; therefore, urban elderly preferences should be considered in the design of urban spaces.

**Keywords:** Favorable Urban Indicators of the Elderly, Structural Equation Modeling (SEM), Tabriz.

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## Mental Mapping of the First-material Urban Space, A Comparative Study of the Residents of Formal and Informal Settlements in the City of Rasht

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### Extended abstract

#### Introduction

Historically, maps were used as an imperialistic instrument against various human societies. The mapping (cartography) was the “science of monarchs” used by governments and elites to seize and rule the lands and valuable resources. This is a science, the most common victims of which were the grassroots. Therefore, mapping was developed under the title of “Critical Cartography”, specifically in the capital cities in the late 80s and early 90s. It was in contradiction with the dominant tradition of mapping and was considered as an impartial and enlightened reflection of the environment. By investigating the maps of various communities, advocates of critical cartography tried to reveal the hidden plans behind the maps which were used as a spatial power tool. They believed that mapping by communities had a powerful impact on the entire society, especially on the deprived classes. That’s because they do have the opportunity for spatial thinking about their environment and, indeed, their community on the map. For the spatial-behavioral geographers, one type of the community-based mapping has been the mental mapping. This has been a graphic method of expressing the mental reality of space in individuals, i.e. the method by which one perceives a part of space. Therefore, this method represents the information individuals had about their living space, and this is a spatial or cognitive representation of space. Today, mental maps are used as an approach for the analysis of the urban space, thus, accelerating these studies around the world. The new methodologies and research methods in the science of cartography have directed the approach of mental mapping studies towards the environmental and spatial analysis. Today, urban mental mapping by the communities with a spatial science approach can be effective for urban planners. They can be used to investigate the spatial patterns of various urban groups such as children, the disabled, the elderly, and etc. to enhance the quality of urban life. Comparative study about the mental maps of social classes of the formal inhabitants of District 1 and informal inhabitants of District 4 in the city of Rasht, attempts to obtain the perceptual analysis results of the first-material physical space of these two communities to achieve the spatial justice. These two urban social classes in the city of Rasht had different spatial, historical, and social approaches toward the context of the city. This study tries to investigate this discourse with respect to the physical space of the city.

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### **Methodology**

The qualitative approach of this research attempts to address mental mapping of the city by the inhabitants. The sample size taken from the statistical population included the formal inhabitants of District 1 and informal inhabitants of District 4 in the Rasht City. Given the qualitative nature of the research and the literature background, the sample size was 60 individuals of the formal inhabitants of District 1 and 60 informal inhabitants of District 4. Sampling was performed in this study based on theoretical sampling. Semi-structured interviews and observation were used for data collection. We have used GIS capabilities to analyze the interviews, discussions, notes, and photos. Coding was performed by ATLAS.ti software. After coding and inputting the data, the geo-visualization of 3D Density Surfaces was used to analyze the data.

### **Results and discussion**

According to the study about elements of the first-material urban space of Rasht, the results showed that the differences between the physical elements of the city in the mental map of the formal and informal inhabitants were corresponding to the consumption culture of these communities. The elements in the mental maps of the informal settlements are very primitive and are mainly the characteristics of their area of life and their daily needs. In this part of the city, the landscapes include industrial factories, workshops, small stores, tea houses, butchers, etc. These elements represent the daily lives of these inhabitants with respect to their occupation. This indicates how the lives of these inhabitants are interconnected with these physical sites. These inhabitants are employed in the factories, workshops and manufacturing industries and have a strong relationship with their local living space to spend their non-free time.

In contrast, the urban elements such as malls, recreation centers, healthcare centers etc. have been built in the District 1 with new architecture through the private sector investors. This is in accordance with the consumption culture of the community in the district. Descriptions of stores, malls, airports, highways etc. in the mental maps of the formal inhabitants are signs of a modern, fast-paced society. These localized placelessness do not acknowledge the real cultures of the city, and many places can be found in the mental maps of this urban class, which are compatible with placeless theories.

### **Conclusion**

In the analysis of the first urban space in the mental map of the residents in the Rasht, it can be argued that a kind of space is being formed through an innovative embodiment of the capitalism in the built environment. Today, the urban spaces of Rasht can show the financial consumption pattern, i.e. they involve the inhabitants in monetary issues and direct them to move from the human relations to rational ones. The first spaces have become rational and material, and they do not develop art and emotions. Gradually, residential, healthcare, recreational, and other complexes can form the meaning of the different sites of the city. The commercial areas have become an important place in mental maps and they replace the actual city. Maybe the presence of physical and commercial spaces seem to be natural in the city in the first place, but looking at the current state of the mental maps of informal residents, it is obvious that the current physical space can make it impossible for many people to enter certain areas of the city due to their being increasingly commercialized. Commercialization of the general physical environment leads to the disappearance of the space in which various social groups can meet their daily work regardless of age, income, religion and racial background.

**Keywords:** Spatial-Behavioral Geography, Mental Mapping, First-Material Space, GIS, Informal Settlements, Rasht.

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## Spatial Analysis of Environmental Conditions for Urban Agriculture in Tehran Metropolis (Case Study: District 5)

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### Extended abstract

#### Introduction

It was estimated that, by 2050, the world's population would be around 9 billion, of which two thirds would live in cities. Due to this increase in urban population, there should be a detailed comprehensive plan for food security and food supply for this growing population. In response to this need, urban and agriculture planners introduce a kind of farming called "urban agriculture." The purpose of creating agriculture in the city is to plant and produce micro-food products with easy and minimal facilities. One of the challenges of urban agriculture is that urban agriculture is traditionally neglected in urban planning. The urban agriculture, for many urban planners, remains a rural activity that has entered the city with urbanization and is just a nuisance. Urban agriculture can be expressed in two vertical and horizontal spaces. Accordingly, the purpose of this paper was to explore the potential of urban agriculture horizontally in the 5th district of Tehran municipality. The benefits of urban agriculture include organizing community development, improving land consolidation, reduction in the family budget, improving the quality of the climate, social cohesion, economic development, and protection of the green space.

#### Methodology

The 5th district of Tehran municipality has a total area of 54136 hectares in the northwest of the city. The area from the north is limited to the highlands of northern Tehran, from the east to the highway named Ayatollah Ashrafi Esfahani - Mohammad Ali Jenah, from the south to the special road of Karaj and from the west to Can's waterway. The slope criterion was created using the Digital Elevation Model (DEM) of District 5 and the distance to water wells using Euclidean distance by ArcGIS. Euclidean distance is the direct distance between two points, which in fact is the size of the shortest line between the two points. After reviewing the internal and external resources, we determined the Markgraf and Kay model based on the area of the vacant lands with agricultural potential, so that it could be used as a basis for classifying the 5th district and each vacant land with a designated specific use in urban agriculture. Using the minimum and maximum temperature data, we managed to produce climate condition maps of Tehran province (1996-2014) by ArcGIS.

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## Results and discussion

Using land use adaptation matrix, it has been determined that some users (agricultural land and garden, leisure activities: parks) are incompatible with utilities such as industrial facilities and installations. Thus, if we consider the vacant land as two productive and leisurely alternatives, they will be in a state of incompatibility with the use of installations and industrial facilities. Therefore, in the ArcGIS, the separation of vacant lands in the vicinity of two industrial facilities and installations was undertaken. Using land use classified information based on the type of dominant function and components; we determined the height of buildings in the 5th municipality of Tehran. Then, with the aid of the computational method we obtained level of building shading in meters. The spatial analysis of the studied criteria suggests that vacant lots with the slope of 0 to 21.9 percent and 168.66 hectares in area, show the distance to water wells with a radius of 262 meters for agriculture in the 5th district of Tehran. Vacant lands were located beside industrial facilities and installations. They were identified incompatible with a total area of 4,363 hectares. In general, the northern parts of Tehran's five districts have low temperatures and southern parts of this region have high temperatures. In the east and west directions of the buildings, due to the high level of shading, it is necessary to cultivate shade-loving plant species in the direction of the south buildings. Due to the low shading level, it is suitable for the sun-loving plant species. The results showed that in the east and west directions of buildings, due to the level of shading, the shade-loving plant species such as lettuce, chicory, mint, spinach and leaf cabbage can be planted for spring and autumn, and in the south buildings due to lower shading levels, it is suitable for the spring and summer harvesting of sun-loving species like tomatoes, corn, cucumber, eggplant, pepper, and beans.

## Conclusion

By integrating slope layer, distance to the water wells, the Markgraf and Kay, vacant lands, and land degradation, it has been determined that vacant lands with the potential for farming in the center of 5th District have a higher density and less area. The domestic studies on urban agriculture have been descriptive and limited to statistical methods and spatial analysis. What comes from domestic studies is less attention to environmental conditions and legal issues of land for farming in the cities, which has been dealt with extensively in previous studies. This study suggested a method for finding the potential areas for cultivating different crops in urban areas. It is hoped that more precise measurements of meteorological variables in future studies improve these works more accurate.

**Keywords:** Urban Agriculture, Spatial analysis, Bare lands, District 5 Tehran.

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## Identification and Leveling Related Factors in Urban Livability (Case Study: Tabriz Metropolis)

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### Extended abstract

#### Introduction

The fundamental prerequisites for planning to improve the quality of life and increase the level of sustainability in different societies can provide and affect the urban livability. These factors play a large part in the strategic planning of the government. One of the most important factors that affect all aspects of urban life, especially urban livability, is economic factors such as reasonable income, proper job, appropriate housing and so on. In each society people are satisfied with the situations of access to living conditions, the level of life expectancy and consequently the progress in the quality of life in that society. Therefore, the aim of this present study is to identify the economic indicators affecting the livability of Tabriz metropolis, then leveling of these indicators, finally, designing a suitable model for Tabriz Metropolis according to its livability condition by using the Interpretative Structural Modeling (ISM) and the MicMac Technique. Thus, according to these goals, the research questions are:

- What are the most important economic indicators affecting the livability of Tabriz metropolis?
- Based on the Interpretive Structural Modeling, how a proper model can be designed according to Tabriz livability condition?
- Based on the MicMac technique, which economic indicators related to the livability of Tabriz, are autonomous, dependent, linkage and driver indicators?

#### Methodology

The study presents an applied descriptive-analytic method. This study is presented in three major steps: A) Identification of dimensions and indicators related to the economic dimension of livability (This is done by environmental scanning method; using online articles, books, dissertations, and other studies on prior livability variables in locating livable societies); B) Screening of criteria: according to the results of the first stage through the Delphi method, the most important economic indicators affecting Tabriz Metropolis's livability condition were identified; C) Determining the Relationship between Indicators and Types of Indicators (Modeling): At this stage, the questionnaire related to the livability was completed by the experts.

Then, by transforming the relationship matrix and creating compatibility in the relationship matrix, the ISM Graph mapped graphical relationships; also the type of indicators was analyzed by using the MicMac technique.

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### Results and Discussion

The most important economic indicators affecting the livability of Tabriz are: 1) enough income; 2) appropriate employment; 3) security job; 4) proper employment opportunities; 5) provide affordable housing; 6) the willingness of residents to invest in the region; 7) the willingness of private sector to invest in the region; 8) opportunity to earn money in the region; 9) the amount of savings; 10) the amount of providing Foodstuffs (meat, vegetable, and etc); 11) the amount of providing energy (gas, electricity); and 12) the amount of providing household goods (household furniture, textile products and soaps and cleaners).

Based on the results of the leveling by using interpretive structural modeling, the first level indicators are: The amount of providing Foodstuffs (meat, vegetable...) and the amount of providing energy (gas, electricity...). The second level indicator is the amount of providing household goods and affordable housing and the willingness of residents to invest in the region. The fourth level indicators are the willingness of private sector to invest in the region and the amount of savings. Finally, five indicators are enough income, appropriate employment, security job, proper employment opportunities and opportunity to earn money in the region as the fifth level.

### Conclusion

In this research, we have discussed about identification and analysis of the most important economic indicators affecting the livability of the Tabriz metropolis. The results of the study show that 5 indicators: 1) security job; 2) enough income; 3) proper employment opportunities; 4) appropriate employment; and 5) opportunity to earn money in the region, were the most effective indicators in improving the livability of Tabriz metropolis. Also, two indicators of the amount of providing Foodstuffs (meat, vegetable...) and the amount of providing energy (gas, electricity...) are the most influential (dependent) indicators of research. Also, the analysis of the results of the MicMac technique confirms the results of the ISM analysis according to the results of the Micmac technique. The driver indicators are enough income, appropriate employment, security job, proper employment opportunities and opportunity to earn money in the region. Therefore, exploiting a strong market economy is recommended in order to create a good job and investment in the region.

**Keywords:** Urban livability, Economic Dimension, Quality of Life, Tabriz Metropolis.

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## Knowledge Based Urban Development; Development of Strategic Map of Tehran Metropolis

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### Extended abstract

#### Introduction

The world today is increasingly dependent on the growth of technology and knowledge-based economics. In the knowledge age, the reliance on the new generation of knowledge, mainly in a technological and innovative way, has become a tool for adapting to changes and management of challenges. Knowledge-based economies also are in need for growth and development through increased competitiveness in the knowledge and technology sectors. As a result, urban areas, which are the main focal points for the development of knowledge economy, are changed by dynamic processes of economic and spatial restructuring. Knowledge Based Urban Development (KBUD) is a development pattern that seeks to provide competitiveness and sustainability in terms of productive and incremental nature of the urban economic knowledge. Cities, especially metropolises, are the optimal scope for interconnection between the urban knowledge for the purpose of KBUD. This article attempts to formulate a strategic map of knowledge based urban development of Tehran by using the resource-based perspective and strategic thinking.

#### Methodology

This research has a descriptive and analytical method due to the strategic nature of the study and an applied goal. Theoretical data were obtained by documentary method and experimental data using a survey based on Delphi method. A Delphi team has been selected using purposeful sampling. The criteria for selecting experts include theoretical profession, practical experience, willingness and ability to participate in research and access. From 14 to 20 experts participated in the Delphi. According to the above criteria, 20 experts from research centers and universities have been selected to participate in the research. Meta-SWOT and PESTEL analysis have been used to process information and provide KBUD strategies. The methodology of the article is descriptive-analytical and has a practical purpose due to its strategic nature. Theoretical data were collected by documentary and experimental data through the survey. In order to process the data and production of a strategic map, we used the meta-SWOT model and PESTEL analysis. The results show that Tehran's internal resources do not have the same significance in KBUD.

#### Results and discussion

Tehran has a number of sources and internal capabilities that, as compared to other internal resources, are invaluable and irreplaceable in the development and realization of the

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knowledgeable city. These factors include the science and technology parks, the industrial structure and the establishment of important industries, pioneering in the digital region, KBUD vision, active and expert populations, and elites and creative class. On the contrary, the weakness of research and development in urban issues, economic downturn, and lack of knowledge based economics, poor power of economic competitiveness and natural and environmental hazards are the major barriers and threats. The key role and place of these factors should be accepted by the policy and planning system and explained in the framework of the KBUD policy in order to activate the city's urban economics cycle.

The results of Tehran's strategic plan confirm that research in urban affairs is a valuable, rare, irresistible, and irreplaceable, and strategically suited. This factor contributes to sustainable growth and support the development of KBUD. Attracting foreign investment in urban projects has also a similar degree of urgency in the knowledge-based development of Tehran. From the perspective of competitiveness we have two dimensions (KBUD and sustainable urban development) and the cities of Isfahan, Tabriz and Mashhad are the major cities in the knowledge-based urban development. Since competitive cities are knowledge-based and creative cities, Tehran's competitive power should first be enhanced through the development of knowledge-based industries and creative industries. But in this regard, the production of space and the construction of space structures appropriate to knowledge base development for improving the quality of the urban environment, quality of life and urban habitat conditions can help to achieve the main and practical goals of the city's strategic plan. Obviously, the realization of the main objectives has an undeniable link with the housing policy, quality of urban infrastructure and the production of public spaces (with social function that is effective in attracting creative class).

### Conclusion

The successful transition of the Tehran metropolis to the knowledge-based economy, especially in national and international competition, requires long-term investment in education and innovation and modernization of the city's knowledge-based infrastructure. Outside of the national boundaries, Tehran's metropolis to go among global cities network depends on infrastructure capacity, competitive infrastructure, and structural and political barriers. Urban diplomacy is one of the capacities to facilitate economic integration for the export of knowledge-based products.

Urban planning should be criticized in theory and practice in order to accept the propaganda of knowledge development as a driving force for the urban development. City planning should provide the infrastructure for the deployment of services, construction of spaces and the development of knowledge activities in the urban spatial structure. The priorities of spatial deployment and functional requirements for the knowledge-based urban development are including establishing specialized technology poles in authorized zones (Knowledge industries), supporting the establishment of knowledge-based companies in appropriate areas, developing centers of innovation at the regions and neighborhoods level.

**Keywords:** Strategic Planning, Strategic Map, Knowledge Based Urban Development, Tehran Metropolis.

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## **Analysis of Factors Effective in the Reproduction of Urban Landscape Following the Reconstruction and Renovation of the Urban Fabric (Case Study: District 12 of Tehran)**

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### **Extended abstract**

#### **Introduction**

The urban landscape is the art of visual and structural integration that is spatially perceived by the observer. The subjective perceptions of residents of the urban landscape regeneration and the factors influencing these perceptions are of great importance. This perception is more sensitive to planning and designer interventions in the city's structure, especially in historical cities with valuable elements, history of mentality, and identity. Therefore, it is necessary to identify the factors affecting mental perception and residents' perception of space and urban landscape.

Urban landscape can be studied in three global, middle and local scales. In this study, with emphasizing the urban landscape, it is always related to urban interventions in city and its structure can affect the urban landscape and create an active and passive affection in people. In historical neighborhoods, this coordination and integration can be seen. However, active intervention in the decorated textures means direct intervention in the positive restoration or destruction of urban landscapes. Also, any intervention that adds this coordination will have a positive impact on the performance, and when interruptions and segregation between elements are created. It will influence on fabric function. On the other hand, the transformation of the city is influenced by the form of urban life. The relationship between the person and the urban space is shaped by the process of perception. This process first begins with an individual's perception of the city, which is itself influenced by the structure and the regarding relationships. In this stage, indoor space and urban open spaces are shaped by the spatial and functional layout of urban elements (public buildings, special monuments, and urban spaces). But in the second, the objective continuity of its image and its sustainability over time forms a purely mental structure from the landscape of the periphery.

In this study, we explore the relationship between urban spatial structure and dwellers perceptions of urban landscape in the District 12, Tehran, Iran. The District 12 was selected as the main focal point of the construction and organization of the city in the historic period and the starting point of the formation of Tehran's skeletons. According to the research hypothesis, any Intervention in the historic texture can affect directly dwellers perceptions of urban landscape. Therefore, the positive restoration can enhance spatial characteristics of urban fabric and make better understanding of cognition of urban landscape.

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### Methodology

In this study, we employed a two-step mixed approach: First, a qualitative method with Delphi technique was used to specify sub-criteria and then 500 members in the District 12 were interviewed using a Likert-based questionnaire.

Then, the exploratory Factor Analysis (FA) technique was used to diagnose the factors affecting the urban landscape from viewpoint of users. The FA is a method for analyzing the issues where the goal is to summarize the data and convert them into the main factors, without losing the original data. In FA, the goal is not to establish a relationship between dependent and independent variables, but the dependence between the factors and components of the research is measured. Through this technique, the hidden connection is established between all the variables and ultimately the most effective factors have more explanatory power than others.

The main reason for choosing the district 12 is its importance in the metropolitan structure and the presence of historical and modern elements. The district 12 is included as the main part of "historical center" of Tehran in Qajar period. Today, because of the establishment of multiple services in metropolitan scale, as well as the allocation of vast surface areas to regional land uses, this district can be considered as the gravity center of Tehran.

The city's historical core contains the areas of the Bazaar, Oudlajan, Sanglan, Imamzadeh Yahya, Cyrus, Khan Abad and Shoush as a decorated district in heart of Tehran. In the last decade, renovation and rehabilitation of inefficient tissues have been considered as main strategy in urban planning and design projects; but due to the prevalence of commercial and office applications, urban renewal has also been accompanied by modernization and reconstruction of commercial and office centers, with great changes in urban landscape.

### Results and discussion

The results of Delphi analysis indicated 36 items for 9 sub-criteria extracted from the previous studies. This survey showed that the elevation in both modern and historic buildings was not positively evaluated. Also, the results of the exploratory factor indicated that all the terms could be found in the 10 final factors, which explain more than 65.8% of the total variance. Based on the results of this study, the perceived components of urban landscape from a resident and active perspective include visual attractiveness, ease of access, legibility, diversity and harmony, reduction of visual disturbance, attachment, adaptability, and the variety of ultimate determinants affecting the urban landscape regeneration. Therefore, it is suggested to focus on refining the structure of these factors using the public participation.

### Conclusion

In this study, this definition of Cullen, with visual experience as the starting point in understanding the overall perspective of the city, has been confirmed and identified as the most important factor justifying the largest share of variance. In the second, attractiveness and beauty, the individual's perceptions of ease of access to urban spaces and neighborhoods play an effective role. The first two factors account for about a quarter of the effects of the variance. Then, factors of Intelligibility, harmony and diversity, visual disturbance and attachment to the neighborhood have great influence on the individual's mental image in urban landscape reproduction. However, according to descriptive information obtained from the study, most people believe that beauty, proportionality, visual diversity, visual disturbance and harmony in the neighborhood and the urban environment have something to do with urban landscape planning. Accordingly, renovation and rehabilitation, as the goals for improving the urban landscape can reduce the spatial disturbances. It has failed to reproduce the order and proportion of the body and urban space. Based on the findings, the urban landscape reproduction from the mental dimension is most influenced by the urban space factors that at the moment come to the observer's view.

**Keywords:** Urban landscape regeneration, urban landscape, components of the urban landscape, District 12, Tehran.

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## Assessment of Educational Capacity of Urban Managers by Structural Equation Method (Case Study: Middle Level Managers in Zanzan Municipality)

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### Extended abstract

#### Introduction

Human resources are one of the main drivers of public sector modernization, and its strengthening is one of the strategies for improving of organizations performance. They are the most valuable assets of an organization in comparison to machinery, materials and even money. The development and updating of human resources requires continuous and effective training. It is the systematic development of knowledge, skills and attitudes that all employees of the organizations should have sufficiently to do their job or tasks. In the meantime, urban managers generally and municipal managers specially have more impact on the quality dimensions of physical, social, economic and environmental issues of cities. Therefore, more than any other organization, municipality organization needs the necessary and continuous training based on real needs at different levels of management. Understanding and identifying the managers training needs and assessing them in different levels of training, as one of the most important tools in empowering human resource, can reveal an educational gap and facilitates the effective and quick decision making.

This research has been designed to examine the existing educational capacity and educational evaluation of active urban managers in the municipality field (in particular, the Municipality of Zanzan) to make the needs of urban managers in three dimensions including: developmental, complementary and problem solving clearly by understanding communications and different training dimensions.

In the sense of content, urban management is considered as a public authority and in a procedural one, it is considered as a particular function that goes beyond the public administration. McGill introduces the primary definition of urban management as a form of wage in other words, the distribution of resources through the use of strength to meet the needs of society. Rakodi considers the urban management as a strategic responsibility with operational consequences that seeks to meet the daily needs for city and business activity.

One of the urban management bases is municipalities that are considered as the operational section of urban policymakers, especially city councils. Currently, 75% of the urban population in Iran are located in 1260 urbna regions managed by the municipalities. One of the dimensions of improving and empowering the management is continuous training of human resources and understanding the needs for type, level and amount of training.

Important patterns in training capacity needs can be found in the Dacum Model, Standard Skills, Rumpler, Ford, Rowst, Paco (PAQ). The Dacum model is a method for analyzing a job

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which is conducted by a facilitator in a workshop consisting of several individuals. In the Pako model (PAQ), the evaluation method is based on predefined questions about the work conducted for each job. In the standard skill method, the skills of individuals (managers) consider three levels of familiarity, ability, mastery, and training in three areas of knowledge, skill and attitude. In Rommel's model, the need-assessment process emphasizes on how the job impacts the organization and customers, the main output of the job, the job responsibilities and its importance, the required knowledge and skills, and necessary training. In the pattern of Hassanzadeh Baranian, we used the components of developmental, complementary and problem solving needs for the educational needs assessment of middle managers.

### Methodology

The present study is a descriptive-analytic investigation with a practical applied quantitative survey in the form of structural equation modeling (path analysis). The statistical population consists of middle level managers of Zanjan municipality, about 200 management positions. The sample size achieved about 127 people based on the Morgan table. A total of 130 questionnaires were distributed among the target community. Research variables include three main components of developmental, complementary and problem solving needs, each of them has 10 indicators. Collected data in the SPSS are analyzed using the structural equation model (Path analysis).

Based on the results of the path analysis, the effects of the developmental need variable on educational capacity are obtained 0.884 in SPSS. Investigating t-value for a meaningful explanation of the relationship between developmental needs and educational capacity at 95% confidence level indicates that the obtained significance level is 21.34, since it is higher than 1.96. So, there is a significant relation between these two indicators. The coefficient of determination (R<sup>2</sup>) is also 0.782, which indicates that about 78% changes in managers' educational capacity are determined by this factor.

The path analysis model indicated that the effect of elementary educational capacity variable on the manager's educational capacity variable is 0.870. The significant value obtained (t-value) is also 19.85 which indicates a significant relationship with the positive direction of the two variables.

The study of the type relationship between these two variables of the managers' educational capacity and the capacity of the educational needs for solving problem in the middle managers of Zanjan municipality in the structural equation model (path analysis method) showed coefficient of 0.887 for the path. The significant value between the variables (t-value) is 21.71 and the coefficient of determination (R<sup>2</sup>) is 0.79 in this subject. Therefore, the effects of variable problem-solving capacity on educational capacity of managers are 89%, the type of relationship is significant and the amount of changes in determination of educational capacity is equal to 79% for the analysis.

Based on the findings, there is a significant relationship between the components of capacity development, complementary, and problem-solving needs with the educational capacity of the middle managers of the municipality.

On the other hand, the indicators of the three variables are developmental need capacity, complementary need, and problem solving need. They indicate that most indicators have higher value than the standard set (i.e., 3). However, the indicators that are relevant to futures and strategic planning, continuous education, supply, maintenance and creativity have values lower than the standard set.

### Conclusion

The results of this research have revealed that developmental, complementary and problem solving capacity variables have a high impact on educational capacity of managers and that they have close relationship with each other. The effects of these variables on the educational capacity of urban managers based on the coefficients are derived from the structural equation

modeling (path analysis). Previous studies also indicated that the problem-solving, complementary and developmental variables have relationship with each other. The studies show that most of the mid-level managers considered the 30-dimensional indicators in association with the variables of standard normal limits, which will be lower than normal if the indicators are not updated and refreshed through training. On the other hand, in mostly predictive and prospective indicators, the educational capacity of the managers is lower than the standard, which has led to the usual management of the current situation without regarding the long-term future.

**Keywords:** Capacity, Urban managers, Education, Municipality, Zanjan.

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