Comparative Investigation about the Quality of Urban Streets of Tehran Based on the Criteria of Excellent Streets (Case Study: Enghelab, Keshavarz and Fatemi Streets)

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Extended Abstract

Introduction

The increasing growth of urbanization in the recent decades and occurrence of most of the economic and social activities of human being in urban environments made the cities as a place in which a citizen spends much time and it is also one of the effective and important places in which the majority of memories, experiences, and emotions are formed. Thus, cities play important role in cultural construction and formation of individual and social personality of human being. Public spaces of city as composed of two elements of street and square are considered as the most important part of cities in which most routine activities of people are occurred and they play the important role in formation of their social personality. As urban streets cover 75% of cities, they are raised as the cultural symbol and defining the economic, social and cultural structure of city. Sometimes, they are the civil life position of city and occurrence of social activities of citizens in urban life and they are of great importance. Thus, organized design and their development make the social and cultural life quality of people more enriched. Today, the role of urban streets is weakened as a place for social interactions, visits, contacts and the gathering place of citizens. This is due to the development of motorized vehicles. This also turned streets into vehicle-based streets and they play the role of communicative space. To evaluate the quality of urban streets, based on the effective factors from the view of urban planners and considerable studies in this regard and the views of experts, Delphi method is applied to collect their views. This attempts to measure 4 indices and 16 components as the criterion of selection of components, their share components from the view of theorists in this study. These indices and components are shown in Table 1.

Table 1. Effective indices and components to create excellent street

Service and welfare	Environmental	Social and cultural	Aesthetic principles	Indices
Furniture	Vegetation	People-based	Lighting	
Availability	Climatic comfort	Safety and security	Vitality	
Hygiene	Environment-friendly materials	Identity and belonging	Perception	**Components**
Comfort	Appropriate disposal of runoff	Iranian-Islamic symbols	Alignment	

Study area

Enghelab, the distance between England square to Valiasr intersection, Fatemi streets, the distance between Fatemi square to Fatemi intersection and Kargar Shomali and Keshavarz, the distance between Valiasr square to

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Keshavarz intersection and Kargar Shomali are located in one of the most crowded townships of Tehran City. Suitable design and improvement of these regions and also design and improvement of urban street consistent with the designing principles can meet the economic demands by increasing competitive capability of the city from economic aspects and absorbing the investors. Also, it is a key factor to improve the emotions and morale of the residents (increasing life quality) and it is an exact criterion for pathology of urban development and it has necessary requirements as the case sample to be investigated.

Methods

The method of the study is descriptive-analytic with field work. At first, the theoretical framework of this study is based on data collection of library resources, article and internet references. To identify the studied site, field study is performed by aerial images and maps. To complete the required information, the existing condition (environmental, structural and perspective) is recognized by observation and questionnaire. This study applied AHP method to determine the weights of indices and effective components to achieve excellent street in urban space by Delphi method. Then, 11 Expert choices were used for data analysis. For data collection, the pairwise comparison of the indices and components is done through 34 faculty members and experts specialized in urban planning, environment design, green space design and environment engineering. Their valuation is based on their experiences and studies. Later, these indices and components are evaluated by citizens including pedestrians and shop owners in three streets of Enghelab, Fatemi and Keshavarz.

To evaluate the effective factors on creating excellent streets, a questionnaire is distributed among the samples. In each of 3 streets, 100 questionnaires and totally 300 questionnaires are distributed randomly among the citizens in spring. The number consist 5% of the population of users and employees to compare these three streets with the criteria of urban excellent streets.

It can be said the scores are given to 30 questions designed by Likert design from the citizens. The items are consisting very low, low, average, good and very good to evaluate the questions. Then, to compute and summarize the scores, the following formula is used.

$$N = \frac{\dfrac{\sum_{i=1}^{n=100}}{n} \times \sum_{i=1}^{n=4}(k_i \times s)}{k}$$

N = The sum of score of each index

$\dfrac{\sum_{i=1}^{n=100}}{n}$ = The mean of scores of 100 questionnaires

k_i = *Component weight*

S = Index weight

K = Number of components

Finally, the sum of the mean of scores is added and again averaging is achieved to perform the prioritization of each of the streets based on their score mean.

Results and Discussion

After the investigation of the indices and components by 34 experts, field study is performed for the case samples. Later, the results of the survey and information are analyzed. By the sum of the views from 100 respondents in each street, Keshavaraz Street by the mean score of 0.207 had good quality compared with Fatemi Street with mean score of 0.165 and Enghelab Street with mean score of 0.154. The analysis of social and cultural component of the streets showed that Keshavarz Street with mean score of 0.282 compared to Fatemi and Enghelab streets with those of 0.219 and 0.196, respectively, had relative superiority. Based on the results, the service and welfare component of Keshavarz Street with the mean score of 0.278 showed high values compared with Enghelab Street with mean score of 0.228 and Fatemi Street with 0.219. Here, environmental component of Keshavarz street with mean score 0.163 compared to Fatemi and Enghleab streets with the mean scores of 0.150 and 0.116 had relative superiority. Finally, aesthetic component showed that Keshavarz Street with mean score of 0.084 compared to Enghelab with mean score of 0.077 and Fatemi with mean score of 0.075 had better condition. The results of these evaluations in three streets of Keshavarz, Fatemi and Enghelab showed that Keshavarz street with the mean score 0.207 compared to Fatemi streets with the mean score 0.165 and Enghelab with mean score 0.154 had good quality

Conclusion

Generally, in this study, at first the effective factors on quality of urban streets are investigated, then, they are evaluated in three streets of Keshavarz, Fatemi and Enghelab. Finally, social and cultural indices in four

components in these three streets were not in good quality and by improving the quality of these components, they are considered as the most important components to create excellent urban streets. According to the welfare services index, Enghelab and Fatemi streets had problems in three components of hygiene, furniture and comfort and by improving their quality, we can be hopeful about the total improvement of quality of these three streets. With environmental index, Enghelab and Fatemi streets had not good quality in four components. By improving their quality, we can increase the quality of these two streets. On the other hand, Keshavarz Street has good quality in terms of vegetation and climatic comfort and by improving the appropriate disposal of runoff. Using environment-friendly materials in this street, we can increase its quality. With aesthetics, all components had low quality in the three streets and to increase the quality of these streets, we should improve them.