Explanation of functional factors affecting the success of public spaces and providing a model for assessing success through its functional dimension
(Case study: Imam Khomeini Street, Tabriz, Iran)

V. Moradi Masihi¹, A. Modiri², N. Rashidpour³*, A. Zoghi⁴

Received: January 2014, Revised: April 2015, Accepted: October 2015

Abstract

The conditions that different cities including Iranian cities are confronted with makes the creation of successful public spaces a necessity. It is clear that for creating suitable public spaces, first one should understand the factors influencing the space and simultaneously find solutions to spatial problems through understanding the environment. In order to arrive at the factors that influence the success of space, important theories about this subject matter were reviewed. These sources include writings by White, Montgomery, Jacobs, Gehl, Carr, Oldenburg and the experience of renowned international institutes. Finally a model for space evaluation based on place game model of PPS institute was presented. The methodology of this research is testing and verifying theory and to do this the Correlation Test was used. At first, the factors influencing the success of public spaces are categorized as “comfort”, “activity”, “access”, and “socialability”. These factors were deducted from the place model and place game checklist of PPS institute and the theoretical framework presented in this paper. Then, by means of critical observation, questionnaires, the Llewyn Davies scale and field survey techniques, data was collected to satisfy the requirements of the place evaluation model. In order to analyze the spatial success of Imam Khomeini Street in Tabriz, the interpolation model of GIS software was used. The result showed that Abresan Street is the most successful section with Saat, Mansoor and Golestan sections following respectively. The results of the investigation shows that from the highlighted factors “comfort” and “image” are the most important requirements for the success of public places.

Keywords: Successful public space, Function, Access, Socialability, Activity, Image.

1. Introduction

Public space is a mix of the physical milieu with various activities whose purpose is to show the social life visible for all [1]. All parts of an urban fabric which are accessible physically and visually for all are considered as public space. They are the most important parts of towns and cities in which the greatest amount of contact and interaction among people takes place [2].

The development of public spaces will depend on the existence of public life. The forces that shape public life can bring a broader understanding of the factors that influence the vitality of public spaces. These general forces are: (1) the environmental characteristics of the public space (which include climate and topography), (2) socio-cultural characteristics of the community, (3) functional and physical characteristics of public spaces, (4) political and (5) economic (6) recreational and (7) the health needs of society [3]. Urban planning and design in a variety of scales can have an effect on the political, economic and recreational patterns through affecting functional and physical characteristics of public space.

This paper focuses on the functional dimension of urban design, which involves how places work and how urban designer can make better places. The social usage and visual traditions of urban design thinking has a functionalist perspective. The former concerned the functioning of environment in terms of how people used it, while in articles, the human dimension was often abstracted out and reduced to aesthetic or technical criteria such as traffic follow, access, or circulation [4].

In public spaces, the presence of users is not the only sign of success. A successful public space attracts different levels of activity. Whyte reminds us that: “the best-used places are sociable places, with a higher proportion of couples than you find in less-used places, more people in
groups, more people meeting people, or exchanging goodbye”. A high proportion of people in groups is an index of selectivity. When people go to a place in two or three or rendezvous there, it is most often because they have decided to. These sociable places aren’t less congenial to the individual. In absolute numbers, they attract more individuals than do less-used spaces.

The best-used places also tend to have a higher than average proportion of women. “If a plaza has a markedly lower than average proportion of women, something is wrong. Where there is a higher than average proportion of women, the plaza is probably a good one and has been chosen as such [5].”

Jan Gehl in his book “Life between buildings” presents social activities in public spaces as the most important factor for a successful public space. He believes that something more than architecture and planning is needed for extending these kinds of activities. In fact, physical framework does not have a direct influence on the quality, content, and intensity of social contacts. Gehl mentions that social activities mainly relate to the common interest in economy, politics and ideology between users of public space, but architects and planners can have an effect on the possibilities for meeting, seeing, and hearing people - possibilities that both take on a quality of their own and become important as background and starting point for other forms of contact [6].

According to Gehl, a successful space has a high range of social activities in different intensities and at least users have eye contact [6]. There is a direct relation between necessary, optional and social activities with quality of outdoor areas. This means that when the quality of outdoor areas is good, optional activities occur with increasing frequency. Furthermore, as levels of optional activity rise, the number of social activities usually increases substantially [6].

In successful spaces, the spectrums of social and optional activities are more predictable. Repetition of use and duration of staying in space has a direct relation to the success of space. Increase of staying time and repetition of the use of space affect the frequency of meeting and speaking and result in the increase of social activities [6]. Finally, as Montgomery explained, successful urban places must combine quality in three essential elements: physical space, the sensory experience and activity [7].

2. Concepts, Theories and Theoretical Framework

According to Gehl, each improvement in the quality of city through giving more room to a much wider range of human activities, affects the number of users of public spaces passively and actively. Within certain limits - regional, climatic, social - it is possible to influence how many people and events use the public spaces, how long individual activities last, and which activity types can develop. On the other hand, for Montgomery, it is relatively straightforward to think of a successful place, and to experience it as such, but it is much more difficult to discern why it is successful, and whether similar success can be generated elsewhere [7].

According to PPS, ‘the community is expert’. People have an intuitive sense about what they need and we should try to provide a structure to help them find out what it is [8]. In order to become the expert at what they call ‘ergonomic of the place’ and to understand what makes street corner and plazas work, PPS learned to closely watch ‘how people come into a place, what they look at, where they stop’. For those like Whyte’s they use time-lapse photography and other methods to quantify pedestrian and automobile traffic pattern, but much of what can be learned about the place is through simple observation [8].

“PPS” like Gehl believes that for creating a successful public space, there must be somewhere to go and something to do, so success happens when the spectrum of human activities is presented in space. Based on a synthesis of research and ideas on the use and design of public spaces, Car et al. (1992) argue that, as well as being ‘meaningful’ (i.e. allowing people to make strong connections between the place, their personal lives, and the larger world), and being ‘democratic’ (i.e. protecting the rights of user groups and providing for freedom of action), public spaces should also be ‘responsive’ – that is, designed and managed to serve the needs of their users.

Among the human needs that John Lang (1987) argues in his book “Creation of Architectural Theory”, he identifies five primary needs that people seek to satisfy in public spaces: ‘comfort’, ‘relaxation’, ‘passive engagement with the environment’, ‘active engagement with the environment’, and ‘discovery’. Good places frequently serve more than one purpose [4]. It is important to examine needs, not only because they explain the use of places, but also because use is important to success. Places that do not meet people’s needs or serve no important functions for people will be underused and unsuccessful [1].

Whyte by addressing the similar results of Jan Gehl’s study of pedestrians in Copenhagen and Mattew Ciolek study of an Australian shopping center, concludes that despite the cultural and ethnic difference, the strongest similarities are found among the world’s largest cities. The people in these cities tend to behave more like their counterparts in other world cities than like fellow nationals in smaller cities [5]. By considering the scale variable, the factors that make a plaza or small space successful in one city also work in others [5].

Therefore, having these points in mind, the theoretical framework of this research is applied for the case study, which is the most important street in the city of Tabriz. Based on the findings of the literature review, there are many factors that influence the success of public space and they relatively depend on researchers’ attitude and expertise. In this section, according to the findings of the most important theorists of public space such as Whyte, Montgomery, Jacobs, Gehl, Car, and Oldenburg, as well as the experience of the famous international institute PPS, the influencing factors for a successful public space are categorized into four key attributes “comfort and image”, “access and linkage”, “uses and activity”, and “sociability”. Based on these factors, the questionnaire is produced. The conceptual framework of this study is shown in the table below:
<table>
<thead>
<tr>
<th>Table 1 Introducing the factors affecting the success of public space</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Visual access</strong></td>
</tr>
<tr>
<td>Space visibility from distance (Whyte [5], Carr [1], PPS [9])</td>
</tr>
<tr>
<td>The space should be the same level as the street level, or at most 3 feet higher or lower. (Whyte [5], Gehl [6])</td>
</tr>
<tr>
<td>Space visibility from adjacent buildings (eyes on the street) (Whyte [5], PPS [9], Jacobs [10])</td>
</tr>
<tr>
<td>Space visibility according to location of cars in adjacent of street? (Gehl [6], PPS [9])</td>
</tr>
<tr>
<td>Active street Frontage&amp; permeability (Whyte [5], Gehl [6], Montgomery [7])</td>
</tr>
<tr>
<td>Variety of transportation options provide access to the place [15]</td>
</tr>
<tr>
<td>Connectivity and continuity of sidewalks (PPS [9])</td>
</tr>
<tr>
<td><strong>Access and Linkages</strong></td>
</tr>
<tr>
<td><strong>Physical access</strong></td>
</tr>
<tr>
<td>Function of space for people with special needs (Whyte [5], PPS [9])</td>
</tr>
<tr>
<td>The linkage between street and space (Whyte [5], Jacobs [10])</td>
</tr>
<tr>
<td>Overall design relate to people's use (Whyte [5], PPS [9], Gehl [6])</td>
</tr>
<tr>
<td>Space accessibility for all types of economic classes (offering service of different kinds at varying prices and degrees of quality) (Montgomery [7], Oldenburg [11])</td>
</tr>
<tr>
<td><strong>Economical access</strong></td>
</tr>
<tr>
<td><strong>Psychological access</strong></td>
</tr>
<tr>
<td>Sense of place (Montgomery [7])</td>
</tr>
<tr>
<td><strong>Symbolic access</strong></td>
</tr>
<tr>
<td>Symbolic limitation or attraction (Carr [1])</td>
</tr>
<tr>
<td>Variety of primary land uses, including residential, Mixed use &amp; Mixed housing (Gehl, Montgomery [7], Jacobs [10])</td>
</tr>
<tr>
<td>Varying opening hours and stimulating the evening economy (Montgomery [7], Jacobs [10], Oldenburg [11])</td>
</tr>
<tr>
<td>Multi-function public space (Gehl [12])</td>
</tr>
<tr>
<td>Uniqueness of activities (Whyte [5], Gehl, PPS [9])</td>
</tr>
<tr>
<td>Specialness activity (Whyte [5], PPS [9])</td>
</tr>
<tr>
<td>Wide spectrum of social, economic and cultural activities (Whyte [5], Gehl [13], Montgomery [7], PPS [9])</td>
</tr>
<tr>
<td>Retail sales (Whyte [5], PPS [9])</td>
</tr>
<tr>
<td>Holding of event and activities (PPS [9])</td>
</tr>
<tr>
<td>Availability of cinemas, theatres, wine bars, cafes, pubs, restaurants and other cultural and meeting places (Montgomery [7], Whyte [5], Oldenburg [11])</td>
</tr>
<tr>
<td>Availability of spaces, including gardens, squares and corners to enable people-watching and other activities (Montgomery [7])</td>
</tr>
<tr>
<td>Third place accessibility (Oldenburg [11])</td>
</tr>
<tr>
<td>Property values (PPS [9])</td>
</tr>
<tr>
<td>Rent levels (PPS [9])</td>
</tr>
<tr>
<td>Local business ownership (PPS [9])</td>
</tr>
<tr>
<td><strong>Uses &amp; Activities</strong></td>
</tr>
<tr>
<td><strong>Sociability</strong></td>
</tr>
<tr>
<td>Mix of ages, ethnic groups and cultural groups (Gehl [12], Whyte [5], PPS [9], Jacobs [10], Oldenburg [11])</td>
</tr>
<tr>
<td>Comfort &amp; Images</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sense of safety</th>
<th>Protection against unpleasant sense experiences (Whyte [5], Gehl [12])</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Protection against crime &amp; violence (feeling of safety) (Jacobs [10], Gehl [12])</td>
</tr>
<tr>
<td></td>
<td>Protection against traffic and accident (PPS [9], Gehl [12])</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Pride (PPS[9])</th>
<th>Traffic accident</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fear of traffic</td>
</tr>
<tr>
<td></td>
<td>Other accidents</td>
</tr>
<tr>
<td></td>
<td>Street life</td>
</tr>
<tr>
<td></td>
<td>Street watchers</td>
</tr>
<tr>
<td></td>
<td>Overlapping functions- in space &amp; time</td>
</tr>
<tr>
<td></td>
<td>Wind / draft</td>
</tr>
<tr>
<td></td>
<td>Rain / snow</td>
</tr>
<tr>
<td></td>
<td>Cold / heat</td>
</tr>
<tr>
<td></td>
<td>Pollution</td>
</tr>
<tr>
<td></td>
<td>Dust / glare / noise</td>
</tr>
<tr>
<td></td>
<td>Appropriate trees &amp; planting</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Comfort</th>
<th>Room for walking</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Untiring layout of street</td>
</tr>
<tr>
<td></td>
<td>Interesting facades</td>
</tr>
<tr>
<td></td>
<td>No obstacles</td>
</tr>
<tr>
<td></td>
<td>Good surfaces</td>
</tr>
<tr>
<td></td>
<td>Using ramps instead of stairs</td>
</tr>
<tr>
<td></td>
<td>Avoid making stairs &amp; different level as much as possible</td>
</tr>
<tr>
<td></td>
<td>Attractive edges - &quot;edge effect&quot;</td>
</tr>
<tr>
<td></td>
<td>Defined spots for staying</td>
</tr>
<tr>
<td></td>
<td>Supports for staying</td>
</tr>
<tr>
<td></td>
<td>Zones for sitting</td>
</tr>
<tr>
<td></td>
<td>Maximizing primary and secondary sitting possibilities</td>
</tr>
<tr>
<td></td>
<td>Benches for resting</td>
</tr>
<tr>
<td></td>
<td>Seeing-distance</td>
</tr>
<tr>
<td></td>
<td>Unhindered views</td>
</tr>
<tr>
<td></td>
<td>Interesting views</td>
</tr>
<tr>
<td></td>
<td>Lighting (when dark)</td>
</tr>
<tr>
<td></td>
<td>Low noise level</td>
</tr>
<tr>
<td></td>
<td>Bench arrangements &quot;talk spaces&quot;</td>
</tr>
<tr>
<td></td>
<td>Invitation to physical activities, play, unfolding &amp; entertainment-day and night and summer and winter</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Volunteering (PPS [9])</th>
<th>Welcoming and stranger receptivity (Montgomery [7], PPS [9])</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level of contacts (Montgomery [7], PPS [9], Jacobs [10], Oldenburg [11])</td>
</tr>
<tr>
<td></td>
<td>Presence of people across different times of the day and nights (PPS [9])</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street by chance?</th>
<th>Do you usually make your appointment with acquaintances along this street?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Do you usually choose this place for talking with your friends?</td>
</tr>
<tr>
<td></td>
<td>Do you have a sense of pride for the space? In other words can you proudly tell others about the positive characteristics of this space?</td>
</tr>
<tr>
<td></td>
<td>Is there any opportunity for users to communicate with strangers?</td>
</tr>
<tr>
<td></td>
<td>Does this space make you feel good at first glance?</td>
</tr>
<tr>
<td></td>
<td>Does you have to spend a lot of time for crossing the street?</td>
</tr>
<tr>
<td></td>
<td>Do the presences of undesirable groups &amp; drug users disturb your feeling of safety?</td>
</tr>
<tr>
<td></td>
<td>Do the presence of thieves and gangs disturb your feeling of safety?</td>
</tr>
<tr>
<td></td>
<td>Do you feel safe when crossing the street?</td>
</tr>
<tr>
<td></td>
<td>Do you feel safe when crossing the street?</td>
</tr>
<tr>
<td></td>
<td>Do the presence of thieves and gangs disturb your feeling of safety?</td>
</tr>
<tr>
<td></td>
<td>Can you feel relax due to existing noise?</td>
</tr>
<tr>
<td></td>
<td>Does the space present a fresh and vital atmosphere?</td>
</tr>
<tr>
<td></td>
<td>Is the presence in this space memorable for you?</td>
</tr>
<tr>
<td></td>
<td>Is the surface of the sidewalk good for walking?</td>
</tr>
<tr>
<td></td>
<td>Is this space clean?</td>
</tr>
<tr>
<td></td>
<td>Are there any possibilities for sitting, standing/staying in the space?</td>
</tr>
</tbody>
</table>
3. Research Methodology

The main method of this research is testing theory, because of its experimental-theoretical orientation for identifying the most effective factors in the success of public spaces. The research principals of this study are presented in following tables:

Table 2 Introduction of research principals

<table>
<thead>
<tr>
<th>Main goal</th>
<th>Identifying the factors influencing the success level of Imam Khomeini street.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Question</td>
<td>What factors and indices are influencing the level of success in Imam Khomeini street in Tabriz.</td>
</tr>
<tr>
<td>Hypothesis</td>
<td>It seems that among the influencing factors, image and comfort are the most important factors</td>
</tr>
<tr>
<td>Case study</td>
<td>Four sections of Imam Khomeini St in Tabriz</td>
</tr>
</tbody>
</table>

After identifying the main goal, question and hypothesis in this study the methodology of examining the hypothesis is presented in Table 3:

Table 3 Research steps for testing the hypothesis

<table>
<thead>
<tr>
<th>Goal</th>
<th>Assessing the level of success in different sections of Imam Khomeini st in Tabriz</th>
</tr>
</thead>
<tbody>
<tr>
<td>Methodology</td>
<td>Evaluation research method for assessing the success of public space as introduced in Table 4</td>
</tr>
<tr>
<td>Data collection means</td>
<td>Deep observation. Questionnaire. Interview</td>
</tr>
<tr>
<td>Methodology</td>
<td>Excel software</td>
</tr>
<tr>
<td>Data collection means</td>
<td>The checklist for evaluating the success level of the street</td>
</tr>
<tr>
<td>Analysis method</td>
<td>Assessing the level of success at four sections of Imam Khomeini street through a questionnaire</td>
</tr>
<tr>
<td>Analysis process</td>
<td>GIS software</td>
</tr>
<tr>
<td>Analysis process</td>
<td>Extraction of descriptive data from questionnaire for analyzing by excel in order to fill in the checklist criteria</td>
</tr>
<tr>
<td>Result</td>
<td>Evaluation of success, according to given model</td>
</tr>
<tr>
<td>Result</td>
<td>Use of GIS software for geo-referencing the location of the questionnaire data</td>
</tr>
<tr>
<td>Goal</td>
<td>Identify the relatively successful sections of the Imam St in Tabriz</td>
</tr>
<tr>
<td>Methodology</td>
<td>Explanation of the most important factors influencing the success of Imam Khomeini street by using the results from the first stage of the study for verification of the hypothesis</td>
</tr>
<tr>
<td>Methodology</td>
<td>Correlation test</td>
</tr>
<tr>
<td>Data collection means</td>
<td>Questionnaire</td>
</tr>
<tr>
<td>Analysis means</td>
<td>Spss software</td>
</tr>
<tr>
<td>Analysis means</td>
<td>Excel software</td>
</tr>
<tr>
<td>Analysis method</td>
<td>Using Spearman test between success factors and level of success at four different sections of Imam Khomeini st.</td>
</tr>
<tr>
<td>Result</td>
<td>Identifying the most important factor influencing the success of Imam Khomeini st.</td>
</tr>
</tbody>
</table>
4. Selection of Case Study

By considering the type of public space, our case study was selected in a way that in addition to including varied functions it could provide us a comparison for the results and explanation of the most important factors affecting the success of public space. Such space must primarily include the potential for the absorption of people as an important precondition for success. The historic, cultural, commercial and official axes of Imam Khomeini st as the most important and affective east-west axes in Tabriz city with the most important historic buildings, main neighborhoods, railway station, Qonqa square, Shahnaz st, Tarbiat walk way, Shahrdari historical building, Kabood mosque, Abresan commercial st, Tabriz university and the most important cultural centers and historical residential complex provided us with the required features. It has to be noted that this street has been one of the most attractive and busy places in Tabriz since the Qajar period.

5. Sample Size and Sampling Method

Since the statistical population and sampling method size in this research is unlimited and the objective is the selection of samples, without any particular characteristic, the method used in this research has been simple random sampling. In order to obtain the sample size, the number 332 is calculated based on the maximum acceptable error at 95% confidence level. In order to collect the relevant data, 34 questions including 10 indices in the main four categories were selected and presented in five optional of likert. Descriptive background parameters in this questionnaire are shown in the following table. From 332 interviewees, 29% were in Imam Khomeini st., 25% in adjacent neighborhoods and 46% in other districts of the city.

![Location of Imam Khomeini street (case study) in the map of Tabriz](image)

**Table 4** Descriptive background parameters of the questionnaire

<table>
<thead>
<tr>
<th>Marital status</th>
<th>Education level</th>
<th>Period of residence</th>
<th>Gender</th>
<th>Age group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Married</td>
<td>Single</td>
<td>BA &amp; more</td>
<td>Native</td>
<td>More than 35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Junior college diploma</td>
<td>Male</td>
<td>35-55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Secondary school or no diploma</td>
<td>Female</td>
<td>18-35</td>
</tr>
<tr>
<td></td>
<td></td>
<td>More than 10 years</td>
<td></td>
<td>14-18</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 to 10 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Less than 2 years</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6. Examining the Hypothesis

For the evaluation and comparison between the success level of four sections of Imam Khomeini st. first, the place evaluation checklist were completed by using critical observation, questionnaire, Llewlyn Davies's scale and field survey techniques. In order to spatially analyze the success level of Imam st., interpolation model at GIS software was also used. After assessing the success level between four sections of the site, the Spearman correlation test was conducted to recognize the most important factors that influence the success of this street.
6.1. First stage: evaluating the success rate among four sections of Imam Khomeini street

Imam Khomeini street is one of the most attractive and busy places in Tabriz and large numbers of people use it everyday. Considering this fact, evaluation and comparison of four sections of Imam Khomeini street can help us explain and define the most important factors of its success. It should be mentioned that the street is divided by junctions and squares into four sections, each of which has different types of social and physical activities.

6.1.1. The first method: success evaluation based on proposed place evaluating model

After answering and attributing the score to model questions based on questionnaire, field survey and deep observation were also conducted. In order to prioritize each section according to overall success and success in each criteria, as "PPS" institute proposed in the "place game" model, the statistical indices (mode and average), has also been calculated. The calculated numbers only reflect the condition of each section relative to the others.

<table>
<thead>
<tr>
<th>Table 5</th>
<th>Success evaluation based on the proposed Place Evaluating Model at four Sections of Imam Khomeini Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criteria</td>
<td>Qualitative questions</td>
</tr>
<tr>
<td>Sociality</td>
<td>Level of voluntary activities in space</td>
</tr>
<tr>
<td></td>
<td>Level of contacts in space</td>
</tr>
<tr>
<td></td>
<td>Attraction of space for being selected</td>
</tr>
<tr>
<td></td>
<td>Level of Welcoming &amp; strangers receptivity</td>
</tr>
<tr>
<td></td>
<td>Level of being proud about space</td>
</tr>
<tr>
<td></td>
<td>Average of sociability score (sum of scores/5):</td>
</tr>
<tr>
<td>Feeling of safety</td>
<td>Mode of sociability score</td>
</tr>
<tr>
<td></td>
<td>Feeling of safety due to traffic accident</td>
</tr>
<tr>
<td></td>
<td>Possibility of crossing the street in short time</td>
</tr>
<tr>
<td></td>
<td>Possibilities of safe staying at street refuge in the time of crossing</td>
</tr>
<tr>
<td></td>
<td>Level of pedestrian priority at street</td>
</tr>
<tr>
<td></td>
<td>Level of feeling safety due to gang &amp; thieves</td>
</tr>
<tr>
<td></td>
<td>Level of feeling safety due to undesirable</td>
</tr>
<tr>
<td></td>
<td>Level of feeling safety after evening</td>
</tr>
<tr>
<td></td>
<td>Possibility of street for protection against bad weather</td>
</tr>
<tr>
<td></td>
<td>Plants compatibility with climate</td>
</tr>
<tr>
<td></td>
<td>Flat sidewalk without stairs</td>
</tr>
<tr>
<td></td>
<td>Availability of benches for rest</td>
</tr>
<tr>
<td></td>
<td>Quality of sidewalk coverage</td>
</tr>
<tr>
<td></td>
<td>Possibility of Sitting or staying at edges</td>
</tr>
<tr>
<td>Comfort</td>
<td>Availability of suitable places for sitting which are designed for other main function</td>
</tr>
<tr>
<td></td>
<td>Level of feeling comfort &amp; satisfaction</td>
</tr>
<tr>
<td></td>
<td>Level of street lightening at night</td>
</tr>
<tr>
<td></td>
<td>Possibilities for unhindered views</td>
</tr>
<tr>
<td></td>
<td>Low noise level for hearing and talking</td>
</tr>
<tr>
<td></td>
<td>Availability of suitable amenities (public telephone, information kiosk, recyclebin, …)</td>
</tr>
<tr>
<td></td>
<td>Level of street cleanliness</td>
</tr>
<tr>
<td></td>
<td>Level of memory representation at street</td>
</tr>
<tr>
<td></td>
<td>Level of street elements uniqueness (bus station,….)</td>
</tr>
<tr>
<td></td>
<td>Beautiful facade due to architectural-orientation</td>
</tr>
<tr>
<td></td>
<td>Beautiful vistas (fountain, sculpture,….)</td>
</tr>
<tr>
<td></td>
<td>Human scale of street without the feeling of float or enclosure</td>
</tr>
<tr>
<td></td>
<td>Average of comfort &amp; image score (sum of scores/25):</td>
</tr>
<tr>
<td></td>
<td>Mode of comfort &amp; image score</td>
</tr>
</tbody>
</table>
According to the results of the evaluation, the Abresan section has the most successful space followed by Mansoor, Saat and Golestan sections respectively.

6.1.1.1. Explanation the method of filling the place evaluation model questions according to questionnaire, field survey and deep observation

<table>
<thead>
<tr>
<th>Access &amp; linkage</th>
<th>Level of Space visibility from distance for walking</th>
<th>questionnaire</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Level of Space visibility according to location of cars in adjacent street</td>
<td>questionnaire</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Dominate over surrounding</td>
<td>questionnaire</td>
<td>4</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Level of Space visibility from adjacent buildings</td>
<td>observation</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Visual access</td>
<td>Level of Active frontage</td>
<td>Llewlyn Davies's scale</td>
<td>1</td>
<td>2</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Level of information board clarity along street and intersections</td>
<td>questionnaire</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Physical access</td>
<td>Connection method between sidewalks and adjacent space</td>
<td>observation</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Level of sidewalk connectivity and continuity</td>
<td>questionnaire</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Variety of transportation option for use</td>
<td>questionnaire</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Availability of Public transportation station</td>
<td>questionnaire</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Level of facilities for pedestrians with disabilities</td>
<td>observation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Psychological access</td>
<td>Level of place attachment sense</td>
<td>questionnaire</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Level of understanding the space changes</td>
<td>questionnaire</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Economic access</td>
<td>Level of place accessibility for all types of economic classes</td>
<td>questionnaire</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Symbolic access</td>
<td>Level of symbolic limitation of space</td>
<td>questionnaire</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Average of access &amp; linkage score (sum of scores/15):</td>
<td></td>
<td>3.3</td>
<td>2.1</td>
<td>2.3</td>
<td>1.9</td>
</tr>
<tr>
<td></td>
<td>Mode of access &amp; linkage score</td>
<td></td>
<td>4</td>
<td>2</td>
<td>3&amp;4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Level of evening &amp; night activities</td>
<td>questionnaire</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Liminal space for public communication (café, ..)</td>
<td>questionnaire</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Level of mixed use</td>
<td>Field survey</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Uses &amp; activity</td>
<td>Domination of retail</td>
<td>Field survey</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>(if more than 50% of land uses dedicated to retail street gets 4 score)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level of Holding event and activities at street</td>
<td>observation interview</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Presence level of street venders</td>
<td>observation</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The availability of cinemas, theaters &amp; restaurants</td>
<td>observation</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>The availability of spaces, including gardens, squares and corners to enable people-watching and other activities</td>
<td>observation</td>
<td>3</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Spectrum of different activities</td>
<td>questionnaire</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Existing transition base in social, economic &amp; cultural fields</td>
<td>Observation interview</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Existing of unique activity at street</td>
<td>questionnaire</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Existing of Special character at street</td>
<td>questionnaire</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Average of uses and activities score: (sum of scores/12)</td>
<td></td>
<td>3.3</td>
<td>2.4</td>
<td>2.9</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Mode of uses and activities score</td>
<td></td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Average of average scores in each criteria:</td>
<td></td>
<td>3.4</td>
<td>2.6</td>
<td>2.4</td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>Mode of all score</td>
<td></td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

### Questionnaire

In order to clarify the method of place evaluation by using the questionnaire, table number 6 is presented. In this table it is shown how marks are given to the criteria of street frontage visibilities.
Table 6 Level of street frontage visibilities for the different sections of the street

<table>
<thead>
<tr>
<th>Street name</th>
<th>Not at all</th>
<th>Fair</th>
<th>Average</th>
<th>Good</th>
<th>Excellent</th>
<th>Total</th>
<th>Score mean</th>
<th>frequency</th>
<th>score in model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abresan</td>
<td>2</td>
<td>5</td>
<td>38</td>
<td>20</td>
<td>10</td>
<td>75</td>
<td>3.41</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Mansoor</td>
<td>1</td>
<td>11</td>
<td>38</td>
<td>37</td>
<td>3</td>
<td>90</td>
<td>3.33</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Saat</td>
<td>1</td>
<td>22</td>
<td>34</td>
<td>18</td>
<td>8</td>
<td>83</td>
<td>3.12</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Golestan</td>
<td>2</td>
<td>23</td>
<td>34</td>
<td>13</td>
<td>5</td>
<td>77</td>
<td>2.95</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>

According to table above, Abresan street with 3.41 has the highest level of street frontage visibilities among others and its score in Place Evaluating Model is 4.

Field Survey
For example, the level of mixed use activities in four streets was evaluated by the data of table 7.

Table 7 Variation of commercial land use at four sections of Imam Khomeini street

<table>
<thead>
<tr>
<th>Street name</th>
<th>Imam</th>
<th>Golestan</th>
<th>Saat</th>
<th>Mansoor</th>
<th>Abresan</th>
</tr>
</thead>
<tbody>
<tr>
<td>type</td>
<td>percentage</td>
<td>type percentage</td>
<td>type percentage</td>
<td>type percentage</td>
<td>type percentage</td>
</tr>
<tr>
<td>102</td>
<td>42%</td>
<td>57%</td>
<td>41%</td>
<td>66%</td>
<td>67%</td>
</tr>
</tbody>
</table>

The result showed that Abresan section has the highest level of mixed use activities, Saat, Mansoor and Golestan were in next steps respectively.

Llewlyn Davies’s Scale

Table 8 Using Llewlyn Davies’s scale to evaluate the performance of designs according to the intensity of active frontage

<table>
<thead>
<tr>
<th>Street name</th>
<th>Golestan</th>
<th>Saat</th>
<th>Mansoor</th>
<th>Abresan</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 15 premises every 100 m</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>A large range of functions/land use</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>More than 25 doors and windows every 100 m</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>No blind/blank facades and few passive ones</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Much depth and relief in the building surface</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>High quality materials and refined details</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Total score</td>
<td>13</td>
<td>20</td>
<td>15</td>
<td>20</td>
</tr>
</tbody>
</table>

According to this table, in Place Evaluating Model, Abresan section gets the highest score at Level of Active frontage index.

Deep Observation

Table 9 Average of demographic data in four sections of Imam Khomeini street during 6 working days (Saturday - Thursday)

<table>
<thead>
<tr>
<th>Street name</th>
<th>Frequency of users</th>
<th>Sex ratio</th>
<th>Ratio of users in group to all users</th>
<th>Ratio of Elderly and children presence to all users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abresan</td>
<td>158</td>
<td>1.37</td>
<td>0.55</td>
<td>0.08</td>
</tr>
<tr>
<td>Mansoor</td>
<td>48</td>
<td>4.24</td>
<td>0.44</td>
<td>0.10</td>
</tr>
<tr>
<td>Saat</td>
<td>126</td>
<td>4.23</td>
<td>0.40</td>
<td>0.08</td>
</tr>
<tr>
<td>Golestan</td>
<td>72</td>
<td>8.09</td>
<td>0.35</td>
<td>0.10</td>
</tr>
</tbody>
</table>

Table 10 Average of demographic data in four sections of Imam Khomeini street at the weekend (Friday)

<table>
<thead>
<tr>
<th>Street name</th>
<th>Frequency of users</th>
<th>Sex ratio</th>
<th>Ratio of users in group to all users</th>
<th>Ratio of Elderly and children presence to all users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abresan</td>
<td>59</td>
<td>2.01</td>
<td>0.69</td>
<td>0.10</td>
</tr>
<tr>
<td>Mansoor</td>
<td>19</td>
<td>2.33</td>
<td>0.67</td>
<td>0.11</td>
</tr>
<tr>
<td>Saat</td>
<td>25</td>
<td>3.44</td>
<td>0.60</td>
<td>0.09</td>
</tr>
<tr>
<td>Golestan</td>
<td>28</td>
<td>5.05</td>
<td>0.69</td>
<td>0.10</td>
</tr>
</tbody>
</table>

6.1.2. The second method: success evaluation based on questionnaire

In order to ensure the accuracy of place evaluating model results and to verify the hypothesis through questionnaire the success rate is evaluated according to the questionnaire data.
Similar to the results of the place evaluation model, the people’s evaluation of Abresan street’s success is more positive than other sections, while Golestan street has the worst score.

6.1.3. Third Method: Showing the Success in Each Street Section by Using the Point Density Model in ARCGIS

In order to spatially analyze the success level in Imam Khomeini Street of Tabriz, interpolation was used. The interpolation technique is a way of finding undefined point by using sampled points. In other words, this is the method for predicting the value of each pixel in raster layers. This is done by limited numbers of sample point. For interpolation, point layer was created and the value of each point was allocated according to the answer for each respondent (between 1 to 5). By using that layer and IDW (inverse distance weighted) method, raster layer of success was created. In IDW method it is assumed that sampled points are influenced by their location. In this method places of each respondent must be exactly determined on the map. After showing the success in raster layers each pixel shows success in every parts of street.

<table>
<thead>
<tr>
<th>Street name</th>
<th>Descriptions</th>
<th>Excellent</th>
<th>Good</th>
<th>Average</th>
<th>Fair</th>
<th>Not At All</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abresan</td>
<td>Frequency</td>
<td>10</td>
<td>25</td>
<td>35</td>
<td>7</td>
<td>0</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>13</td>
<td>32.5</td>
<td>45.4</td>
<td>9.1</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Cumulative percentage</td>
<td>13</td>
<td>45.5</td>
<td>90.9</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.49</td>
<td></td>
</tr>
<tr>
<td>Mansoor</td>
<td>Frequency</td>
<td>3</td>
<td>30</td>
<td>49</td>
<td>10</td>
<td>1</td>
<td>93</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>3.2</td>
<td>32.3</td>
<td>52.7</td>
<td>10.8</td>
<td>1.1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Cumulative percentage</td>
<td>3.2</td>
<td>35.5</td>
<td>88.1</td>
<td>98.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.26</td>
<td></td>
</tr>
<tr>
<td>Saat</td>
<td>Frequency</td>
<td>3.6</td>
<td>28.6</td>
<td>54.8</td>
<td>10.7</td>
<td>2.4</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>3.6</td>
<td>32.2</td>
<td>86.9</td>
<td>97.6</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cumulative percentage</td>
<td>3.2</td>
<td>32.2</td>
<td>86.9</td>
<td>97.6</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.2</td>
<td></td>
</tr>
<tr>
<td>Golestan</td>
<td>Frequency</td>
<td>2.6</td>
<td>17.9</td>
<td>53.8</td>
<td>20.5</td>
<td>5.1</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>2.6</td>
<td>20.5</td>
<td>74.3</td>
<td>94.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cumulative percentage</td>
<td>2.6</td>
<td>20.5</td>
<td>74.3</td>
<td>94.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.92</td>
<td></td>
</tr>
<tr>
<td>Imam khomeini</td>
<td>Frequency</td>
<td>5.4</td>
<td>33.4</td>
<td>85.2</td>
<td>97.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Percentage</td>
<td>5.4</td>
<td>33.4</td>
<td>85.2</td>
<td>97.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cumulative percentage</td>
<td>5.4</td>
<td>33.4</td>
<td>85.2</td>
<td>97.9</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mean</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.22</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 2 Success level in four section of Imam Khomeini street (case study)
6.2. Second stage: explanation of the most important functional factors influencing the success of public space

For explanation of the most important factors influencing the success of public space, according to likert scale of data. Spearman correlation test run between proposed criteria and the success rate of selected sections at Imam Khomeini st by using 332 questionnaires. Results of all spearman tests used to evaluate the effectiveness of success factors were less than 0.05 and in most cases were less than 0.01. These numbers shows the correctness of tests have been used.

6.2.1. Results of correlation test in Imam Khomeini street

- First test
  Running correlation test between (image & comfort, sociability, access & linkage, uses & activity) and success rate of Imam Khomeini street to prioritize the influencing factors.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Dimension</th>
<th>Correlation rate with success of space</th>
<th>Significant degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Image &amp; comfort</td>
<td>0.83</td>
<td>0.000</td>
</tr>
<tr>
<td>2nd</td>
<td>Access &amp; linkage</td>
<td>0.73</td>
<td>0.000</td>
</tr>
<tr>
<td>3rd</td>
<td>Uses &amp; activity</td>
<td>0.67</td>
<td>0.000</td>
</tr>
<tr>
<td>4th</td>
<td>Sociability</td>
<td>0.65</td>
<td>0.000</td>
</tr>
</tbody>
</table>

According to table above the correlation test between space success dimensions and success rate has an acceptable significant degree (less than one percent error).

- Second test
  Running correlation test between (comfort, activity, sociability, feeling of safety, enjoyment, symbolic access, visual access, physical access, psychological access, economic access) and success rate of Imam Khomeini Street to prioritize the influencing factors.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Factor</th>
<th>Correlation rate with success of space</th>
<th>Significant degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1st</td>
<td>Comfort</td>
<td>0.72</td>
<td>0.000</td>
</tr>
<tr>
<td>2nd</td>
<td>Activity</td>
<td>0.67</td>
<td>0.000</td>
</tr>
<tr>
<td>3rd</td>
<td>Sociability</td>
<td>0.65</td>
<td>0.000</td>
</tr>
<tr>
<td>4th</td>
<td>Feeling of safety</td>
<td>0.61</td>
<td>0.000</td>
</tr>
<tr>
<td>5th</td>
<td>Enjoyment</td>
<td>0.56</td>
<td>0.000</td>
</tr>
<tr>
<td>6th</td>
<td>Symbolic access</td>
<td>0.5</td>
<td>0.000</td>
</tr>
<tr>
<td>7th</td>
<td>Visual access</td>
<td>0.48</td>
<td>0.000</td>
</tr>
<tr>
<td>8th</td>
<td>Physical access</td>
<td>0.47</td>
<td>0.000</td>
</tr>
<tr>
<td>9th</td>
<td>Psychological access</td>
<td>0.3</td>
<td>0.000</td>
</tr>
<tr>
<td>10th</td>
<td>Economic access</td>
<td>0.3</td>
<td>0.000</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section name</th>
<th>Priority</th>
<th>Dimension</th>
<th>Correlation rate with success of space</th>
<th>Significant degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abresan</td>
<td>1st</td>
<td>Image &amp; comfort</td>
<td>0.82</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Access &amp; linkage</td>
<td>0.76</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Uses &amp; activity</td>
<td>0.76</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Sociability</td>
<td>0.71</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>1st</td>
<td>Image &amp; comfort</td>
<td>0.84</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Uses &amp; activity</td>
<td>0.69</td>
<td>0.000</td>
</tr>
<tr>
<td>Mansoor</td>
<td>3rd</td>
<td>Sociability</td>
<td>0.69</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Access &amp; linkage</td>
<td>0.67</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>1st</td>
<td>Image &amp; comfort</td>
<td>0.79</td>
<td>0.000</td>
</tr>
<tr>
<td>Saat</td>
<td>2nd</td>
<td>Access &amp; linkage</td>
<td>0.76</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Sociability</td>
<td>0.69</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Uses &amp; activity</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>1st</td>
<td>Image &amp; comfort</td>
<td>0.86</td>
<td>0.000</td>
</tr>
<tr>
<td>Golestan</td>
<td>2nd</td>
<td>Access &amp; linkage</td>
<td>0.81</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Uses &amp; activity</td>
<td>0.72</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Sociability</td>
<td>0.58</td>
<td>0.000</td>
</tr>
</tbody>
</table>
6.2.2. Results of correlation test at four sections of Imam Khomeini street

In order to recognize the most important factors and to verify the hypothesis, the Spearman correlation test is used through SPSS software at four selected sections of Imam Khomeini st. The summary of these test results is mentioned in the following table.

According to table above the correlation test between space success dimensions and success rate of selected sections of Imam Khomeini street has an acceptable significant degree (less than one percent error). According to the findings, comfort and image are the most effective factors for the success of these sections.

<table>
<thead>
<tr>
<th>Section name</th>
<th>Priority</th>
<th>Factor</th>
<th>Correlation rate with success of space</th>
<th>Significant degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abresan</td>
<td>1st</td>
<td>Comfort</td>
<td>0.78</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Uses &amp; activity</td>
<td>0.78</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Sociability</td>
<td>0.71</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Enjoyment</td>
<td>0.56</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>5th</td>
<td>Feeling of safety</td>
<td>0.55</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>6th</td>
<td>Visual access</td>
<td>0.53</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>7th</td>
<td>Physical access</td>
<td>0.51</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>Symbolic access</td>
<td>0.46</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>9th</td>
<td>Psychological access</td>
<td>0.35</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>10th</td>
<td>Economic access</td>
<td>0.26</td>
<td>0.024</td>
</tr>
<tr>
<td>Mansoor</td>
<td>1st</td>
<td>Uses &amp; activity</td>
<td>0.69</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Sociability</td>
<td>0.69</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Comfort</td>
<td>0.66</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Enjoyment</td>
<td>0.6</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>5th</td>
<td>Feeling of safety</td>
<td>0.57</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>6th</td>
<td>Symbolic access</td>
<td>0.55</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>7th</td>
<td>Economic access</td>
<td>0.47</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>Physical access</td>
<td>0.41</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>9th</td>
<td>Visual access</td>
<td>0.37</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>10th</td>
<td>Psychological access</td>
<td>0.36</td>
<td>0.000</td>
</tr>
<tr>
<td>Saat</td>
<td>1st</td>
<td>Sociability</td>
<td>0.69</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Comfort</td>
<td>0.68</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Uses &amp; activity</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Feeling of safety</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>5th</td>
<td>Enjoyment</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>6th</td>
<td>Symbolic access</td>
<td>0.53</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>7th</td>
<td>Physical access</td>
<td>0.5</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>Visual access</td>
<td>0.49</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>9th</td>
<td>Psychological access</td>
<td>0.49</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>10th</td>
<td>Economic access</td>
<td>0.25</td>
<td>0.02</td>
</tr>
<tr>
<td>Golestan</td>
<td>1st</td>
<td>Comfort</td>
<td>0.79</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>2nd</td>
<td>Uses &amp; activity</td>
<td>0.73</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>3rd</td>
<td>Feeling of safety</td>
<td>0.61</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>4th</td>
<td>Sociability</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>5th</td>
<td>Visual access</td>
<td>0.58</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>6th</td>
<td>Physical access</td>
<td>0.53</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>7th</td>
<td>Symbolic access</td>
<td>0.53</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>Enjoyment</td>
<td>0.48</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>9th</td>
<td>Psychological access</td>
<td>0.4</td>
<td>0.000</td>
</tr>
<tr>
<td></td>
<td>10th</td>
<td>Economic access</td>
<td>0.33</td>
<td>0.000</td>
</tr>
</tbody>
</table>
According to table above the correlation test between space success dimension and success rate of selected sections of Imam Khomeini street has an acceptable significant degree (less than one percent error). According to the findings, comfort and activity are the most affective factors in the success of these sections.

In the questionnaire from 41 individuals and 20 focus groups, the position of activity, sociability, comfort & access dimensions are prioritized by asking the question: “you prefer a park or street if...”. According to the results the people choose respectively comfort and image, uses and activity, access and linkage and sociability.

<table>
<thead>
<tr>
<th>Priority</th>
<th>Dimensions</th>
<th>Factors</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Comfort &amp; image</td>
<td>It was beautiful</td>
<td>576</td>
</tr>
<tr>
<td>2</td>
<td>Uses &amp; activity</td>
<td>It was memorable</td>
<td>514</td>
</tr>
<tr>
<td>3</td>
<td>Access &amp; linkage</td>
<td>It was accessible</td>
<td>471</td>
</tr>
<tr>
<td>4</td>
<td>Comfort &amp; image</td>
<td>It was suitable for sitting or resting</td>
<td>460</td>
</tr>
<tr>
<td>5</td>
<td>Sociability</td>
<td>It was suitable for talking and meeting friends</td>
<td>438</td>
</tr>
<tr>
<td>6</td>
<td>Uses &amp; activity</td>
<td>It has varied and interesting activities</td>
<td>434</td>
</tr>
<tr>
<td>7</td>
<td>Access &amp; linkage</td>
<td>It has suitable sidewalks</td>
<td>390</td>
</tr>
<tr>
<td>8</td>
<td>Sociability</td>
<td>The other people have comfortable presence</td>
<td>287</td>
</tr>
</tbody>
</table>

7- Conclusion

In testing the hypothesis, in addition to verifying a significant relationship between the criteria and indices outlined in the model, the results show that comfort and image are the most important influencing parameters in the success of Imam Khomeini Street. Based on the theoretical framework, gender ratio, group presence, frequency of use of space, duration of staying in space were considered to be the most important indices of success in a public space. Therefore, in support of the findings of hypothesis test, comfort and image are the most determining factors in the successful function of a public space. Consequently, in order to increase the success level of a public space, first the comfort of space (feeling of safety, enjoyment and comfort) must be improved. In other words, if the comfort and image of space are promoted, the presence of women and people in the group will consequently be increased [9] and the increase in the attendance of women in space will result in the successful function of a public space. On the other hand, creating the suitable condition for outer activities and promoting the feeling of safety, enjoyment and comfort will result in further frequency of use of space and duration of stay in space, since they are the indicators of a successful public space.

Prioritization of influencing factors in the parameters of presence which was extracted from the analysis of 100 group and individual interviews could explain the causes of success for the Abresan section in relation to the other three sections. For the PPS institute, the underlying activity and usage were the main factors for a successful public space. However, the above study shows that the success of Abresan street is a result of spatial comfort, activity, access and sociability, which are in complete coordination with the result obtained from the prioritization of space for public attraction. Therefore, as Carmona indicates, one can conclude that the best solution for creating successful public spaces is understanding the mental and behavioral prioritization of people and coordinating the characteristics of the public space with the needs of the people. Successful public spaces must be able to attract whatever people desire around themselves, not whatever the designers and planners dictate.

In conclusion, in conformity with Stephan Carr’s theory [14] the Abresan section is the most successful section because it provides comfort, passive and active interaction with space and caters for a variety of people’s needs. In relation to comfort and image, according to the questionnaire obtained in Abresan, comfort, enjoyment and a feeling of safety had a considerable difference with other criteria of other sections. Moreover with respect to cleanliness, orderliness and the provision of suitable sidewalks were in a better condition compared to the other sections studied. Broad pavements of Abresan, which were highlighted by 60% of the users, were indicated as the most important features of that section and had a direct relationship with the level of comfort in the space. Therefore, one can note that this is the most important factor of a successful public space with respect to comfort.

According to the proposed Place Evaluation Model, with respect to activities, the main difference between Abresan and the other sections, is the existence of coffee shops, café-nets and a diversity of spaces for amusement activities for all age and gender groups. The accessibility of meeting places, which are considered as one of the condition for a successful space by Montgomery [7] and third place according to Ray Oldenburg, is emphasized and verified in the research findings as one of the most important factors of a successful public space.

According to our analysis, one of the advantages of the Abresan section was its diversity of activities. By accommodating various commercial and service sectors such as clothes shops, mixed commercial passages, restaurants, educational complexes such Tabriz University, this section of Imam Khomeini Street has managed to attract a lot of people. In summary, it can be argued that there is direct and significant relation between comfort (image), sociability, access (linkage), uses (activity) and public space. Moreover, it was recognized that comfort and image are the most determining factors for the success of Imam Khomeini Street. Comfort and image, access and linkage, uses and activity, sociability, respectively are the most influencing dimensions for the success of this street and comfort, activity, sociability, feeling of safety,
enjoyment, symbolic access, visual access, physical access, psychological access, economic access are the most determining factors for the success of Imam Khomeini street. The success of this street can be explained by the harmony of street characteristics with users’ need. Finally it can be concluded that Abresan, Mansoor, Saat and Golestan are respectively the most successful and unsuccessful sections of Imam Khomeini Street.

Note

1. Project for Public Space
2. \[ N = \frac{3.84pq}{e^2} \]

References