

## **Evaluating Urban Maps Efficiency in Historical Pedestrian routes; Case Study: Isfahan Historical Bazaar**

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### **Abstract**

Nowadays, enhancing the aspects of tourism industry is considering as one of the most important pillars of countries financial improvement. While urban spaces in different cities of Iran have wide variety of cultural and historical attractions which can attract considerable number of tourists to these cities, they have not meet special needs of tourists and as an obvious result these attractions could not play their key role in approaching to economical sustainability. One of the most important urban tourism attractions is historical pedestrian paths, which can have significant effect in enhancing tourists' embracement of visiting path's surrounded attractions if their qualities are improved. In this essay, the pedestrian paths' qualities are introduced and security and safety and readability qualities are selected as the most important urban qualities in eliminating these paths from "must-see list" for tourist thorough analyzing questionnaires' data. Then, as the role of different urban maps (on-line, off-line and printed maps) in improving readability and safety qualities have been proved, the efficiency of these maps evaluated and their weakness and strength points investigated.

**Key words:** Tourism, Tourism routes, Urban Design Quality, Readability, Safety, Urban Map, Historical Bazaar of Isfahan

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## Literature review

The word “Tourism” is combined by two parts. “tour”, which means travelling, trip or journey and “ism” which imply philosophic, religious, political or literary thoughts (Kazemi, 2006). In United Nation of World Tourism Organization, tourism is defined as activities which specified people as visitors do in destination. visitors are who travel to other places rather than their main living area in less than one-year period. Visitors travel to spend their holidays or satisfying their financial, educational, health and other needs (UNWTO Annual Report, 2010). As urban spaces have significant role in developing tourism industry, philosophers and developers of this industry have mentioned different qualities which can improve these spaces effectively and attracts more and more tourists there. However, reference tourism applications like “Tripadvisor<sup>1</sup>” and “Triposo<sup>2</sup>” do not make any significant effort to present tourism paths to tourists. without any attention to the routes which connects attractive solo-monuments, these applications just introduce interesting buildings or spectacular sites (Hall CM & Ram Y, 2019). Moreover, in most of the historical cities, tourism paths have not succeeded in attracting tourists. Tourist embracement decreasing can lead to not only dwindling in level of destination attractiveness, but also endangering economical sustainability. Sustainability means continuance in activities and making dynamic balance between effective issues like natural, social and economic factors, which people need them to continue living (Barrow & Badri, 1997). Sustainable development has three main aspects, environmental, economic and social dimensions. Economic sustainability is based on long-term decisions and covering some factors like appropriate policies, social scales for developing basic human resource, developing the income and property distribution system and developing private sectors which can potentially lead to economic long-term progress (Jafari Samimi & Raisi, 2017).

1. <https://www.tripadvisor.com/>

2. <https://www.triposo.com/>

Now, the main question is: which qualities absenteeism in tourism routes can cause them to be abandoned by their users?

## Tourism routes

As mentioned before, detecting the qualities effective on acceptability of tourism routes is the first step in order to restore these urban spaces to the list of picturesque spaces by tourists. Tourism routes which are mainly cultural and historical pathways are the main form of physical infrastructure to support the light movement of tourists to explore spaces and contribute to sustainable development of tourism destinations (Fistola & La Rocca, 2018). Tourism routes offer tourists a chance to travel across a variety of perspectives and a range of symbolic and non-symbolic local attractions (Hamzah & HN Ismail, 2008). This path which is designed according to a texture relating to human movement, while introducing its valuable context and elements as a proper narrator and conductor, can make any stranger familiar with the texture, can be a way to inject life into the texture. The ability to attract tourism not only satisfies the corresponding and contemporary texture needs, but is considered as a necessity for solving the problems of ancient and valuable texture embedded in the heart of cities (Habibi, 2001). In the case of bearing the mentioned values and characteristics, tourism routes can reform their surrounding texture. For instance, setting up business activity on a tourist route in a way that is concerned with tourists will transform the neighborhood economy, or changing the use of valuable buildings to resting spaces, such as hotels, restaurants, etc. (SEYYED ESKANDAR SEYDAEI & SEYYEDEH SOMAYEH HOSSEINI, 2016). However, little attention has been paid to the role and value of these spaces for attracting tourists and thus increasing stability in space. Several studies have investigated the relationship between the quality of urban design and the level of activity and use of public spaces by people. These qualities that fit into the study area include vital-

ity, diversity, connection, readability, and security of space(Hooi & Pojani, 2019). in addition, scholars and pundits have provided additional qualities for public space acceptance. These qualities include accessibility, vitality, safety and security, readability, flexibility, comfort, connection, fun of the road and attractiveness, and the human scale of space.

### Research Methodology

In order to evaluate the most important qualities affecting the selection of historical paths by tourists and by focusing on Bazaar texture, quality indexes of tourist pedestrian paths were prioritized based on a survey by a community of tour guides and tourists. The questionnaire was analyzed by about 50 tour guides using Google forum and about 50 Iranian and foreign tourists using verbal interview and the questionnaire was distributed and results were analyzed in Excel software. In this questionnaire, while asking the influential characteristics of each group, a list of qualities of urban design related to pedestrian

pathways along with a brief definition of each quality were asked to point to at least three of qualities that in their absence, they would refuse from choosing a historical - tourism route for walking. In order to make the research subject more tangible, tourists were asked to consider Isfahan’s Historical Bazaar as a tourist resort to respond to questions. Data derived from these questionnaires are separable into two groups of tour guides (because of being familiar with the Bazaar space and relation to a wide community of tourists and their needs) and tourists. These questionnaires were designed in two parts of individual specification and selection of effective urban design qualities.

### Analysis of extracted data

According to the data obtained from questionnaires distributed among the tourism leaders, impact factors such as age, gender and the degree of education of this group were measured.



Figure no.1 : statistics of basic information of tour leader

According to the collected data, the highest number of tour leaders who contributed to the completion of the questionnaire included 30 to 40-year-old women

with a bachelor’s degree. Accordingly, the second group data including Iranian and foreign tourists were analyzed.



Figure no.2 : statistics of basic information of tourists

Therefore, the largest number of tourists who collaborated with the study included women aged 51 to 60, with a bachelor’s degree. The group included 12 Iranian tourists and 38 foreign tourists. The tourists’ dependency on the tour leader, the number of visits to the Bazaar on foot and the level of familiarity with Persian language was among other questions that foreign and Iranian tourists answered. According to the results of the collected data, 84 %

of tourists experience the Esfahan Historical Bazaar for the first time, and less than half of them traveled with the tour leader, and 58 % found their way to attractive places without any leader and with help from guide books and tourism applications. The level of familiarity with Persian language was evaluated among non-Iranian tourists and, according to data collected, 92 % of foreign tourists have no acquaintance with Persian language.

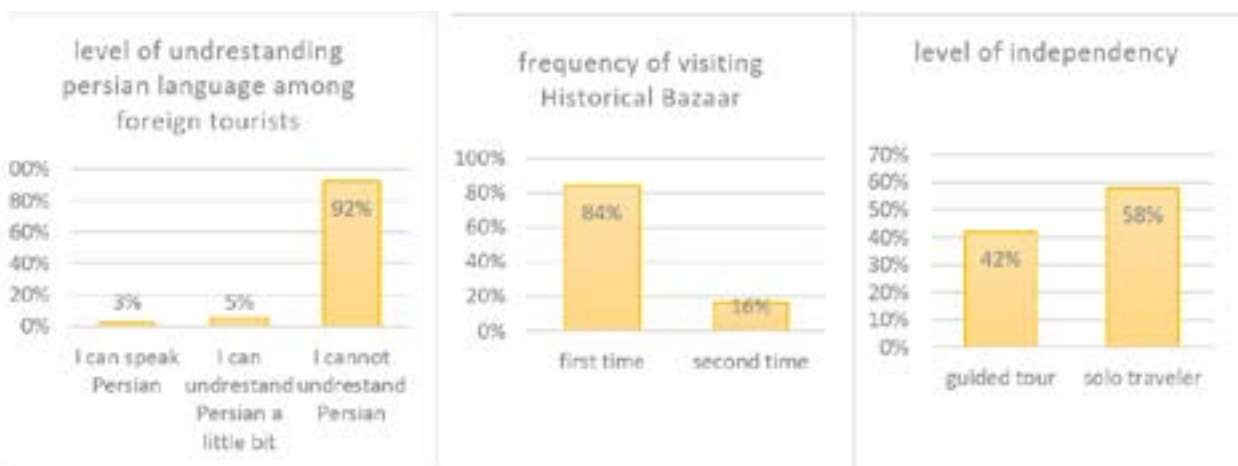


Figure no.3 : statistics of specific information of tourists

In the second part of the questionnaire, both groups were asked the same questions. A list of urban design qualities, with a brief description and tangible example, was provided to individuals and asked for a minimum of 3 qualities that in their absence, traveling through the historical Bazaar path as a tourist route was removed from their list

of choices and for tour guides, was removed from their tourists’ list of choices. Among all, low quality of security and safety and readability resulted in the removal of these fascinating routes from the list of highly visited tourist locations. According to the results of the survey in Figure no.4, the lack of qualities of security and safety and readability

in tourism routes were the most important effective quality in the deselection of these spaces by responders. Since the promotion of urban design qualities is

a way to meet users' needs in public spaces, it is necessary to study the safety and security status in the hierarchy of needs.

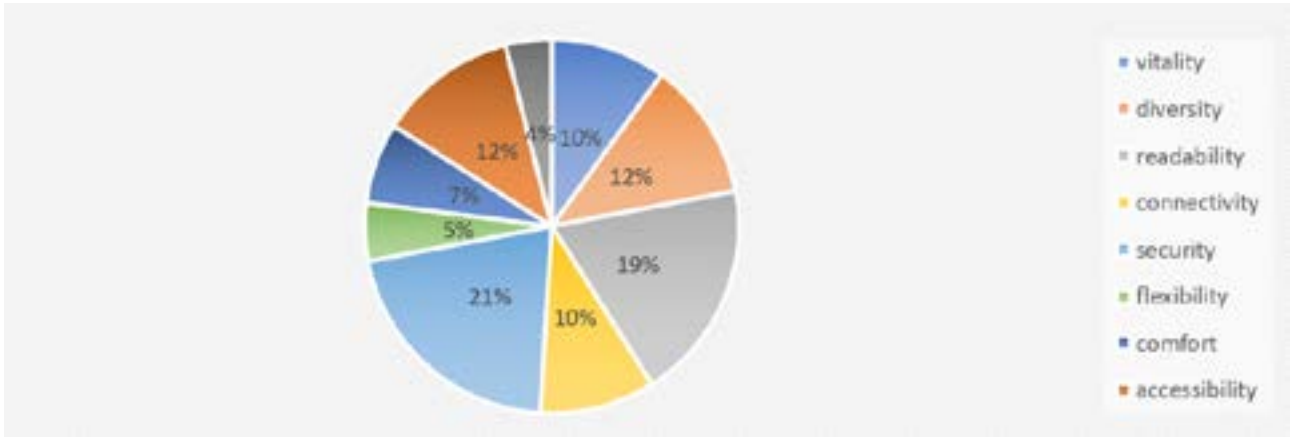


Figure no.4: the analysis of the most important urban design qualities in tourism routes' data

According to designers, the need model by Maslow (1970), which is presented as a complete hierarchy theory in the book of motivation and personality, is preferred by designers to other ideas. Maslow's human needs are based on psychological theories of works by Kurt Goldstein, John Davy and Gestalt theory as well as psychological literature (Abbaszadegan & Razavi, 2006). Needs can be divided into five

categories of physiological needs, safety needs, love and belonging needs, esteem and self-actualization needs. As in the Maslow's pyramid of needs safety and security requirements are among the basic human needs, it is obvious that the space that does not meet this need not only is not accepted by its inhabitants but also from tourists unfamiliar with the space. Data analysis of first part of the questionnaires con-



Picture no.1: Maslow pyramid of needs

firms more than ever before the results obtained in the second section. Most visitors of historical tourism routes, include women of ages around 45 years and more based on data from this research as well as theories of urban design science researchers. The growing interest in increasing cultural tourists without the help of leaders and the very limited acquaint-

ance of foreign tourists with the official language of the destination, will prove the need for these tourists to travel in a readable space with adequate security, who usually travel by books and tourism manuals because of their high education level.

Silberberg 1995	ATLAS1997	Fraser 2001	characteristics
Mostly middle-aged	35% younger than 30 years old		
39% between 30 and 50 years old			
26% older than 50 years old	45-64 years old	age	
mostly women	52% are women	mostly women	gender
Higher education rather than average	Higher education	Higher education	education

Table no.1: Cultural tourism statistics figures(Boukas, Nikolaos, 2008)

## Security and Urban Maps

Urban safe space design is one of the main motifs by urban designers. People usually choose walkways to travel with high security. The improvement of security in space is achieved not only by raising this quality's sub-measures in the built environment but by enhancing the readability of space(Shach-Pinsly, 2019). Today, urban maps contribute significantly to the creation of readability and routing and thus enhancing the quality of safety and security of urban spaces. The use of these maps especially by tourists unfamiliar to space has opened up new concepts in the discovery of urban spaces, which has a significant impact on the increase of tourist visits to a city space.

## Introduction of various maps used by tourists

Graphic maps are considered to be one of the most widely used methods of routing. While these maps where only available in prints, people are currently using online maps, offline maps and printed maps. in this section, we introduce and present the characteristics of each of these maps.

**Online maps:** nowadays, maps and spatial data are used daily by internet users. Online maps are prepared and published by national mapping agencies in geoportals (e. g. IGN France), companies (such as GOOGLE) and innovative projects (such as OpenStreetMap) and so on. Online maps are used in travel planning departments, traffic control data, training, and so on(Skopeliti & Stamou, 2019). These maps are available to users with capabilities such as scale change, recording interest areas, retrieving information, selecting the naviga-

tion method, and so on. GoogleMaps<sup>1</sup>, MapQuest<sup>2</sup>, OpenStreetMap<sup>3</sup>, ViaMichelin<sup>4</sup> and WikiMapia<sup>5</sup> are the most famous ones(Skopeliti & Stamou, 2019).

**Offline maps:** Offline maps are maps that provide all or part of map capabilities if not connected to the Internet network. These maps are required to be downloaded. GoogleMaps offline, Sygic GPS Navigation and Offline Map, Here WeGo, are a number of these useful offline maps('8 Best Free Offline GPS Navigation Apps for Android', n.d.).

**Printed maps:** These maps are still used as one of the old routing methods by users. Printed urban maps are often published along with supplemental information such as attractive spaces and necessary information in the form of brochure or tourist guide books.

## Introducing the case study

The historical Bazaar of Isfahan (located in district 3 of Isfahan) has been introduced as one of the most attractive and longest transportation routes of Isfahan city tourism due to its numerous attractions, various historical periods and connecting two attractive tourism regions. The Bazaar concept in Iran has maintained its continuation from the advent of human societies through history(Khalili & Nayyeri Fallah, 2018) and hence the Iranian Bazaar is a very desirable spatial space to be transformed into pedestrian paths with many historical - cultural attractions. The huge collection of Isfahan Histori-

1. <https://maps.google.com>
2. <https://www.mapquest.com>
3. <https://www.openstreetmap.org>
4. <https://www.viamichelin.com>
5. <https://wikimapia.org>

cal Bazaar consists of Rasteh, Sara, Timcheh and Chaharsoogh, which have been formed in a series of linear and network Bazaars over the centuries. and because of diverse Rastehs and attractive architecture elements, it has enormous potential in tourist attraction.

### **Determining dominant patterns of tourist movement in the case study:**

The difference between Bazaar texture, line and network texture constructed during different historical periods with different urban principles has led to enhancing the quality of space attractiveness and on the other hand reduced the quality of space readability. Not only tourists unfamiliar to space, but also citizens sometimes face difficulties finding their way along the twisting Bazaar path. The role and attitude

of people in urban space tells a lot about how space is responding to the needs of the people (ahmadi, 2008). To record behavioral patterns in this method, after finding visitors who entered the Bazaar to understand and explore the space (many people simply entered the Bazaar for buying which where undesired for the research), their behavior during movement was recorded and their places of pause, rest, curiosity or feeling lost where captured. In order to capture tourists' behavior, 30 groups of tourists, who entered the Bazaar without help, where recorded almost imperceptibly. In this view, the route which tourists travel, the places where tourists come back due to feeling lost and the sub - routes that they traveled where captured and recorded on the map.

### **Results of capturing tourist movement in the**



Picture no.2: one of the main Rastehs of Isfahan Historical Bazaar

### **Bazaar**

With regards to the performed captures, tourists enter the Bazaar only through two main entrances, namely the Gheisariye Bazaar entrance and the Enghelab Bazaar entrance. Therefore, they may use sub - paths to leave the Bazaar, but their entrance to the path is carried out only from the paths

offered in the tourist guide books, which are specific and defined entrances. according to the location of entry, two different kinds of behavior were recorded from the visitor groups, which were relatively same in domestic and foreign tourists

### **Entrance from the Gheisariye Bazaar:**



Plan no.1: routes which are followed by tourists from Gheisariye entrance

tourists who choose this entry point, enter the Bazaar after visiting the bold elements of Naghsh-e-Jahan square, and according to an interview followed by capturing the behavioral pattern, less than 30 % of tourists were aware that Imam Ali square and the Jame'e mosque are located at the end of the path, and noted the reason for choosing this route to be the attraction of bodies, sale of handicrafts, existence of coffee shops, and the possibility of finding a return route to the Naghsh-e-Jahan square. The first tourist group consider the Gheisariye façade as their location reference continue their exploration in space to the part of the Bazaar along the entrance, this group may travel the sub-rastehs between Gheisariye façade and Dar-o-Shafa bazaar but prefer to stay on the main route.

#### **Entrance from Enghelab Bazaar:**

this group of tourists enters the bazaar after visiting the Atigh Jame' mosque and according to interviews, the group knows that they will reach the Naghsh-e-Jahan square after the Bazaar route is taken. The information of this group of tourists is more about the cause of the Bazaar formation and the orientation of certain architectural elements on the Bazaar. This group has entered the most crowded section, in terms of population of consumers and activities within the Bazaar, and are confused by

the masking of the symbols. Also, because of missing the reference

point, they are reluctant to return to the starting location. The group tries to keep track to the Naghsh-e-Jahan square, so using guide book maps and asking marketers, try to find the main route. Because of the length and confusion of the route, and also lack of resting space in the middle of the path, the motive for the discovery of space is lost, and tourists are merely looking for a way to get into space. So, their pause at attractions is very short or eliminated. since one of the most important reasons for not continuing the route by tourists is fear of loss in the historical route of Isfahan bazaar, improving the quality of readability in urban spaces has been proven more than ever. The impression that tourists worry about being lost in spaces that are not marked at the end and the beginning of the path and cannot be marked by the user, is more than direct paths and with clear signs. The quality of readability is enhanced by several factors which can include the existence of urban landmarks and guide maps. According to the remarkable increase in tourists' interest in travel without the help of leader ('Solo Travel Statistics and Data: 2018—2019—Solo Traveler', n.d.) and the group's reliance on online, offline and printed maps to explore space, the ef-



iciency of these maps is necessary. in this paper, we examine the available maps of tourists (online, offline and printed) and their strengths and weak-

nesses and finally offer suggestions to guide tourists in the historical bazaar space.

**Investigating the existing maps**



Plan no.2: routes which are followed by tourists from Enghelab entrance

Citizens and tourists have more than ever used routing applications to explore space, while tourists in some tourist destinations are facing the problem of lack of access to the Internet network and select offline maps. in this study, Google Maps, Sygic,

World Offline Map and maps contained in the guide book (e. g. Lonely planet book) are studied as common maps among tourists.

In the following, the level of detail introduced by the



Table no.2: introducing some maps and their details which present about Historical Bazaar of Isfahan

historical Bazaar path is introduced in each map and then the strengths and weaknesses of each have been investigated. According to the studies, none of the existing maps are suitable to satisfy the requirements of tourists unfamiliar to Bazaar space. Available maps are not suitable options for routing, not displaying the user's exact location for routing, Bazaar names and peripheral pathways, sufficient information from Bazaar spaces and update matches with urban changes. Hence, the design of updated maps with adequate details, including the name of the Rastehs and Bazaar spaces, name of

the surrounding passage ways, the user's detailed location, access to the user's accurate location, and the possibility of sharing the user's exact location with other users to improve the quality of readability and to promote the quality of safety and security. This map as a phone application can be an effective step to improve the Bazaar quality, increase the number of tourists in space as a result of enhancing economic stability with the ability to download at main Bazaar entrances and Bazaar nodes.

### Conclusion

	weakness points	Strength points
Google Map (Online)	<p>Have several mismatches with up-dated plans and Bazaar's current situation</p> <p>Main routes of Bazaar are not presented</p> <p>Insufficient details which are mostly inefficient</p> <p>Main routes and surrounded alleys and streets' names are not presented</p>	<p>Main public transportation lanes are presented</p> <p>Surrounded attractions and facilities can be search (in the case of being recorded by their owners or other users in advance</p> <p>Some of the main routes of bazaar (Rasteh) have been presented</p> <p>Magnification possibilities in order to have access to further information and details</p> <p>Possibility of showing user location in the case of having access to good internet network coverage</p>
Sygyic (offline)	<p>Have several mismatches with up-dated plans and Bazaar's current situation</p> <p>Main routes of Bazaar are not presented</p> <p>Bazaar detours and connections to surrounded routes are not presented</p> <p>Insufficient details which are mostly inefficient</p> <p>Main routes and surrounded alleys and streets' names are not presented</p>	<p>full access to plan facilities and details in the case of downloading destination's plan package</p> <p>Audio navigation in several languages</p> <p>Surrounded attractions and facilities can be search (in the case of being recorded by their owners or other users in advance</p> <p>Magnification possibilities in order to have access to further information and details</p> <p>Possibility of showing user location i</p>

<p>World Offline Map (offline)</p>	<p>Have several mismatches with up-dated plans and Bazaar's current situation Main routes of Bazaar are not presented Bazaar detours and connections to surrounded routes are not presented Insufficient details which are mostly inefficient Main routes and surrounded alleys and streets' names are not presented</p>	<p>full access to plan facilities and details in offline mode Some of the main routes of bazaar (Rašteḥ) have been presented Magnification possibilities in order to have access to further information and details Possibility of showing user location</p>
<p>Lonely planet (printed)</p>	<p>Magnification in order to have access to further information and details is not possible Not handy as mobile applications Have several mismatches with up-dated plans and Bazaar's current situation Bazaar detours and connections to surrounded routes are not presented Insufficient details which are mostly inefficient Main routes and surrounded alleys and streets' names are not presented Searching about more facilities or surrounded attraction is not possible</p>	<p>main route of bazaar (Rašteḥ) and some of surrounded alleys and streets have been presented possibility of having access to printed information and pictures about Bazaar and its surrounded area</p>

Table no.3: strengths and weaknesses of maps

Due to the critical role of historical tourism paths in attracting tourists and enhancing the level of economic sustainability in the destination, the necessity to improve the quality of these routes is more than ever. As according to research experts in urban design science, the qualities of a public space have the greatest effect on the rate of acceptability by users of space, while studying the qualities influencing the tourist walking paths, the most important of these qualities were extracted. The importance of the extracted qualities was evaluated and prioritized according to a questionnaire distributed among tourists and tour guides. According to the results of the questionnaires, the low quality of safety and security and readability were the most influential qualities in the deselection of historical Bazaar path as a fascinating historical walkway by the group. Therefore, existing urban maps as one of the most influential methods to improve the quality of readability and

therefore improve the quality of safety and security and the strengths and weaknesses of these maps with regard to providing effective detail in the area under study where investigated. According to the research, none of the existing maps (online, offline and printed maps) have provided vital possibilities for helping tourists navigation. Therefore, the design of updated maps with suitable details to assist the routing of tourists in the form of mobile applications is a high priority to attract tourists to Isfahan's historical bazaar space.

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#### HOW TO CITE THIS ARTICLE

*Memarzadeh.M, Memarzadeh.H. (2019). Evaluating Urban Maps Efficiency in Historical Pedestrian routes; Case Study: Isfahan Historical Bazaar, 3(7): 9-20*

**DOI:** <https://dx.doi.org/10.22034/soc.2019.98881>

**URL:** [http://soc.gpmsh.ac.ir/article\\_98881.html](http://soc.gpmsh.ac.ir/article_98881.html)

