

# The Perception of the Sense of Place in Public Spaces' Quality through the Five Senses

## “Case study of Naqsh-e-Jahan Square, Isfahan, Iran”

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### ABSTRACT

Focusing on attention to the quality of spaces and built environments have been increased between architects, designers and urban planners. Planning, as a tool has come to be essential in the creation of a secure and pleased environment covering human needs. The sense of place research with consideration to its key role in enhancing the quality of design leads to find of the characteristics contributing to the enhancement of space quality. The numerous research about the quality of reciprocal effects of built environments or spaces on memories and behaviour have been done that revealed environment is very important in creating messages and meaning and users can perceive these messages through their five senses.

This research aims to explore the perception of the sense of place through the visitors' five senses. In addition, it tries to investigate some specific characteristics that enhance space quality in the traditional urban landscape, Naqsh-e-Jahan Square, in increasing the quality of designing public space via survey with attention to concept of sense of place.

A combination of research methods both quantitative and qualitative were chosen to achieve the goal. A questionnaire survey was used for collecting data for quantitative research in Naqsh-e-Jahan Square and the qualitative data was collected through semi-structured interviews with experts.

The results defined that involving the visitor's five senses directly or indirectly via physical characteristics can create sense of place feeling and they can understand the quality of space and also it keeps a place fresh and active in the century.

**KEYWORDS:** Sense of place, Public space, Quality of space, Naqsh-e-Jahan Square.

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### INTRODUCTION

Places have been understood as location [1], as concentrations of social relations and social practices, as zones of experience and meaning. To this effect, they influence our way of thinking, our consciousness, the course our life takes, our social structures and our health and well-being [2]. According to studies, moreover the structural elements, the environment has an important role in creating messages and meanings which people encode and judge based on rules, needs and motivation. Investigating the sense of place with consideration of its role in increasing the quality of design can guide to finding the characteristics contributing to the enhancement of space quality. It is one of the main factors in achieving harmony among people, the environment and emotional perception [3].

### LITERATURE REVIEW

#### 1. Concept of sense of place

The concept of sense of place was developed in recent decades based on theoretical [4-9] and empirical work [10-18]. Sense of place is the mental perception connected to the inner relationship with the environment in order to link the feelings and perception of a person to the background and meaning of the environment. Such feelings are the main elements that lead to changing of a space into a place which has particular emotional and behaviourism features for a specific individual. Moreover, place feelings smoothens the emotion of the environment and facilitates the concept of protecting cultural along with social and cultural relations. Such abilities recall the previous experiences and provide access to people's identities [19].

Falahat [19] also claims that such total feeling that is generated in a person after judgement and perception of special environments is called “sense of a place” which refers to the emotional bonds people experience or develops in a special place which can range from a house to a nation. This element can harmonize a person along with the environment and create better usage of the environment possible and improves the satisfaction of

the user. Yet, there are numerous meanings associated with space and place but here it is mainly related to human values and features of space which is abstract relative to place [9].

An assortment of anecdotes and personal along with social narratives establishes the sense of a place. Furthermore, it has been both studied from a scientific as well as aesthetic point of view. It also can be studied in different aspects on how it is used. A sense of place by phenomenology recognition is related to the place through the perception of daily activities and symbols. To that end, this sense can generate a sense of place such as that created by life [20]. According to Canter [21] sense of a place is to bring forward the effects of social and personal worth, along with behaviours and ideas.

Brinckerhoff [22] claims that not only the sense of a place induces coordination and proper operation between architectural space and humans, it also is an element for satisfaction, security and emotional perception. The most significant point about sense of place is the fact that it is close to the place of love along with the features of the place. It interprets the chief meaning of the place mainly in term of its function. He also notes that the nature of the place is closely connected to the places that are significant centres of human activities. Such quality is generated through a mixture of natural things and human activities and it ranges from a room to continent [23].

## **2. Sense of place by environmental psychology**

Sense and place are two main parts of the term of sense of place. In the Oxford English Dictionary three main definitions are mentioned for the word sense. The first meaning is the five senses; the second one is emotions that means as a mental image in psychology or as a judgment that can be good or bad, made in a man in relation to him/herself; and last one is ability in judgment about an abstract thing such as meaning of feeling in sense of direction.

Feeling occurs when a thing is entirely recognized by a person and through this approach sense means emotion, judgment, and experience of place or capability of space to product particular sense in persons. Persons and places are somehow associated and the environment gets these characteristics by a complex of natural and human order.

In discipline such as psychology and sociology, the term of belonging to a place, society-belonging, structure of emotion, concepts and experience are significant to decide about the sense of place. When people feel they are rooted deeply in a place; where they used to live, they talk about belonging to a place. This association between people and place named sense of place, profoundly influences people and strengthen memories at place identities and human power. Actually place belonging is a more powerful extent of sense at place. This distinguished characteristic is why place is revered by people. Low [24] sees place-belonging psychologically and identically construable and happens when the recognition of person related to the environment or a special space. The production of a cultural place by a person or a group through comprehending the environment is rooted in their interest in the place. Altman and Low argue [25] that place-belonging deals with people's cultural beliefs beyond emotion.

The culture of place-belonging is the basic to which analysing of space is dependent on. Most people experience it as a culturally shared symbol. In other word, people are associated to the cultural specifics of place and what space does is to provoke men's experience and memories in a cultural context of concepts and meanings. Mostly in places, there is no relation between people and space through experience. Social and political meanings could cause the constitution of place belonging to myths [26].

## **3. Perceptual and cognitional factors**

Our experience of things, made possible by our sense organs, is called perception. The physical world around us is what provokes our senses and arises latent images in our mind. In contrast to the physical nature of things sensed, which may include mass; space, and time, perceptions are mental. Recognition and judgment engage in the process at perception, and also it is influenced by the relationship of stimuli and the person's physiological and psychological requisites. Perception relates to the physical experience of entities. Judgments about comfort, security, symbolism and expected experienced interaction with others are included in perception. Thus we can define place perception as physical circumstances and the mind's eye [27].

As mentioned, the complex whole combined of meanings, symbols, and qualities perceived from space or region is what we call sense of place [28]. Sense of place is created when a person decodes meanings and perceptions. Therefore a feeling or emotion or every particular relation could not be entitled sense of place. So in order to live in a particular environment, persons need to have sense of place, because it is the sense of place that empowers space or place to product specific feeling to the entirety of place. So places produce in distinct individual with distinct feelings and personality roles. Receiving of this sense is influenced by what have been experienced in past. After producing sense of place and belonging, place settles instead of space. Moreover, an influential factor in the production of sense of place, among the others is belonging to society. Sense of place is introduces as belonging to society and local feeling by Hummon [29]. He claimed that sense of place binds the individual to the environment and his/her feeling unites with meaning.

According to Steele [30], it is the ways people deal with the environment that determines the sense of place of each environment. This relationship between people and place resembles any equilibrium in which they assume negative or positive values to environment and then it reflects back on them. Beside structure, place imagination is psychological too. A complex combination of behaviour and place which is called an environment and things evoked to people are produced by sense of place. Some spaces are characterized by powerful sense of place that affects distant individuals similarly [30].

#### 4. Environmental perception

Humans receive information by their five senses and they analyse such information in their mind through connecting and linking different pieces of information obtained from the outside world. In such cases, human are deemed as the receiver and the environment as the sender of different information which is needed to be organized in order to be understood and to be made sense of place. Ignoring such inputs leads to unwanted psychological behaviours such as fear from lack of place feeling and even distress.

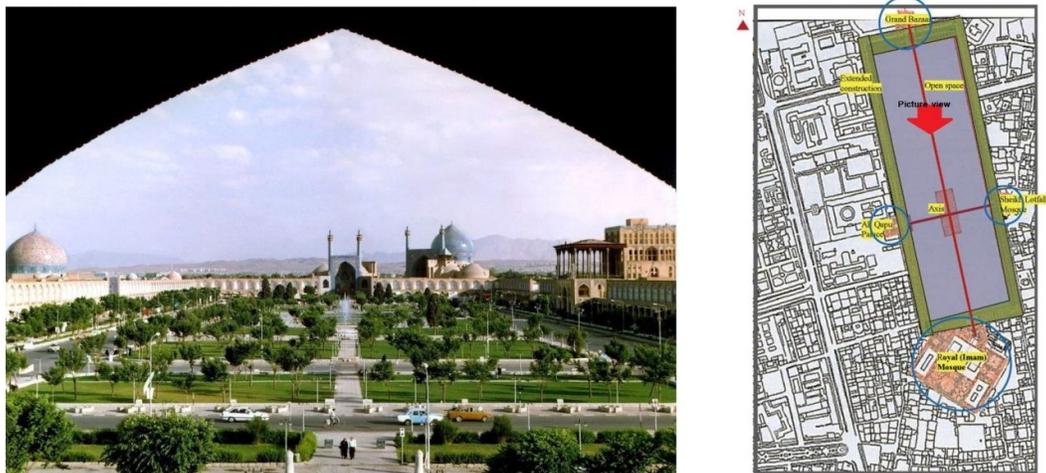
Human are able to receive and evaluate great amount information from environment which they use if have sufficient time to sense it. Since the information is received in huge chunks, the receiver has to generate a total image in order to understand the information. The orders and elements in different type lead to the generation of various feeling senses and understanding. Assortment of such effects can be deemed as influential elements of attractiveness in space. The persons' intention forentering or passing from one space into another space has impacts on their understandings. This process moves from factors such as the person's abilities in perception and organization of structural space, factors and activities. Thus, it is mandatory to distinguish the significant features and effective elements prior to achieving a sense of perception of the environment [31].

Steele [30] claimed that there exist some significant physical factors influencing the perception of sense of place including scale, proportion, enclosure, textures, edge, visual variety and colour. Similarly, he holds that other features such as identity, security, history and memory are connected to the perception of place.

Some studies have shown that physical features of the environment along with special activities and creative meaning have an effect of creating a sense of place. Features such as sound, temperature and personal elements help in creating a sense of environment like forms and dimensions. Emotion and recognition is mainly linked to space with spatial perception, symbols, identity and meaning [31].

#### 5. Naqsh-e-Jahan Square

Naqsh-e-Jahan Square (Persian: میدان نقش جهان) is located at the centre of city of Isfahan. It is one of the important historical sites in Iran and also a UNESCO's World Heritage Site. Also, with 510 meters long and 160 meters wide, it is considered as one of the unique relics in the world of art both in terms of size and from the combination of directions and its surrounded artefacts.



**Figure 1** Plan and view of the Naqsh-e-Jahan Square, Isfahan; View from Grand Bazaar's entrance

The square is surrounded by some buildings from the Safavid era (16th Century). The Shah Mosque (a) is located in the south side of the square while the northern side opens into the Isfahan Grand Bazaar (b). The Ali Qapou Palace (c) is on the western side and the Sheikh Lotfalah Mosque (d) is in the north [32].



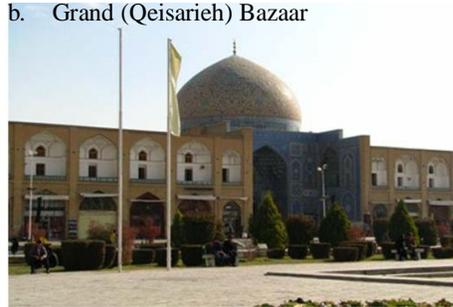
a. Shah (Imam) Mosque



b. Grand (Qeisarieh) Bazaar



c. Ali Qapou Palace



d. Sheikh Lotfalah Mosque

**Figure 2** Four main buildings of Naqsh-e-Jahan Square

The impressive structures those have bordering the Naqsh-e-Jahan square and building with attention to the essential architectural principles appropriate for hot and arid climates. Square has a rectangle shape plan with two north/south and east/west axes and these important buildings are situated at both ends of the axis. A rectangular pool is located in the intersection of the two axes that is not on the centre of the square. It is nearer to the south along north to south direction [33].

#### - **Criteria of selection**

The criteria of selection of the Naqsh-e-Jahan Square as a case study are based on the following:

- Location: The square is situated in the centre of Isfahan city and it has an important urban space role from past to now.

- Square status: During decades it has been a commercial area with high interactive social place. A place where many residents gather for shopping and communicating as well as national and religious ceremonies and a touristic place. The square has a strong sense of history that is revealed by assortment anecdotes, social and individual narratives relating to it and its 'significant role in ceremonies and religious customs. While locating of the Shah (Imam) Mosque, Sheikh Lotfalah Mosque and Grand Bazaar inside the square indicate that it has been a most important place of people activities and an effective bonding of persons and their places from past to now. These key features have important role in creating a sense of place [34].

- Proportion, scale and capacity: The Naqsh-e-Jahan Square is a massive square enclosed by an extended construction of shops' rows and four wonderful monuments that are the Shah (Imam) Mosque, Sheikh Lotfalah Mosque, Ali Qapou palace, and the Grand Bazaar.

Furthermore, the visitor does not feel enclosed inside the square because of special proportions of the square causes the ground to seem smaller in contrast to the sky and the sky absorbs visitor more than the ground and promotes sense of place. Therefore, as a result of the adjacency of skyline and ground; the square appears more extensive than it actually is; like is felt on a beach or in a desert. With this minimal enclosed space, the square will remain in the mind of visitors as a memorable place [27, 35].

## **MATERIALS AND METHODS**

Experiments, surveys, case study and historical, economical and demographical research are considered as the research methods [36, 37]. Collecting data from several sources and through multiple methods is recommended to improve the validity and reliability of the resulting data [38-41]. Therefore, this research employs a mix of quantitative and qualitative methods that include a questionnaire surveys and in-depth structured interviews with experts to explore the characteristics that increase space quality in the Naqsh-e-Jahan Square through interview with experts and visitors' senses perception through survey with focus on the concepts of sense of place.

For qualitative part of research, six experts in architecture and urban planning had been invited for interview by purposive sampling to identify the main factors contributing to this feeling in the design of the Naqsh-e-Jahan Square [42-44].

In addition, for quantitative part 196 questionnaires based on Krejcie and Morgan's Table [45] were distributed between respondents above 20 those who work or visit the Naqsh-e-Jahan Square by random sampling to explore the factors relating to the five visitors' sense.

To classify and analyze the data, Excel and SPSS software are used and the reliability of the questionnaire was provided through pilot study.

## RESULTS

The results gathered through interview with experts represent the sense of place has been defined as persons' senses involved in the present place that have a direct effect on them. Function and some important physical factors such as scale, enclosure, proportion, and visual variety are main factors affecting sense of place. Also, the sense of place considers as the environmental affection on the person; characteristics like colour, sound, temperature, dimensions and forms help create a sense of environment. It is direct and may be changed from person to person.

The most important factors in designing Naqsh-e-Jahan Square can be grouped into two; first one is focusing attention on the functions of the square and secondly is focusing on the physical factors such as scale and proportion in the spaces and buildings, the form of buildings, their colours and placements.

Economic, religious, political, and scientific activities of peoples can be affected by function so a good functional place can gather all activities in one area and effect on the dynamism of the square. This is the significant reason that square is filled with new and fresh activities for years.

In addition, proportion contributes to the attractiveness of the square by the height of the construction, considering the human scale and the main buildings' height (Shah Mosque, Sheikh Lotfalah Mosque, Grand Bazaar, and Ali Qapou Palace). While, the coordination of space provides an expansive space so that the sky is felt more than the earth by visitors that leads to increasing the sense of place.

- Variety of forms

The combination of appropriate forms and their interrelationship provides a better and deeper appreciation of the square in the visitor. Also, it creates variety in the skyline that keeps the observer engrossed.

- Effect of built forms' colours of square

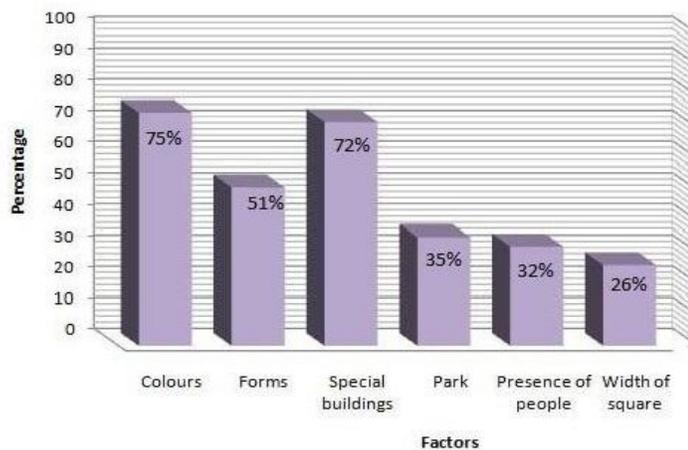
Orange, azure, and a greenish hue of blue are the main colours used in the square. The dry and hot climate of city is the main reason of using azure and greenish hue of blue. The orange colour related to the climate of city and the azure colour correlates to the built environment and architectural features of Isfahan. The sense of dependency is excited by the warm colours and creates the part (square) and the whole (desert) connection.

- The placement of structures and the coordination

The responses indicated that the visitors do not sense smallness. The construction with the diversities and distance of the structures were considered to simplify the sense of proportion and coordination in human mind while watching the landscape. This influence on visitors' eyes creates a memorable experience.

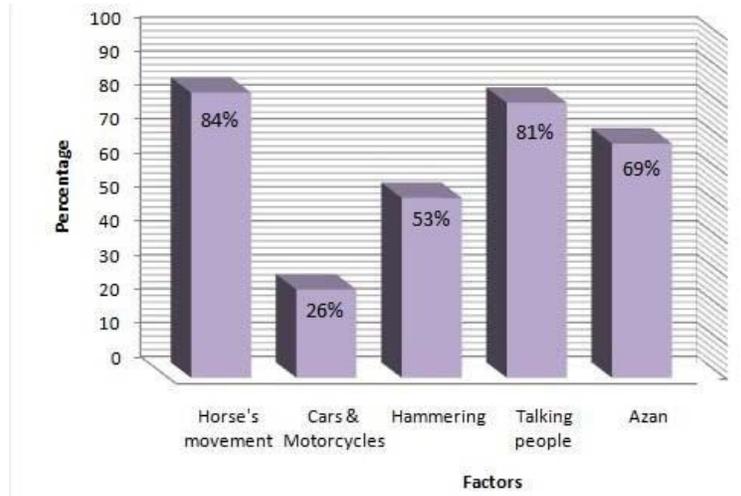
The results were gathered through questionnaires to explore the involving of visitors' senses in the perception of sense of place in the Naqsh-e-Jahan Square represents that:

Sense of sight was involved as seen in Figure 3 by the colours of the square's physical enclosures, the presence buildings and their form as the most effective on the sense of sight in visitors and their enjoyment.



**Figure 3** Factors effect on the sense of sight in the Square

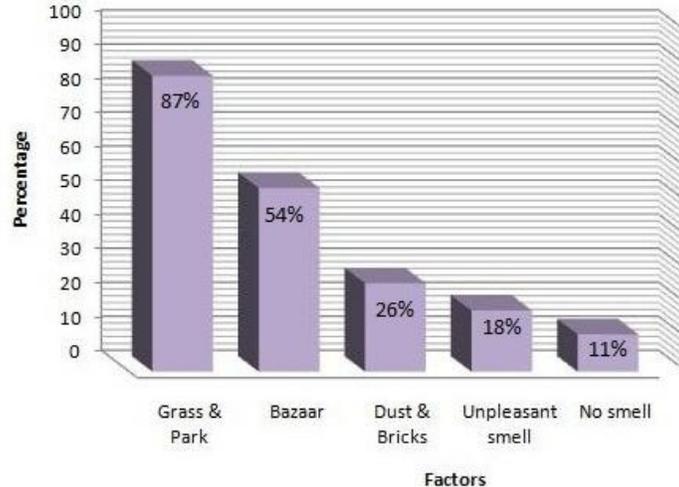
In addition, the park inside the Square and people's presence are effective on this sense in the visitors' point of view. Dimension of Square has the least effect on the sense of sight.



**Figure 4** Factors effect on the sense of hearing in the Square

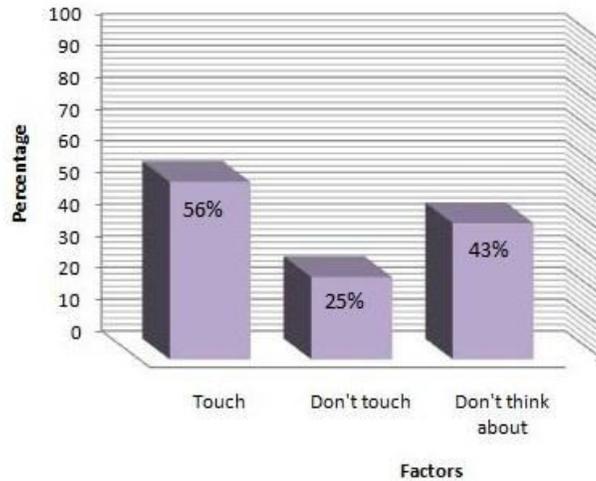
In investigating the distribution of the sound effect based on above Figure; sounds from people activities and horses trotting in the Square have the most effect. Also, the sound of Azan and hammering is effective too. They will remain in visitors' mind and create sense of place.

As shown in Figure5, examining the different scent in the Square shows the aroma of fresh grass is the most vivid. The smell of spices old in shops seems the least detectable from distance but when the visitors go along bazaar have the most effect on smelling sense. One of the interesting things is the Square designing way to preserve the fresh scent of grass and prevents the distinctive but unwanted smell of spices.



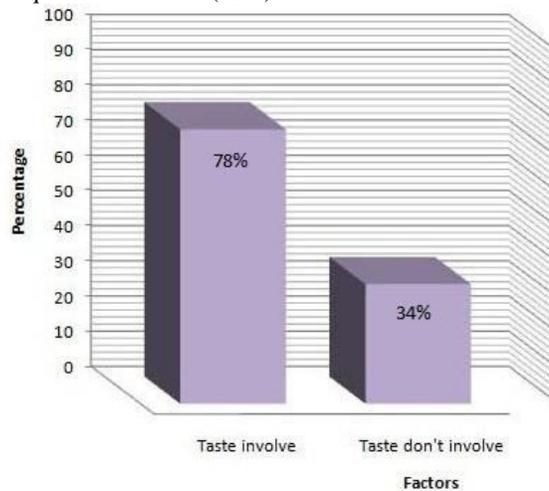
**Figure 5** Factors effect on the sense of smelling in the Square

However, analysing sense of touch shows that more than half of visitors have physical contact with the structures around the square and they are attracted to the arena by fascinating design of the Square.



**Figure 6** Factors effect on the sense of touch in the Square

According to above chart a quarter of visitors (25%) do not tend to touch the structures.



**Figure 7** Factors effect on the sense of taste in the Square

The variety in taste is analysed through the flavours of local cuisine sold in the square such as Falodeh (a popular drink) and Gaz (a local but international cookies). According to Figure 7, high percent of visitors' participate in the taste (78%) represent the importance of local cuisine to enhance this sense. While a few percent (34%) indicate that they don't involve in this sense.

## DISCUSSION

One of the most important factors that have been keeping the Naqsh-e-Jahan Square fresh and active during century is attention to involving the sense of visitors. At the first contact, it seems only a few visitors' senses are engaged, while later, it would be understood that whole of five senses are involved unconsciously. This attention creates high level of sense of place that will even remain in the memory of the deaf or blind visitors that go to Square once.

Different scenery via entering the Square from the different entrance offers an expansive incredible experience. The dignity of Shah Mosque and two other fascinated buildings, the Sheikh Lotfalah Mosque and Ali Qapou Palace and the portal of Grand Bazaar appeal the visitors' attention. These variant buildings in form, colours and function attract and effect on visitors and involve them visually at the first visiting.

Sense of the ancientness will be felt by the sound of horses and its coach wheels and the past will be reminded to visitors when walking inside the Square. The sense of hearing will be affected by other sound such as talking between seller and customer or the sound of engraver's hammer when walking through bazaar. The voices of tourists with different dialects and language, the sound of water, singing birds and the sound of azan in

the morning, noon and evening and other sound are involved in the hearing's sense of the visitors. These factors in whole will help the Square to remain fresh and will protect these senses from boredom and monotony.

Also, in the spice bazaar, the strong scent of spice is felt by the smelling sense and stimulated. The odour of the carpet bazaar, the smell of copper and restaurants will be stimulate the sense of smell in covered bazaar while in the open space of the Square, the fresh air and the grass and flowers' odour are stimulating to the sense of smell.

Local and special souvenirs sold in the shops are encourage the sense of touch of the visitors. Furthermore, sitting on the grass stimulates the sense of touch. In the summer, the pool's water will unwarily stimulate this sense by encouraging visitors to dip their hands or feet into the water.

In addition, the sense of taste is stimulated by some specific food souvenirs such as Gaz, Polak, Nabat, and ice cream while walking into the stores. However, the traditional restaurants around Square have an important role to make a memorial sense for visitors' taste. Tasting sense is increased by the scents of colour fulvernacular edibles in the spice bazaar.

### Conclusion

Attention to users is important nowadays the same as the past [24]. Consideration of the quality of spaces and built environment is a main key in producing the space dynamism's feeling over the years. People can perceive places' feeling directly or indirectly through their five senses. It can be seen in some good sample such as Naqsh-e-Jahan Square.

The Naqsh-e-Jahan Square and its' surrounded elements, create a high level of sense of place which is a significant factor to harmonize people with their environment and also the sense of security, pleasure, and emotional perception will be created. People can feel a sense of place by sighing, smelling, hearing, tasting and touching and make relation with space and buildings easily when they are going to the Square. It will remain as memorable experience in visitors' mind.

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