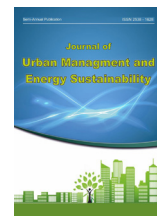


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Explaining the indexes affecting the experience of space in traditional bases in approach to spatial continuity¹

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ABSTRACT

Bazars have been the primary human centers for human gatherings and a place to exchange goods. People gather in bazars with different interests and desires, and the success of these spaces is proportional to their use and presence. Spatial sequence in Iranian architecture is a spiritual movement. There are different models for designing commercial spaces, but in order to know the parameters affecting people, according to the internal needs and interests, the method of cognitive science can be used so that the behavior of people can be examined accordingly and the final parameters can be extracted. The current research is analytical-descriptive research in terms of its structure, which in terms of its main goal is considered to be of the type of applied and developmental research, which can also be used as an exploratory research approach considering the lack of previous research on the concept of the experience of space in traditional bases in approach to spatial continuity. According to the course of theoretical foundations, the effective factors in the influence of the experience of space in traditional bazars are considered and by explaining the branch of landscape architecture to it, these factors are tested by experts and elites for indexing using the Delphi method. In the result the indexes of diversity, behavioral activity and spatial continuity have the most weight in the opinion of experts, but if it is examined in methods such as questionnaires, other results can be extracted.

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1- This article is taken from the author's doctoral dissertation in architecture with the title "Explaining effective parameters on the individual's experience of the space in traditional bazars in approach to cognitive science" which is being done at the Islamic Azad University, Tehran-West Branch.

INTRODUCTION

Bazars have been the primary human centers for human gatherings and a place to exchange goods. People gather in bazars with different interests and desires, and the success of these spaces is proportional to their use and presence. The structure of traditional Iranian bazars and its parts and organs have an independent identity and have a meaningful connection with each other, as well as provide a platform for the expression of solidarity, unity, individual and collective feelings. Spatial sequence in Iranian architecture is a spiritual movement. (Edelstein and Macagno, 2012) The spatial behavior of humans in various environments is influenced by the objective characteristics of the environment on the one hand and by their mental conditions on the other hand. Therefore, the way they perceive a space depends to a large extent on the objective characteristics of the environment and their mental conditions in knowing the elements of the environment. (Epstein et al., 1999) One of the topics that has received less attention today is the relationship between man and his environment. In the meantime, commercial centers, as one of the most frequented urban spaces, are moving away from people's perceptual standards and have moved towards inappropriate imitations. With an overview, it can be seen that people do not feel completely satisfied in commercial spaces. It seems that new spaces are being formed in Iranian cities, which are often taken from foreign models and are proposed with the aim of creating a platform for social and economic activities that do not match the culture and needs of native people. (Fink, 2009) There are different models for designing commercial spaces, but in order to know the parameters affecting people, according to the internal needs and interests, the method of cognitive science can be used so that the behavior of people can be examined accordingly and the final parameters can be extracted. In other words, humans communicate and understand their surroundings through their

senses. Architects can influence the perception and behavior of users by how they design and create different bodies in architectural spaces. In the meantime, improving the quality and improvement of public spaces in cities, along with increasing the number of these spaces, are of particular importance due to their role in bringing people closer to each other and creating a sense of pleasure and memory in citizens. For this reason, the shaping of public spaces or the improvement of existing spaces, due to the wide range of its effects in different social, economic, cultural and physical fields, requires careful design. According to the mentioned contents; If the architecture of popular public spaces such as bazars are not designed according to the principles of people's cognitive sciences, it will cause irreparable long-term damage and the social health of people who are placed in these bodies will suffer. (Gramann et al., 2014) Therefore, in this research, according to the approach of cognitive science and its influence on architecture, which examines the parameters affecting the person's experience of the body of space; To create indexes and also indexes for creating desirable spatial experiences in the new commercial space. (Garhand, 2004)

MATERIALS AND METHODS

Research backgrounds

The opinion of architectural theorists with cognitive science approach

The architectural space is more than a place, it has cognitive effects on the brain and being there activates the brain, so its physiological and cognitive effects cannot be ignored. Today, with the emergence of a new theory of neuroscience in its connection with architecture, researchers have achieved a valuable result. With the emergence of the field of cognitive sciences in architecture, architectural environments can be defined to some extent with the rules and factors of neuroscience. By establishing spaces that strengthen memories and improve the cognitive ability of users, researchers also avoid stress by

stimulating instead of the mind (Kayan, 2011). Neuroscientists believe that if they use scientific processes to study the brain, they will reach new achievements of knowledge (Arnheim, 2007). Scientific studies in the field of nervous function have a relatively short history. "In the 19th century, researchers¹ obtained preliminary information on the anatomy and structure of the brain. This information created a revolutionary movement towards the expansion of this knowledge; and led scientists to realize that the best hope of understanding the brain and its inner activities is from interdisciplinary approaches. It rises" (Jackson, 2000). Sherrington was a physiologist who studied the involuntary reactions of the brain in response to stimuli. In the early 70s of the 19th centuries, new imaging methods were developed and made it possible to obtain clear images of the brain and nervous system. In the 1990s or the decade of the brain, the rapid and significant progress of brain imaging and study technology and the emergence of tools and devices caused neuroscience to have a more serious contribution to the advancement of knowledge. The history of neuroimaging began in 1900 and "in 1929, the first measurement of human brain activity was reported by Berger" (Mansoori et al., 2018). Nowadays, knowledge has progressed in such a way that by using specialized devices according to the type of need to check the functioning of the nerves of the brain, it is possible to record electrical waves and signals, whose analysis has many applications in various fields. Today, by means of these powerful experimental techniques, it is possible to see what different parts of the human brain are activated in different conditions. Also, by recording neural activities, electrophysiologists can check the relationship between stimuli and responses given by the brain and the effects they have on the nervous system of humans, and the compatibility and adaptation of these responses. To study in different conditions. Because brain activities are reflected in human behavior,

measurements can provide information for researchers in the field of the ability and limitations of brain function (Gilles, 2008). In Table 1, an extension of the background of architectural studies with a cognitive science approach is described.

Researches of public spaces with a neuroscience approach

In a study conducted by Mansouri (2017); The application of neuroscience for architects is described as follows: Garland calls "neuroscience" a branch of life science, which is "mental processes" (brain processes: feeling, perception, learning, memory, movement and organization of purposeful behavior and adaptation to the environment) will pay. Regarding the applications of neuroscience in architecture, Edelstein also refers to the "cognitive process of the process of presence, the rhythm of feelings and familiarity of a person in the face of architecture and the effect of man-made environment" on brain function (Nanda, 2013). Abernard introduces architecture based on neuroscience to increase the quality of life by reducing stress, increasing cognition, long-term productivity and a more favorable psychological and emotional response (Eberhard, 2009). The results of Mormede's studies also indicate the activation of a part of the automatic nervous system under the influence of the physical characteristics of the environment (Mormede et al, 2002). Wilson and Stenberg points to the existence of neuroscience findings and the extraction of its concepts by architects who take steps to optimize the human-made environment; To be responsible for mental processes. This category of studies on environmental characteristics; which create different physiological and nervous reactions such as a feeling of comfort in the physical environment or induce a sense of anxiety. In architectural designs based on the principles of neuroscience, they try to promote creativity, better spatial awareness and comfort of the users of their space. Abernard also considers the development of the horizons of neuroscience to

1- Benjamin Franklin, Descartes, Gall, Broca & Darwin

Table 1: Architectural studies with cognitive science approach

Year	Researchers	Topic	Research method and index	Findings
2006	Sternberg and Wilson	Neuroscience and Architecture: Seeking Common Ground	Descriptive and analytical enhancement of the sense of place	Inducing movement and movement through paths, the memorability of the place, spatial orientation
2007	Arnheim	The Dynamics of Architectural Form	A neurocognitive based therapist architecture	Brain stimuli with designed settlements based on neurocognition, how to interact with the environment and orientation in the environment, paying attention to the living environment and interior space for elderly people with regard to episodic memory based on the user's past biography.
2016	Edelstein and EDAC Eberhard	Neural-Architecture: Incorporating Clinical Expertise in Brain-based Design Principles	Descriptive and qualitative components	Principles of design based on mental processes, increasing the efficiency of design, the effect of neuroscience on architecture, the effect of architectural design on the brain and mind, creative use of scientific processes
2013	Nanda, et al.	Lessons from Neuroscience: form Follows Function, Emotions Follow Form	Analytical environment visual stimuli	Stimulants and visual images of the interface of the architectural environment, special visual characteristics of the visible environment
2014	Arbib	Towards Neuromorphic Architectur	Descriptive-analytical impact of emotions on perception and environmental design	The relationship between feeling and perception of space, the influence of emotions on environmental design, the way the brain and the mind interact with the environment, the positive reaction of the brain to golden proportions.
2016	Fich	Can the Design of Space Alter the Stress Response?	Applied and comparative effect of environmental perception on human physiology	The effect of environmental perception on human physiology, the inverse relationship between physiological stress and mental aesthetic experience
2016	Papale, et al.	When Neuroscience? 'Touches' Architecture: from Hapticity to a Supramodal Functioning of the Human Brain.	Descriptive and applied design of multi-sensory architecture and cognitive visualization	Responding to the behavioral environment, the central role of tactile perception and tactile images in evaluation, sensory experience and architectural perception, visualization of architectural experiences, beyond momentary sensory perception, processing of semantic, emotional and social representations with the visualization of architectural experiences.

create new knowledge for architects; So that the environments designed by architects can provide a suitable platform for cognitive activities. Among these, we can mention how to design and build inpatient rooms in the hospital, office and research buildings that can increase the recovery of patients. Through familiarity with neuroscience and its applications in architecture, one can understand how the brain enables the mind to

consciously experience architecture. Identifying the key features of conscious experiences and understanding the role of the mental qualities of the nervous system is effective in knowledge and experience and will greatly help architects in the more conscious design. In this regard, two important applications of neuroscience in architecture include the recognition of the influence of physical factors and the perception of

the physical environment from the perspective of neuroscience, especially neuropsychology (Malinin, 2016). With the progress of this interdisciplinary knowledge, it is possible to use the knowledge of neuroscience in architecture, and by applying this scientific field in architectural studies and designs, it is possible to identify the psychological effects of various buildings as influential drivers in architecture. He evaluated and examined them on the perceptual nervous system of the users and took steps towards the design of human-centered buildings in accordance with the needs of the users to lead to the creation of architects' research goals, efficiency in their design and finally comfort. By expanding the results of neuroscience research in the qualitative analysis of Iranian bases, considering the importance of neuroscience and the progress it has made in various fields in the last few decades, it is possible to create a bridge between architecture and neuroscience. As it was said, neuroscience is a branch of life science that includes the study of the brain and nervous system and brain processes such as feeling, learning, perception, memory and even orientation in the environment (Garhand, 2004). "The study of the brain and neural processes often includes information on the response to external stimuli" (Nanda U. et al., 2013).

Humans spend more than 90% of their life time in buildings and in relation with them. The design of building components has the potential to create tension and stress and even affect human health (Evans and Coy, 1998). In order to design healthy environments in accordance with physical and mental health and user preferences, architects need to apply the principles and criteria of neuroscience in their design process (Roe, 2008). The surrounding physical environments can affect people's knowledge and understanding, their ability to solve problems, and their mood; Because it is possible to increase the ability to understand the surrounding world through the advancement of neuroscience (Vartanian et al., 2013). A correct understanding of the support of the nervous system of humans can change their

behavior in interaction with the surrounding environment. The importance of this section is because architects rely on visual stimuli to think, design, present and even create environmental experiences. Neuroscience experts study the emotional and cognitive demands of users in the field of neuroscience by testing visual stimuli. Table 2 gives some up-to-date examples in this related field.

Factors creating spatial continuity in traditional bazar

Factors creating spatial continuity Spatial continuity can be created through some architectural features:

Transparency of walls: The most important factor to create continuity between two spaces is the transparency of their limiting surfaces, which can be created through openings, doors and windows. Openings can weaken the closeness of the space at the same time by communicating with the adjacent spaces according to their size, number and location. Also, openings can affect the design and continuity of the space, the quality of its lighting, views and the form of function and movement inside the space (Ching, 2006). Transparency in the physical space is tangible and obvious due to the properties of the materials and the physical characteristics and structure of the building, which is called physical-structural transparency. This type of transparency is associated with technological advances and structural systems in the direction of reducing matter and increasing space, and it is manifested in the geometric and measurable characteristics of space. In contrast, the transparency of the non-physical space cannot be touched or measured; But it is understandable by the audience and can be interpreted based on the concepts and cultural values of the society (Mir Ahmadi and Hashempour, 2019). In most of the Iranian architectural buildings, the body of the buildings is as transparent as possible by the architect and interacts inside and outside. Among the elements that create visual-perceptual transparency in this architecture. (Dadour et al., 2016). Transparency in architectural space appears on four levels, physical-structural,

Table 2: Studies of public spaces with a neuroscience approach

Year	Researchers	Topic	Research method and index	Findings
2013	Nanda U. et al.	Lessons from neuroscience: form follows function, emotions follow form	Analytical and qualitative neuroscience	The study of brain and neural processes often includes information on response to stimuli.
2009	Naqibipour et al	Application of neuroscience in the qualitative analysis of Iranian traditional bazars	Analytical Neuroscience	This study, with library surveys and using the analytical descriptive method, seeks to achieve principles in order to advance this knowledge in the field of architecture and design structures in accordance with the behavioral, mental and functional patterns of users of spaces (traditional bazars). The achievements of this article are the presentation of scientific structures and solutions in order to arouse positive feelings and emotions of the users of architectural spaces.
2019	Naserabad and Shahrudi	Investigating the effect of an urban element (bridge) on citizens' brain function	Comparison of citizens' brain function	It has been shown that the physical characteristics have influenced the brain waves of the users and by viewing the images, different signals have been recorded according to the mental impressions of the users. Also, after examining the data recorded from the users' brainwaves, the images that were significantly different from the other images were identified.
2019	Tafakor and et al.	Reinterpreting the Cynomorphy theory (co-construction) in the architecture of the Iranian local bazar, a case study: Tajrish Bazar, Tehran	Descriptive-analytical theory of Cynomorphy (body-behavior co-construction)	This research concludes that both the strong and flexible structure of the bazar's environmental structures with behavioral patterns has led to the continuous production of innovative relationships between the ecological environment and people, and the weak and inflexible structure in the Arg shopping center has led to limiting the variety of environmental behaviors. .

visual-perceptual, behavioral-functional and semantic-conceptual. Each level of transparency has indexes that show its main characteristics and how to check it (Bissell et al., 2015).

Axis: axes represent the directions and connect different elements to each other, which are the factor of spatial continuity and continuity (Hall, 2005). Axes connect and connect the spaces like strings that can be defined in different directions. But human orientation is in two axes, vertical and horizontal, and they are often used by architects (Malinin, 2016). Continuity of levels: levels are the main architectural elements in the formation of floors, walls and ceilings; which

shape the shape of the building and its spaces. The visual characteristics of the surfaces, the way they are placed and their relationship in the space, create the shape and special qualities of the space. A wall is a screen to separate one place from another. The floor defines the space with the help of internal borders. The roof is a shelter in the space below. The existence of common elements between two spaces induces a sense of continuity to the viewer. When the surface of the floor, wall or ceiling extends from one space to another, then the two spaces are continuous with each other (Corne, 1987). Intermediate space (third space): one of the main factors of

continuity, sequence and spatial arrangement of architectural and urban elements and in this way, it has an effective role in the organization of space. Such a space between the main spaces, while separating the two spaces, makes the fluidity of the space continue without any interruption (Buccino et al., 2011). For a better understanding, Ivan in Iranian architecture and Pilot in modern architecture are examples. Some sources refer to the interspace as the boundary between the inside and outside space and have the following definition for it: the interspace is an existence that is built at the beginning and different parts of the inside spaces are connected with the outside spaces in this way. In a geometry with complex inter-relationships, it becomes a stable place, a place that geometry gives it an understandable form, so the inter-space is not a separate or independent space; Rather, it always joins another space. The in-between space means the moment of change from one space to another, from one function to another, which requires a threshold to occur. Spaces in between become a part of the urban landscape whether they are created with planning or without planning. The quality of life in this space is directly influenced by its designed path (Rizzolatti and Craighero, 2005). The interstitial space is effective in the spatial organization of collections by using the basics and principles governing spatial relationships, and in the organized collections through their spatial characteristics, they influence the development and evolution of the interstitial spaces. The spaces in between create continuity between two interior spaces or between interior and exterior spaces. (Tab. 3)

Rhythm and Repetition: Rhythm refers to regular or coordinated repetition of lines, shapes, forms or colors and includes the fundamental theory of repetition, which is considered as a strategy for organizing forms and spaces in architecture. "Repetition in the form of rhythm or beat, as seen in music or architecture, is the infinitely simple principle of composition that tries to create a sense of coherence and continuity". (Meiss, 2004). The two factors of repetition

and sequence in a certain ratio are the factors that create visual rhythm in the architectural space, and based on this, it is possible to identify and understand the types of visual rhythm from the organization of building spaces to its details. When a pattern is repeated rhythmically, the brain perceives the space as more reliable, because the situation appears to be under control and predictability. The use of repetition is important for spaces where gaining people's trust is important. One of the characteristics of the city of Iran is its continuous and repetitive spaces, which are skillfully connected with a series of passages. His quotes in the book "Isfahan Image of Heaven" as follows: "Here, man is always inside something. In an alley that is often covered, inside the courtyard of khans, a school, a caravanserai, a mosque, inside a square surrounded by a continuous and continuous perimeter. is" (Torabi and Kharrazi, 2012). Transparency and continuity are the fundamental concepts of Iranian architecture and the opposite of closed and finished space, Darab Diba says about this: In such a space, the path of human movement or his gaze takes place in continuous continuity, so that the spatial openings in the lines Horizontal and vertical bring transparency to the sides of the walls and columns, so that the perspective and the final view in the infinite horizon takes on a new life and appearance again (Jolodarkarimi and Seydian, 2013) For example: in the Imam Mosque of Isfahan, movement and communication in It has been facilitated everywhere and there are no obstacles anywhere. The floor of the mosque does not have any stairs, railings or rows, and no doors can be seen.

Methodology

The current research is analytical-descriptive research in terms of its structure, which in terms of its main goal is considered to be of the type of applied and developmental research, which can also be used as an exploratory research approach considering the lack of previous research on the concept of the experience of space in traditional bases in approach to spatial continuity.

Table 3: Classification of the characteristics of the interstitial space

Quality	Index	Factor	Factor feature
Convertibility	Privacy	Conversion of privacy	Conversion of sanctions to each other
			The middle ground between two boundaries
		Spacing	Semi-public-semi-private
	Behaviour	Spatial behavior	Transformation and change of spatial behavior
		Spatial dependence	Depending on the space on both sides
		Transform space	Converting the sequences on both sides of the space to each other
		Rhythm transformation	Mental preparation and change of rhythm
			The moment of performance change
			Change tool
			Accession space
	Usage	Spatial composition	Spatial filter
			A combination of pace and movement
		Applied decision making	Decision making
		Spatial articulation	Articulating and connecting space
			Establishment space
	Spatial feeling	Spatial dynamics	Gradual smoothing
			A place of simultaneous ambiguities
A state of being free			
Permeability	Penetration	Relative penetrating	The relative penetration of two spaces into each other
		Transmission	The transfer
		Penetration mode	Half opening
	Half silence		
	Flexibility	Exclusivity	semi-enclosed
		Variety	Activity diversity
		Activity behaviour	Continuity of activities
Gradual change			
Visual sequence	Visual penetration	Spatial continuity	Continuity of sight
		Vision	
	Sequence	Spatial transparency	Transparency
			Reflection

According to the course of theoretical foundations, the effective factors in the influence of the experience of space in traditional bazars are considered and by explaining the branch of landscape architecture to it, these factors are tested by experts and elites for indexing using the Delphi method. Are taken so that the framework of the proposed criteria can be presented in chapter one. Based on this, a group of components has the ability to generalize in the direction of conducting research, which includes the assumption of a pair of criteria including Convertibility, Permeability and Visual sequence qualities.

DISCUSSION AND FINDINGS

Delphi method

The most important task in the Delphi method is the selection of experts and experts in the desired field. In this way, the selected people are given information about the Delphi method and they are invited to participate in this research. Anonymity is one of the important components of this research approach, the questions from the selected specialists and experts are followed by successive questionnaires. In this research, the initial model is developed based on the theoretical foundations and the use of existing models around the experience of space in traditional bases in approach to spatial continuity. After the initial design, this model was tested and developed through the Delphi method. The use of open-ended questions in the Delphi questionnaire and their analysis in the next stages was a judgment about reaching a consensus among experts and reaching theoretical saturation of the qualitative methods used in the analysis of the data obtained in the present research. The collection of field data in the current research began with the collection of questionnaires in the first stage of the research and the extracted data were analyzed through descriptive statistics and qualitative analysis.

Delphi method findings

In this research, the dimensions of the urban landscape and the components of the green roof

were used as a default in the first stage, extracted from the theoretical foundations of the subject, and then the qualities of the experience of space in approach to spatial continuity are presented according to the hypothesis of the research. These sub-components are expressed based on the estimation of the knowledge dimension of experts and also the perceptual process of citizenship. These factors are set as a package of suggestions in the panel of experts² and elites so that the Delphi method can be planned and applied. A total of 18 factors that were tested with this method to reach the final indexes include: Conversion of privacy, Spacing, spatial behavior, Spatial dependence, transform space, Rhythm transformation, spatial composition, applied decision making, Spatial articulation, Spatial dynamics, Relative penetration, transmission, penetration mode, Exclusivity, variety, Activity behaviour, Spatial continuity and Spatial transparency.

Findings of implementing the Delphi method

First round

In this round, the panel members identified 14 factors out of 18 factors that were extracted from successful researches as having a medium, high and very high impact on affecting the experience of space in approach to spatial continuity framework based on the concept of traditional bazar architecture architecture. The detailed and extended results related to the implementation of the first stage of questionnaire distribution are given in the following table. The factors of Spatial dependence, Applied decision making, Spatial articulation and Relative penetration have been removed from the Delphi process due to their average importance of less than 2.5. (Tab. 4)

2- It is necessary to explain that the board consisting of elites, including 4 faculty members of the Urban Planning and Landscape Department of Tehran University, 3 faculty members of the Faculty of Urban Planning and Architecture of Isfahan University of Arts, 3 faculty members of the Faculty of Architecture and Urban Planning of Tabriz University of Islamic Arts, 3 members of the Municipality Tehran (among the senior managers) and 2 PhD researchers who somehow had a research and management background in line with the position of the thesis.

Table 4: phase one of the fuzzy method in compiling the final affecting indexes in the experience of space in traditional bases in approach to spatial

No.	Factors	Number of responses	Average	Standard Deviation	Min.	Max.
1	Conversion of privacy	15	3/88	0/42	1	5
2	Spacing	15	3/51	0/66	1	5
3	Spatial behavior	15	3/32	0/61	1	5
4	Transform space	15	4/12	0/48	1	5
5	Rhythm transformation	15	3/95	0/35	1	5
6	Spatial composition	15	3/55	0/45	1	5
7	Spatial dynamics	15	3/23	0/43	1	5
8	Transmission	15	3/67	0/52	1	5
9	Penetration mode	15	3/87	0/62	1	5
10	Exclusivity	15	3/77	0/42	1	5
11	Variety	15	4/42	0/61	1	5
12	Activity behaviour	15	4/35	0/35	1	5
13	Spatial continuity	15	4/44	0/44	1	5
14	Spatial transparency	15	4/19	0/42	1	5

Second round

After the implementation of the first stage of assessment and evaluation of the opinion of the experts of the panel regarding the factors proposed and extracted from the theoretical bases and also receiving the suggestions of the panel members, in this round, in order to observe caution, all the factors extracted from the theoretical bases are again Along with the average opinion of the members in the first round and the previous opinion of the same member, it was provided to all the experts of the panel. The panel members recognized 10 factors out of the 14 factors presented in the second round as having a high and very high impact (with an average greater than 2.5) on the research framework. The detailed and extended results related to the implementation of the second stage of questionnaire distribution are given in the table below. Kendall's coordination coefficient for the members' answers about the order of the 10 factors that had a high and very high influence in this round was 0.775. The factors of spatial

behavior, Spatial dynamics, spatial composition and spacing have been removed from the Delphi process due to their average importance of less than 3.5 (Tab. 5).

Third round

In the third round of compiling the research framework, the final index, along with the average opinion of the members in the second round and the previous opinion of the same member, was provided to all panel experts. The detailed and extended results related to the implementation of the third stage of questionnaire distribution are given in the table below. Kendall's correlation coefficient for the members' answers about the order of the 10 factors was obtained as 0.793 (Tab. 6).

CONCLUSION AND RESULTS

Reasons for stopping polling

The results of the three rounds of implementing the Delphi method in the research show that a consensus has been reached among the panel members for the following reasons

Table 5: phase one of the fuzzy method in compiling the final affecting indexes in the experience of space in traditional bases in approach to spatial

No.	Factors	Number of responses	Average	Standard Deviation	Min.	Max.
1	Conversion of privacy	15	3/89	0/45	2	5
2	Transform space	15	4/22	0/65	2	5
3	Rhythm transformation	15	3/89	0/45	2	5
4	Transmission	15	3/68	0/25	2	5
5	Penetration mode	15	3/77	0/26	2	5
6	Exclusivity	15	3/77	0/45	2	5
7	Variety	15	4/45	0/35	2	5
8	Activity behavior	15	4/40	0/30	2	5
9	Spatial continuity	15	4/55	0/25	2	5
10	Spatial transparency	15	4/29	0/26	2	5

Table 6: phase one of the fuzzy method in compiling the final affecting indexes in the experience of space in traditional bases in approach to spatial

No.	Factors	Number of responses	Average	Standard Deviation	Min.	Max.
1	Conversion of privacy	15	4/02	0/35	3	5
2	Transform space	15	4/35	0/35	3	5
3	Rhythm transformation	15	4/12	0/38	3	5
4	Transmission	15	4/02	0/22	3	5
5	Penetration mode	15	4/12	0/23	3	5
6	Exclusivity	15	4/25	0/35	3	5
7	Variety	15	4/89	0/40	3	5
8	Activity behavior	15	4/80	0/25	3	5
9	Spatial continuity	15	4/66	0/22	3	5
10	Spatial transparency	15	4/65	0/28	3	5

and the repetition of the rounds can be ended:
 1- In the second round, more than 50% of the members chose 14 influential factors in developing the urban landscape of Ecology based on the concept of urban landscape architecture, who had an average greater than 2.5 among their factors.
 2- The standard deviation of the members' answers about the importance of the factors in the

third round has changed significantly compared to the previous rounds.
 3- Kendall's coordination coefficient for members' answers about the order of factors in the third round is 0.793. Considering that the number of panel members was more than 10 people, this amount of Kendall's coefficient is considered quite significant.
 4- Kendall's coefficient of coordination for the

arrangement of 10 influential factors in developing a research framework in the third round compared to the second round only increased by 0.017, which indicates a significant growth in this coefficient or the degree of consensus among the panel members in two consecutive rounds. Does not show

5- The points given to the factors by the experts and elites indicate that the index of readability, greenness, visual scale and formal features are the high points and therefore the most effective in realizing the construction and working model extraction.

Based on this, the following research framework can be presented as the result of studies, theoretical framework and Delphi method.

According to the results of the evaluation of the final indexes in Delphi method, the ranking of weight of each index can be presented up the following table (Table. 7):

Table 7: Ranking of affecting indexes weightings in the experience of space of traditional bases in approach to spatial continuity

No.	Factors	Average	Rank
1	Conversion of privacy	4/02	8
2	Transform space	4/35	5
3	Rhythm transformation	4/12	7
4	Transmission	4/02	8
5	Penetration mode	4/12	7
6	Exclusivity	4/25	6
7	Variety	4/89	1
8	Activity behavior	4/80	2
9	Spatial continuity	4/66	3
10	Spatial transparency	4/65	4

Therefore, it can be concluded that based on the results of this method, the indexes of diversity, behavioral activity and spatial continuity have the most weight in the opinion of experts, but if it is examined in methods such as questionnaires, other results can be extracted. For this reason, in future studies, in addition to using these indexes to check the conceptual model of the research, the compatibility of the respondents' opinions and their relationship can also be used.

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