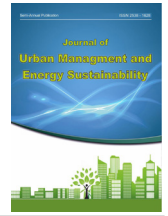# Journal of Urban Management and Energy Sustainability (JUMES)

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Explaining the model of indexes of in-between spaces with the approach of attendancy in public realms (Case Study: Shiraz Bazaar)

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ABSTRACT

Urban public areas are the most important part of cities and urban environments in terms of the most contact, communication and interaction between people, and the concept of attendancy can determine this social interaction in dealing with the architectural body such as the bazzar. In Iranian urban architecture, the passage from one space to another space has been continuously repeated, without ever breaking the continuity. The concept of in-between in traditional bazzars is different depending on its design, and in the general sense it includes all entrances, courtyards, entrances, corridors, and in a more specific sense, in-between connections are known as the concept of in-between systems, which creates pausing and giving permission is at the user's choice. The aim of the current research is to explain the index model of in-between spaces with the approach of attendancy in public realms such as historical bazzars. The research method is applied based on the purpose and descriptive-analytical based on its nature, and the method of data collection is from library sources, documents and internet sources, which according to the scope of the research, the field method was also used. In the first step and in the review of the background, the factors of attendancy and recognition of in-betweens and also the centrality of the bazzar are discussed. In the next step, according to the extraction of the factors affecting the subject, using the fuzzy Delphi method, a panel of elites and experts in the number of 15 people, using the Google Pot electronic questionnaire tool, was done digitally with the theme of the historical bazzar of Shiraz, and then the final indicators According to the rounds of the Delphi method, the evaluation model was extracted and explained. The findings indicate that 10 final indicators in the final compiled model were shared by the members, including the sociability index with an average score of 4.95, the spatial continuity index with an average score of 4.75, and the spatial determination index with an average score of 55. 4. and the user compatibility index with an average score of 4.56 are respectively the most and most effective factors in the formation of the research framework. The conclusion is based on the maximum impact of the perceptual and social component in the malleability of the concept of attendancy of intermediate spaces in public realms such as traditional bazzars.

Running Title: In-between spaces with the approach of attendancy in public realms

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
32	03	07

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INTRODUCTION

Establishing a stable relationship between the three elements of man, nature and architecture is a problem that most architects and researchers are trying to realize after the emergence of environmental and cultural problems caused by modern architecture. A joint is an element that provides the possibility of connection or disconnection between different spaces in mental and objective ways. (Bahreini, 2014) Urban public areas are the most important part of cities and urban environments in terms of the most contact, communication and interaction between people. Jane Jacobs (2007) describes the criterion of liveliness as the main factor of people's constant attendancy and sociability in space. The main function of the public space is to provide a platform for people's attendancy, so its social and cultural aspects have a special place. (Bentley, 2018) As the most important factor in the dynamics of the urban space, humans need a suitable platform for effective attendancy in public spaces. The loss of collective realms or public spaces in cities will lead to important social consequences, among which we can mention the downward movement and degradation of attendance and, as a result, urban social relations. (Broumand, 2018) In this regard, Nader Ardalan (2008) believes that Iranian architecture allows people to pass through an unobstructed space (vacuum) and not through a solid mass (mela) and, accordingly, there is no continuous fault or barrier on the way. Man does not create. A person constantly moves in a wavy and expanding space that is continuously the same (Ardalan et al., 2010). According to Sterling (1377), in Iranian urban architecture, the passage from one space to another is continuously repeated, without ever breaking the continuity. (Pour Mousavi, 2014) While helping to understand each space separately, this element helps the integrity of the texture by defining the hierarchy. (Dezhdar et al., 2012) Detail can play a role in all scales of design, from micro to macro scale, from structure to architecture, from volumetric concepts to details and decorations. Since one of the pillars

of stability is proper connection with the context from various cultural, social, environmental, and economic aspects, (Shah Cheraghi, 2019) with correct design and correct placement of joints, this connection can be formed in a suitable form and finally a lasting effect. bring along The evaluation of observing the proper distance between the areas (the functional aspect of the design) as a limitation and turning it into a possibility, (creating beauty through the emergence of creativity in the physical composition of the components) can be followed in the analysis of the articulation between the components of that design. (Fatemi and Tabibian, 2018) The category of in-between space and articulation is a window to approach most of the basic concepts of architecture. (Abbas Zadegan, 1384) urban spaces, the adverse social and economic effects of the individual performance of urban spaces can be seen today. By favoring the three-dimensional approach in urban divisions, it is necessary to pay more attention to the critical points, the focus of the collision of different forces. According to Aldo Van Eyck's statements, in a period of the modern architecture movement, there is no sense of place with an identity resulting from the unorganized space. (Scott, 2005) This means that the correct articulation plays an important role in the physical organization of a plan and in making issues such as the provision of security, the need for self-expression, privacy and territory, tradition and identity, correlation and continuity, more operational. And most importantly, the aesthetic aspect. (Simplicity and Complexity) in the fields of architecture and urban planning helps to organize our environmental perceptions. (Chiodi, 2016) Thus, knowing the physical characteristics of the space between, requires the use of words that express the multiple aspects of form, meaning and communication of this space. Therefore, in this research, they are called systems of in-betweens.

These spaces have an impact on the perception of the attendancy and urge the user to search in the space due to their value in creating a connection between the inside and

outside space (Moidi et al., 2013). In-betweens in traditional bazzarsare different depending on the design of urban areas, and in a general sense, it includes all entrances, courtyards, entrances, corridors, etc., and in a more specific sense, in-betweenconnections are known as the concept of in-between systems. , which causes a pause and allows the user to choose; These systems in the bazzar usually include quadrangles, sera, and sardar, etc. (Latfi et al., 2013). But it should be acknowledged that qualities such as attendancy and liveliness, which can be felt in spaces like traditional bazzars, do not happen in new commercial spaces that somehow play the role of a bazzar in the modern world. As it can be understood with the first layer of comparison through personal visual perception, new commercial spaces do not have any sign of the mentioned qualities at the level that exists in spaces such as the traditional bazzar. Therefore, there is a need to investigate and determine the reason why these qualities do not appear in new commercial spaces and to solve this problem by using old successful examples which are traditional bazzars. This research intends to examine the in-betweens from the point of view of attendancy in the Shiraz lawyer bazzar. Identify the in-betweens that have the highest level of attendance and perform spatial reading and analysis of the physical characteristics of each of them. The need to address this issue comes from the fact that, unfortunately, in the design of many applications, including commercial applications, the indicators related to space reading are not taken into consideration by designers. This causes the efficiency of the space to decrease, and sometimes the sense of satisfaction and consequently the attendancy of the space decreases. For this purpose, in this research, concepts such as in-between spaces and their identification criteria, different approaches to the qualities of attendancy and sociability have been analyzed; Then, the role of these systems should be reviewed using space reading approaches. Thus, as a case study, the in-betweens of the Iranian bazzar have been

addressed from the socio-architectural point of view. First of all, by using and understanding the physical characteristics of the architectural space, a model related to the intermediate spaces is prepared at a theoretical level, and then this model will be analyzed with the criteria of attendancy in relation to the architecture of the bazzar. For a detailed and practical examination of the issue, the traditional bazzar as a part of the historical identity of Shiraz city, which has played an active role in the cultural, commercial, and recreational realms during periods of the city's life, and a special type of collective realm formation within the city. Formed, will be reviewed; And through a review based on collective-public spaces, relying on the potentials of that area, and with the approach of identifying the criteria of attendancy and sociability qualities, the role of in-between systems in this collection has been re-read. One of the reasons for choosing the traditional city bazzar of Shiraz in the present study is its maximum attendance compared to similar examples and modern bazzars. Visiting and attending this bazzar (based on the statistics recorded in the Cultural Heritage Organization and CCTV cameras of the Urban Traffic Organization) on a weekly time scale is equal to 70,000 visitors on average, which requires both economic and architectural aspects. It has comprehensive reviews. Based on this, the current research tries to investigate the process of attendancy in the traditional bazzar of Shiraz by using two quantitative and qualitative strategies and in the form of analysis of spatial structure and relationships; In this way, the factors affecting attendance will be identified and by analyzing the structure and spatial relationships of the studied sample, measures of attendance criteria will be taken.

MATERIALS AND METHODS

In-between space

Space can be considered a system of relationships between objects. The space between objects is not just an empty space, the spaces between are necessary to recognize objects,

without these spaces independent recognition of objects is not practical, and apart from that, the space between plays a very important role in the relationship of each element with each other (Garcia- Roman et al., 2019) this space is a part of both realms at the same time, which is defined by these two and on the other hand defines them (Paydar et al., 2017). It is obvious that the private space defines the boundary or private territory of one or more people and the public space shows that the components of the middle space of residential complexes belong to everyone. But the debatable issue is the boundary between these two spaces, which is responsible for connecting the inner and outer realms, so the concept of the middle space is meaningful in relation to the concepts of inside and outside. The intermediate space is the area that is between the outside and the world inside the house and is like a transition space between the house and the street, which in the residential areas includes the semi-private and semi-public territory and acts as a connector between the public and private areas. In relation to the in-between space and its role in residential environments, researches have been conducted by researchers, all of which have made references to the concepts affected by the in-between space. These concepts include social interaction, territory and privacy, "identity" and "security", which in each of the previous researches, only the connection of one or more of them with the intermediate space is mentioned. Since the purpose of this research is to investigate the connection of all the above concepts It is with the in-between. All of these concepts are named under the title of environmental human qualities. In the following, the definition of each of the mentioned concepts is briefly mentioned (Tandogan and Ilhan, 2016).

Safety

Security factors in public environments depend on various conditions. The creation of such features in the environment, especially in high-use spaces, leads to a sense of attachment and interaction in the collective space and leads to the improvement of the quality of the environment. Residential satisfaction can be considered as a situation where residents, in addition to physical issues and facilities, focus on social and cultural issues and relationships between residents. They also pay attention and are satisfied with the quality of their residential environment, and their evaluation criteria is their residential environment. It is an acceptable limit of the living environment that is used as a criterion for evaluating residents (Franck, 2002). Security as a basic need in human communities is of particular importance, social security and security in general has a direct relationship with space and urban construction, a suitable urban space provides security to a large extent, and an inappropriate space destroys it and lays the groundwork. It is a type of damage and social problems. Inappropriate urban spaces, defenseless spaces, unsafe neighborhoods are all factors that threaten urban and social security. Today, security is one of the quality indicators of life in cities, and social harms are among the most important consequences of security. Meanwhile, urban spaces are among the components in which social anomalies occur.

Social Interactions

The identity community is interactive and meaningful, and the social world has personal meaning and significance for the people involved in it. Individual and social identities grow in the process of social interactions. It is in our interactions with others that we learn who we are and who we will become. According to Jenkins, the individual's identity, which distinguishes the individual from others, develops in the society. The first socialization and social interactions that occur in all lifetimes allow people to associate themselves in light of them (Day, 2018). Also, social interaction is a necessity to respond to human needs to connect and feel belonging to a place. An opportunity to achieve such a goal has been evaluated positively. Another reason is that people's activities help the individual growth of human beings by creating the grounds of socialization and sociability (Leng 2004, 187), paying

attention to the individual and social needs of people causes Adding quality to living spaces. Unfortunately, in today's residential environments, due to the lack of attention to human needs and quality design of the space, the social interactions of the residents have been weakened. According to what was said and responding to human needs, it is necessary to create spaces for creating social activities among people in urban spaces, residential environments and neighborhoods. The outer spaces are one of these. These spaces are created to interact with others to create the possibility of encounter and potential (Pasagullari and Doratli, 2019). A quality outdoor space can create social interaction by attracting people to come and stay in the space, the more people spend time on activities Extroverts will be more inclined to participate in collective activities (Throne, 1982). Research shows that such spaces can increase social interaction among residents, in other words, people go to outdoor spaces due to their need for social interaction (Beal and Todes, 2004). These outdoor spaces in residential complexes are part of the intermediate space. In this research, an attempt has been made to investigate the impact of the quality of the in-between on social interactions as one of the concepts of the quality of life in today's residential complexes.

Territory and privacy
A spatial territory is a limited space that individuals and groups use and defend as their exclusive range. Territory finds a psychological identity with a place and is symbolized by a sense of ownership and physical composition (McDowell, 1993). Irwin Altman has presented a category of territory in which three types of territory are "primary", "secondary" and "General" has been proposed (Altman, 2002, 138-145). Also, in a similar division for spatial territories, Newman defines the hierarchy of spatial territory in terms of private or public in the course of his defensible space theory: private space, semi-public space and public space (Ghel, 1987). The territory is one of the mechanisms of mon-

itoring the border between self and others and a means to achieve the desired solitude if the solitude and the mechanisms connected with it are neglected or used in a flexible way in the design or if the meaning of different layers of the space If the individual and the territory are forgotten, people are forced to struggle with the environment until they reach the desired border of interaction from their point of view (Pakzad, 2014). It follows a certain hierarchy. In defining such a hierarchy, one should pay attention to many meanings. When it comes to privacy and preserving it, it is clear that this word does not have a fixed meaning and includes wider meanings (Bahreini, 2008).

Identity
Identity is a feature of the environment that has different dimensions and approaches, how the human or the environment communicates is very effective in forming the identity of a place. In other words, there will be no connection and feeling of belonging between a person and his living environment unless he is able to deeply recognize and recognize it and is able to understand its distinction from other environments (Rezazadeh, 2010). In this research, the concept of identity has been discussed from its spatial dimension, that is, spatial identity. The identity of a place is the result of the differences and similarities of a place compared to other places. As an urban designer, Kevin Lynch considered the city space as a territory for life and identity (PPS, 1982). Spatial identity is part of the infrastructure of human individual identity and the result of his general knowledge about the physical world in which he lives; Therefore, the balanced relationship that is formed between a person's spatial identity and the characteristics of the surrounding environment is very important (Lawson, 2001). There are three concepts hidden in the term spatial identity. The place of identity and the territories of authority and the creator of these two concepts, people always refer themselves to the city, region or country where they live. In fact, people refer themselves more to

physical environments as places than the social environments of their living places determine their human and behavioral characteristics to some extent. The opposite is also true. Places are influenced by human identity. (Stangel, 2011)

In-between space in the physical domain
The intermediate space in the physical domain of space does not mean the intertwining of the fields to the point of causing disturbance, but it is necessary to pay special attention to the importance of the role and position of transition points in the fields of activity. The design of buildings and the space between them is effective in people's understanding of place control. There is a hierarchy in the extent and manner of controlling the spatial territory. Different aspects of this hierarchy are achieved with different degrees of personalization, ownership and control. "Alexander" on the one hand makes us aware of the discreteness of realms and on the other hand leads us to their continuity: any kind of internal continuity of realms is achieved only through the special border spaces of those realms (Hall, 2018). The internal continuity of each realm must be completely maintained and the hierarchy between realms must be greatly influenced by the relationships between realms; Therefore, the joints between successive or adjacent realms, the extent of their separation, their exact relationship with each other, the type of transformation and movement that needs to take place between them are all of vital importance, regardless of the specific size of the realms or their number (ibid., 184). Therefore, the transition points of the transfer from one realm to another, which at the beginning seemed to be "distances - of secondary importance between the realms, now, in themselves, come to the fore as main factors and of primary importance, these points are complete physical factors, they are independent, vital and very important in planning in a mobile, mechanized and noisy world. Each suitable separating device has the role of a "joint"... Each joint has its own shape. Words such as lock and fastener, which of them has its own role and position in the hierarchy of joints. (Latifi, 2013)

In-between body
As will be seen in the following paragraph and similar examples, it seems that sometimes semantic confusions occur between words such as joint, clause, reason, Joint, threshold and even filter. The type of communication space that is usually created from the intersection of the axes, this space can be searched in large urban dimensions with titles such as Maidan, Maidanche Hosseiniyeh, Takiye and Chaharsu (in the bazzars), for example, the open space of Hosseinieh Meyadin plays the role of a kind of urban intermediate space. Bazzar squares are the joints where events such as division, pause and change of use of lines usually happen (Behzad Far, 2008), so the future image and concepts can be helpful in clarifying the problem According to the simple and combined meaning used in the dictionary, it is mostly used to induce to close the fence and limit; Therefore, it refers to a coherent physical range so that its limits can be specified. This area can be the meeting place between inside and outside.

- In-between threshold: the most basic area of contact between two bodies or two elements.
- In-between border: the last limit of the area of a clause that participates in the formation of the in-between area.
- Intermediary area The area shared by two bodies through the relationships of "contrast", "adjacency", "conformity" and "interference" is called intermediary area. This area connects two separate bodies (which are somehow different in the gender of their components) and in terms of physical structure, it can extend to space in the form of a point.
- In-between structure: how a joint is formed in response to the relationships required by the elements that form it. Articulation: how two bodies are connected to each other, which is formed between two levels of correlation to continuity in terms of physical structure.
- Area connector: We call the continuity of the connected area and connecting two things of the same type that have the ability to be connected and create a continuous and unified set.

Therefore, the concept of Joint can be seen more as communication spaces in architecture, in which there is no way to separate and keep the components of the composition separate. This area is formed through the proximity or interference of two bodies. The in-between space, the correlation area If the in-between area is formed between two different bodies, its appearance will be more prominent, in that case it has a spatial gravity point, the surrounding environment that represents a bond and the overlapping areas with the bodies connected to the edge and threshold will be (Dines et al., 2016)
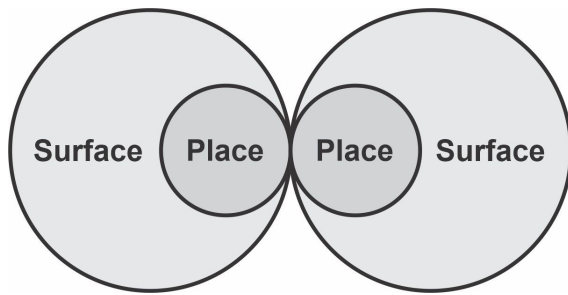

Figure 1: Continuity of different levels and the emergence of Joint in one area

Therefore, the formation of this area requires considering the accuracy and scope separately from other elements of the composition. The more the components of this area contrast with the components of the main elements of the composition, we will witness the formation of another area that is different from the other components of the composition; This area is called in-between space. The resulting area by spacing between the two elements of creating the center helps to perceive the areas in the form of path location and level. (figure 2)

Attendance
In order to better understand the concept of attendancy, first of all, the concept of quality is explained. The lexical meaning of the word "quality" in the dictionary of the Persian language of Amid, "how, adjective and state" of something is called. It refers to the type or characteristic of an object (Riahi, 2009). Pakzad defines quality as follows: "The quality of a thing or phenomenon that has a special emotional and intellectual effect on a person. On the other hand, it is the main features and characteristics of a thing, for example, stillness and amusement in a field, it is also a whole and a system of qualities that created a thing. The concept of "property" is broader than quality. Because it includes both the basic features and the non-basic features, the quality of the basic features of a thing, Stegalkar believes: quality is used in a normal state and in a very clear sense to describe the "degree of perfection of 10 objects and phenomena" as well as the word "the quality of some Sometimes it is used as the opposite of the term "quantity 11", which in this case refers to an "intangible" characteristic (Soltanzadeh, 2013), unlike the concept of quantity, which refers to a physical characteristic (Soltanzadeh, 2013). Quality is mentioned, its strengthening is related to the nature of current activities and their integration into each other. Thinkers also consider quality to be the same as attendancy, so that a person rarely steps into a place until
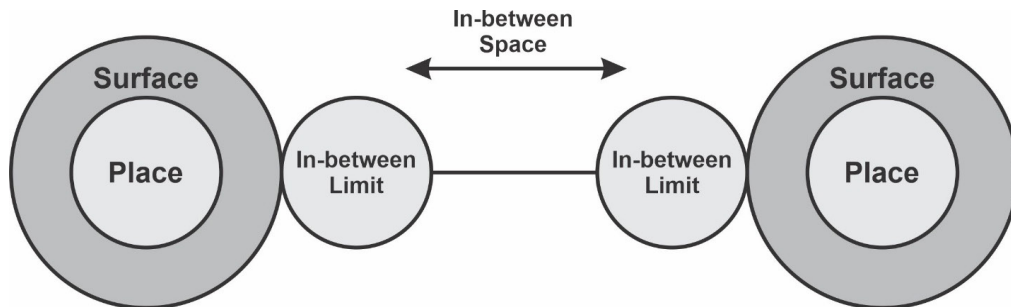

Figure 2: Correlation - joint and in-between body area in two hypothetical bodies

he finds a desirable and satisfactory place to be present. In other words, Paying attention to the qualities of the urban space is effective in the attendancy of people in it (Tavakoli Thani and others 2015, 2). Also, Yan Gol uses the feature of attendancy of urban spaces with the term inviting city. He uses words such as attendancy or a platform for the attendancy of urban space. defines it by emphasizing the attendancy of the people and considers its social burden. Rafiyan believes: "The main function of the public space is to provide and support the attendancy of the people, so its social and cultural aspects have a special place (FF, 2022) as well Social space is produced as the realm of attendancy of people; This means that space cannot exist by itself. The square, as a public space in the city, has many main qualities or characteristics, such as cheerfulness, tranquility, etc., which distinguish the square from other public spaces, for example, if

a space with a stillness is not necessary, it can no longer be called a square. (Watson and Studdert, 2006). In addition, these qualities are also proposed as criteria for the desirability of space. According to the opinions of the experts about the concept of quality and its relationship with attendancy in public spaces, attendancy can be defined as attendancy is a quality whose realization in public spaces as its social realm depends on the existence of other qualities such as vitality, flexibility, cheerfulness. and .... (Figure 3) (Tables 1 and 2)

Figure 3: Interrelationship of attendancy and sociability in public space

In the following, it is possible to refer to the cases that are specifically mentioned as operating data:

Table 1: Factors affecting attendance

Effective factors	Theorist	Year	Components	Strategy
Climatic comfort	Paimer	2010	physical relaxation Mental relaxation	Adequate width of the sidewalks, the attendancy of shaded places to sit
	Rastbin	2011	Climatic comfort physical comfort	Jan Gehl: Creating suitable climatic conditions Create appropriate light and shade Protecting people from the wind
				Jane Jacobs: Paying attention to climate issues according to space needs
safety and security	Paimer	2010	Activity, to be exposed Constant control and supervision	Creating public spaces Creating an unobstructed view Proper lighting Provide enough parking Suitable pavement Definition of pedestrian lines
variety	Bentley	2010	Diversity of space experience Environmental characteristics Form	Creation of various building types Variety of users with various forms
	Rafian et al.	2012	Activity diversity Spatial diversity	Making it possible for people to attend Create an attractive environment
User compatibility	Ziari	2009	The meaning of compatibility Placement of compatible users Separation of incompatible uses	The matching of spaces with each other, locating or separating incompatible uses from compatible ones
	Rafian et al.	2011	The desirability of activities in space and the performance of the space itself	Design based on benefit Suitable from all parts of the space

Effective factors	Theorist	Year	Components	Strategy
Inviting space	Rafian et al.	2011	People's desire to attend Motivation to use space Attention to the physical and mental aspects of people	The type of entrance to the spaces and their design Appropriate furniture The peace and quiet of the footpaths and paving
Human Scale	Tibaldz	2008	The relationship between the dimensions of a building or space with human dimensions Comfortable environment Create peace	Attention to the scale and steps of pedestrians Attention to human standards Green design
	Ziari	2009	Sense of peace	Spatial confinement
Spatial determination	Shahi	2012	Observer's view Space type The character of the space	Form and geometry of space Current activities and functions in space The geometry of space, the beauty of space The dimensions and size of the space and the shape of the space The relationship between the dimensions of space and human perception of that space People's positive or negative sense of space
Collective memories	Pakzad	1996	Action and activity	Changes based on structural components of space
Neighborhood-ism	Shahi	2012	Association of memories	Attention to social, economic, cultural, environmental, mental and physical health indicators
	Barrati	2011	The possibility of people attending Public areas Real participation	Decentralization Various urban development programs and plans
Popular urban furniture	Rastbin	2011	A part of the semi-fixed appearance of the spatial arrangement Current means of living in the space between buildings	How to arrange and arrange the furniture in the space A shelter for sudden events Usability The quality and beauty of the city
Creating continuity and a coherent structure	Pakzad	1996	Continuation and continuing Functional and visual continuity Continuity of cohesive force Composition, strength and consistency	Continuity of routes Continuity of users Integration of spaces with different uses
Readability and predictability of space	Golkar	2007	readability	Creating easy access to desired points and signs
	Paimer	2010	Perceptual qualities in the spaces of permeability and diversity to be understood	Create appropriate forms without complexity in the plan to prevent the creation of blind spots
	Rafian et al.	2011	Clarity Ability to role play Sense of place and sense of belonging	Create appropriate forms without complexity in the design
	Mituni et al.	2013	Ease of understanding space Perception of space	Pay attention to the visual features of the design

Effective factors	Theorist	Year	Components	Strategy
Public access and inclusive-ness	Tibaldz	2008	activities Various sources, information and places	Providing convenient access Access to parking
	Paimer	2010	Full resolution	Effective access by car Personal and access to transportation
	Shahi	2013	Variety	Use design and various options
Participation in the creation and use of space	Pakzad	1996	sense of belonging	Failure to design all spaces to perfection
	Shahi	2013	Aligning the environment to the needs of users Caring for the environment	Gaining the trust of users
Efficient man-agement	Behzad-far and Mah-moudi	2009	Organization of agents and resources Meeting the needs of users	A broad and comprehensive view Pursuing goals responsibility Participation in management
	Shahi	2013	The scientific nature of the urban management process	Detailed planning

Table 2: Summary of research background

The title of the re-search	Name and year	Variables	Results
The changing nature of in-between spaces in the process of urban transformation	Rambza and Sasbjarska, 2022	Security, physical safety of space	The results show that the transformation process of spaces in public spaces may change the nature of cities, improve the compactness of cities and increase the quality of life.
City entanglement: Achieving urban con-vergence by examining in-between spaces in the city of Caracas	Garcia Alcaraz, 2022	Social interactions, identity, con-vergence, social distance	The results indicate that in-betweens can lead to the formation of coherence, convergence and political power of a land, which is created by correcting social interactions.
Modeling of in-be-tweens in native houses in East Gilan	Malek Fazli, 2022	Porches and stairs	Porches and stairs have been the most used types of spaces in the houses of these areas.
Change and allocation of in-betweens in Cairo	Abu Ali et al., 2022	Spatial Quality - Life	People can regenerate the spaces in between in dynamic and creative ways. In-between spaces can be developed to better realize functional and symbolic values.
There is a ripple effect: A social identity per-spective on the role of in-between spaces	Fang and Haslam 2021	Identity, well-be-ing, social spaces, attendancy	In-between spaces can support positive social identities, being in in-between spaces facilitates a sense of well-being, and in-between spaces are potential interfaces to broaden community.
In-betweens in the global age	Lazzarini, 2021	Communication and individual and collective identity, social dynamics	The urban public space is a place where continuous experiences are formed; And with the revelation of an "intermediate space", or an intermediate dimension, the differences in experiences are revealed.
Evaluating the impact of the spatial structure of in-betweens among dense houses on the social interaction of users	Zeruti and Bella, 2020	Social interactions, permeability	Social activities in mass residential areas are dependent on the permeability of the intervening spaces, which, if appropriate, increases interaction and social activities.

The title of the research	Name and year	Variables	Results
Promoting attendancy through the planning of in-between spaces: a theory-based framework	Goossen and Glyers, 2020	Civic identity, quality of life, social capital and revitalization of society	The attendancy of spaces has become increasingly influential in the field of urban planning, the spaces in between have been proposed as a facilitator in strengthening public life. and has direct (economic) and indirect (environmental and social) benefits.
Knowing how to use the spaces in between to be present in times of crisis	Vox and Essie, 2019	Attendancy, sociability, security, key, crisis	The results show that the use of in-betweens in times of crisis such as war, coercive violence, etc. are the best places for the attendancy of prominent people. By creating coffee shops, commercial and exhibition spaces, people's awareness of using these places can be improved.
Discourse change in the spaces between: ideological concepts	Weksber and Aberlander, 2017	Social, business and digital (virtual)	The in-between spaces provide a space for people to balance the emotional attachments of home and family with the challenge of striving for competence and reward in the commercial space.
Investigating how the quality of spatial continuity in the entrances affects the attendancy in the bazzar (case example: Shiraz traditional bazzar)	Bagheri et al., 1401	Attendancy, spatial continuity, traditional bazzar	The results indicated the existence of a direct relationship between spatial continuity in some bazzar entrances and the desire to use those entrances to be present in the bazzar. Also, physical continuity, functional continuity and visual continuity are among the dimensions of spatial continuity in the entrances, and the set of these factors can play a role in the degree of attendancy in an urban space (for example, a bazzar).
Investigating the effect of the quality of connectivity in the interior spaces of the bazzars on the attendance rate (case study: traditional bazzars of Shiraz metropolis)	Bagheri et al., 1401	Attendancy, physical continuity, functional bazzar	Physical and functional continuity are the most important factors in promoting attendancy in the bazzar, and in this connection, spatial integration, shape continuity, transformability and continuity of uses are among the most important factors related to the quality of continuity in the interior space of bazzars, which affects the degree of attendancy in the bazzar.
Examining the role of periodic bazzars in the attendancy of residents of urban neighborhoods and increasing social interactions, case study: Hamadan city	Aram et al., 2017	Attendancy, bazzar, neighborhood, social interactions	The results of the research show that in neighborhoods with a periodic bazzar, due to the attracting factor of the bazzar population and the attendancy of more people, the level of familiarity of neighbors with each other and social interactions is higher than in neighborhoods without a periodic bazzar.
Investigating the role of green spaces on the attendancy of residents and increasing social interactions in neighborhoods with periodic bazzars(case example: daily bazzars in Hamedan)	Aram et al., 2017	Attendance, periodic bazzar, social interactions	In the localities where periodic bazzar is held, and the place where it is established has green space, the rate of going to the bazzar, getting to know each other among neighbors, the sense of belonging and cooperation with each other is more than the localities that do not have green space. Also, among the other results of the research is the achievement of effective indicators in the quality of green spaces, which in order of importance are: 1. The beauty of urban furniture 2. Suitable vegetation 3. Adequacy of urban furniture 4. Appropriate flooring
Improving the opportunity of people's attendancy and participation by introducing the types of public space of the creative city (case example of Yazd city),	Irandoost et al. 2014	Public space, attendance, participation	This survey shows that the function of public spaces is communicative, shaping the neighborhood, residential, multi-purpose, flourishing people's talent, strengthening social relations, exciting, responsive, informative and religious. These spaces can motivate people's attendancy to increase public participation in city management

The title of the re-search	Name and year	Variables	Results
Investigating how the quality of spatial conti-nuity in the entrances affects the attendancy in the bazzar (case exam-ple: Shiraz traditional bazzar)	Bagheri et al., 2022	Attendancy, spatial continuity, tradi-tional bazzar	The results indicated the existence of a direct relationship between spatial continuity in some bazzar entrances and the desire to use those entrances to be present in the bazzar. Also, physical continuity, functional continuity and visual continuity are among the dimensions of spatial continuity in the entrances, and the set of these factors can play a role in the degree of attendancy in an urban space (for example, a bazzar).
Investigating the effect of the quality of con-nectivity in the interior spaces of the bazzarson the attendance rate (case study: traditional bazzarsof Shiraz me-tropolis)	Bagheri et al., 2022	Attendancy, physical continuity, functional bazzar	Physical and functional continuity are the most important factors in promoting attendancy in the bazzar, and in this connection, spatial integration, shape continuity, transformability and continuity of uses are among the most important factors related to the quality of continuity in the interior space of bazzars, which affects the degree of attendancy in the bazzar.
Examining the role of periodic bazzarsin the attendancy of residents of urban neighborhoods and increasing social interactions, case study: Hamadan city	Aram et al., 2017	Attendancy, bazzar, neighborhood, social interactions	The results of the research show that in neighborhoods with a periodic bazzar, due to the attracting factor of the bazzar population and the attendancy of more people, the level of familiarity of neighbors with each other and social interactions is higher than in neighborhoods without a periodic bazzar.

Therefore, the factors that can be effective in the subject from the combination of the research background and theoretical framework include: climatic comfort, safety and security, diversity of activities, environmental conditions, user compatibility, spatial characteristics, inviting space, scale, spatial determination, collective memory, continuity. Spatial, spatial legibility, access, social interactions, identity, sociability, permeability.

Research Methodology
The research method is applied based on the purpose and descriptive-analytical based on the nature. In the first step, following the background check, the factors of attendancy and knowledge of in-betweens and the centrality of the bazzar are discussed. This part of the research is based on descriptive and analytical method using li-brary studies. During this process, various factors affecting attendancy are extracted and divided into two parts: the first group includes factors related to spatial cognition, which helps to un-derstand the relationships between different parts of the space and also to discover the vital points in it. . The second category includes the factors that deal with the knowledge of architec-tural components needed in order to be present in the in-between space in traditional bazzars. In the next step, according to the extraction of the factors affecting the subject, using the fuzzy Del-phi method, a panel of elites and experts in the number of 15 people will be done digitally using the Google Pot electronic questionnaire tool. In the following, the final indicators are explained according to the rounds of the Delphi extraction method and the evaluation model.

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 (Alizadeh, 2013, 33).

In this research, first, the initial model is developed based on the theoretical foundations and the use of the existing models around the concepts of the in-between space and also the structural factors of attendancy in the public realm. 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 concept of attendancy is used as a presupposition in the first stage, extracted from the theoretical foundations for the subject, and then the components of the in-betweens are presented according to the assumption 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 have been arranged as a suggested package in the panel of experts and elites so that the Delphi method can be planned and applied. A total of 17 factors that have been tested in this method to reach the final indicators.

Findings of implementing the Delphi method

first round

In this round, the panel members identified 13 factors out of 17 factors that were extracted from successful researches as having moderate, high and very high influence in developing the index model of in-between spaces with the approach of attendancy in public realms . Detailed and extended results related to the implementation of the first stage of questionnaire distribution are given in the following table. The factors of climate comfort, environmental conditions, collective memory and accessibility have been removed from the Delphi process due to their average importance of less than 2.5. (Table 1)

Table 1: the phase of a fuzzy method in compiling the final indicators of in-between spaces with the approach of attendancy in public realms

No.	Factors	Response	Average	Standard deviation	Min.	Max.
1	safety and security	15	3/38	0/36	1	5
2	Activity diversity	15	2/58	0/45	1	5
3	Landscape compatibility	15	3/89	0/51	1	5
4	Spatial specifications	15	3/20	0/34	1	5
5	Inviting space	15	3/72	0/38	1	5
6	Scale	15	2/75	0/45	1	5
7	Spatial determination	15	3/80	0/65	1	5
8	Spatial continuity	15	3/86	0/53	1	5
9	Spatial readability	15	3/67	0/42	1	5
10	Social interactions	15	3/20	0/71	1	5
11	Identity	15	2/60	0/46	1	5
12	Sociability	15	3/90	0/35	1	5
13	Permeability	15	3/20	0/54	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 13 factors that were 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 0.765 (Table 3).

Third round

In the third round of compiling the research framework, the final indicators, along with the average opinion of the members in the second round and the previous opinion of the same member, were 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 members' answers about the order of the 10 factors was obtained as 0.790 (Table 4).

RESULT AND CONCLUSION

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 and the repetition of the rounds can be ended:

1- In the second round, more than 50% of the members chose 13 influential factors in compiling the final indicators of in-between spaces with the approach of attendancy in public realms, 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.

Table 2: Phase two of the fuzzy method in compiling the final indicators of in-between spaces with the approach of attendancy in public realms

No.	Factors	Response	Average	Standard deviation	Min.	Max.
1	safety and security	15	3/48	0/42	2	5
2	Landscape compatibility	15	4/12	0/45	2	5
3	Spatial specifications	15	3/58	0/36	2	5
4	Inviting space	15	3/82	0/42	2	5
5	Spatial determination	15	4/25	0/52	2	5
6	Spatial continuity	15	4/56	0/47	2	5
7	Spatial readability	15	3/57	0/38	2	5
8	Social interactions	15	3/34	0/61	2	5
9	Sociability	15	4/82	0/42	2	5
10	Permeability	15	3/62	0/39	2	5

3- Kendall's coordination coefficient for members' answers about the order of factors in the third round is 0.790. 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 the research framework in the third round compared to the second round only increased by 0.025, which shows 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 indicators of sociability, spatial continuity, spatial determination and user compatibility have the highest score and, as a result, the most impact in realizing the construction and business model.

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

Therefore, it is possible to evaluate the raised issue in the direct influencing components and also the suggested indicators in case examples and propose a model based on the formed structure.

Table 3: three stages of fuzzy methods in compiling the final indicators of in-between spaces with the approach of attendancy in public realms

No.	Factors	Response	Average	Standard deviation	Min.	Max.
1	safety and security	15	3/75	0/22	3	5
2	Landscape compatibility	15	4/56	0/25	3	5
3	Spatial specifications	15	3/72	0/26	3	5
4	Inviting space	15	3/82	0/22	3	5
5	Spatial determination	15	4/55	0/32	3	5
6	Spatial continuity	15	4/75	0/27	3	5
7	Spatial readability	15	3/68	0/28	3	5
8	Social interactions	15	3/45	0/31	3	5
9	Sociability	15	4/95	0/32	3	5
10	Permeability	15	3/72	0/29	3	5

Table 5: proposed research framework to explain the applied model

Minimum spatial scale of measurement	Measurement method	Type	Index	Component	Concept
Urban Block	Preference, ideal limit of optimal fit, questionnaire	Quantitative	Spatial specifications	Spatial	In-between Space
		Qualitative	Inviting space		
		Qualitative	Spatial specifications		
		Qualitative	Spatial continuity		
		Qualitative	Spatial readability		
		Qualitative	Permeability		
Urban Block	Questionnaire	Qualitative	Landscape compatibility	Functional	
Urban Block	Questionnaire	Qualitative	Social interactions	Social	Attendance
		Qualitative	Identity		
		Qualitative	Sociability		
		Qualitative	safety and security	perceptive	

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