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Identifying and Assessing the Semantic and Visual Perception Signs in the Identification of Fahadan Neighborhood of Yazd

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ABSTRACT

The city is a collection of natural, social, and human-recognized environmental factors, in which the concentrated resident population has a specific identity. An identity that distinguishes the city from other cities and gives meaning to the population living in it. This particular personality and identity are defined and described by different components. These components, which form the essential structure of the city based on differences in form, content, and function, are different in different cities. Therefore, this study aims to explain and examine visual and semantic cues in segmental identity. This research is a nested mixed method in terms of the type of development application and terms of method. In the qualitative method, the Delphi system is used to validate the extraction of variables. In a quantitative step, regression and Pearson correlation methods were used to determine the contribution of each component. The results show that in the Fahadan neighborhood of Yazd, the highest share is related to the components of the concept of space, with the value (1.000) and then cryptography with the value (0.968). The lowest share is related to the element of nature with the amount (0.457). Increasing the puzzle and the concept of space leads to a deeper knowledge of space and increases the sense of ownership over it. As the sense of belonging to the space increases, the perceptual richness increases, and a suitable behavioral environment is created.

***Keywords**: Semiotics, Visual Signs, Semantic Signs, Identification, Fahadan Neighborhood of Yazd*

1. INTRODUCTION

"Identity", in urban environment and appearance, refers to a feature always very important and components like human, culture and behavioral sciences significantly affect the identification of an environment. Hence, an identified urban environment may be as a link between the individual and society, the individual and history and the past, urban life, time, environment, and nature around him/her [1]. Today's urbanization in Iran has been unfortunately reduced to a physical manifestation before turning to the mentioned content factors. Today's cities consist of physics for which no concept may be considered [2] and the uniformity of cities'

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texture, the mismatch of the space appearance, its meaning, and perception of the environment besides lack of attention to the concept of culture in the body and the meaning is obvious in them [3].

This is while space, besides its body and geometric and aesthetic features, has various meanings causing it to play a role in the society's collective memory and define functions for itself at different times (in the mind) [4]. Therefore, it is worth noting that by referring to all these cases, it will be possible to define the various divisions of the Iranian urban spaces' identity (physical identity, semantic identity, and functional identity) [5].

Nowadays, given the lack of appropriate visual knowledge as well as the severe effects of modernism functionalism on cities, it has imposed excess visual disturbance and anomaly on their visual environment [6]. Most urban semiotics experts believe that the city structure is recognizable due to its symbolic meanings going beyond functional meanings [7] so that investigation of meaning from various perspectives reveals that this concept includes all the mentalities a stimulus creates for the observer when comparing it with his own experiences, goals, and objectives [8].

Accordingly, the current study tries to explain and examine visual and semantic signs in identification. In this study, the researcher explores the texture of the Fahadan neighborhood of Yazd city (Iran) as a visual example for the audience's mental image as well as how it is identified with the Fahad

an neighborhood of Yazd city. In the qualitative part, to extract semantic and visual components from the interview and coding method and in the quantitative part to determine the share of each semantic and visual component affecting the identity of Fahadan neighborhood of Yazd, Pearson questionnaire and regression and correlation methods were used. It also tries to answer the following question:

What are the visual and semantic signs in the identification of the environment and to what extent do they affect the identification of the Fahadan neighborhood of Yazd city?

2. Theoretical Foundations

2-1. Semiotics

Semiotics refers to a branch of human knowledge dealing with signs, and how they are employed to communicate between humans, besides how to generate meaning and transmit it in society. Semiotics indeed stands for a multidisciplinary science united by a common goal in order to understand meaningful human behavior better [9].

2-1-1. Species Diversity in Semiotic

A sign's physical identification may be derived from two categories of variables, including [10]: 1) The sign's physical characteristics, i.e. the variables belonging to the sign element itself that is part of its existential nature; 2) The characteristics of the sign's contextual role, focusing on the type of relationship between the element or context and the surrounding texture; the second feature includes visibility and how the volume is combined with the adjacent texture. It shows a quality display that is the consequence of distances and angles of view to the urban sign, a part of the urban perspective defined by the visual and movement sequences [11].

2-2. Perception of the Visual Quality of the Environment

The perception phenomenon is a mental process during which sensory experiences become significant, through which human recognizes the relationships between things and the objects' meanings. In this process, sensory experiences, concepts, and perceptions resulting from it, the individual's motivation, and the situation in which the perception is created are involved [12].

In this case, environmental perception stands for a process in which humans receive the required data and mental perceptions from the surrounding environment combined with their knowledge of the environment. This is in its turn the consequence of the interaction of sensory perception and cognition. Environmental perception occurs according to the five human senses and from the objective dimensions of the environment with the sense of sight playing the most significant role in the visual perception of urban environments [13]. (Table.1)

Table 1: Effective components in improving the urban spaces' visual quality (Vahdat, Rezaei Rad, 2017) [13]

Experts	Year	Effective components in improving visual quality	Experts	Year	Effective components in improving visual quality
Cullen	1961	Sequence; Continuity; Move; Hidden view; Variety in the direction of movement	Lynch	1960	Readability; Visual clarity; Transparency
Lerup	1972	Continuity; Readability; Predictability	Spreiregen	1965	Perspectives; Diverse visual experiences
Bentley et al	1985	Visual proportions; Visual sensory richness; Readability; Visual compatibility	Lynch & Hack	1985	Unity; Readability
Lang	1987	Forms; Proportions; Rhythm; Scale; Complexity; Color	Gehl	1987	Beautiful view
South Worth	1989	Sight; Landscape	Tibbalds	1988	Visual pleasure; Readability; Scale; Restriction
Carr et al	1992	Exploration and mystery	Marcus & Francis	1990	Visibility; Optimal light; green space; Possibilities
Nasar	1994	Shape; Proportions; Rhythm; Scale; Color; lighting; Shadow; Hierarchy; Spatial communications; Ambiguity; Innovation; Compatibility and surprise; Enclosure	Leonard & Lenaard	1993	navigation; Readability
Lokaitou – Sideris & Baberjee	1998	access; Readability; Continuity; Services; Body beauty	Punter & Camrona	1997	Quality of views: Skyline; Perspectives; Control and construction of high-rise buildings
Oldenburg	1999	Suitable context; Readability	Montgomery	1998	Creativity in architecture; Variety of parts
PPS	2001	Readability; Continuity; Variety; Greenness; Suitable appearance	DETR/CABE	2000	Visual diversity; Readability; Continuity; Enclosure
Steadman	2004	Green space	Carmona	2003	Roof view; Skyline; Baseline; Urban walls; Floor; Earth view; Natural and artificial elements
Hooker	2005	Lighting; Public equipment and facilities	Hoehner	2005	Environmental beauty; Continuity and readability of the route
Burton	2005	Cleanliness; Aesthetic	De Bourdeu Dhuji	2005	Connecting streets; Continuity
Frank	2006	Environmental beauty; Proximity to historical elements	Ramirez	2006	Air quality (pollution); Street furniture; Climatic conditions
Carmona	2007	Factors creating identity and emphasis; Association of physical components to each other and to the whole	Frank	2006	Passage network connections; Continuity
Kumar	2009	Architectural view and connection of walls	Forsyth & Sout Worth	2008	Urban furniture; Green space; Street visual quality cleanliness

2-3. Environmental Identity

Identity refers to the sense of belonging to material and spiritual set with elements already formed [14]. Accordingly, it should be noted that like other objective phenomena, each of the environmental appearance elements has an [8]. In this state, the individual transforms part of the objects of the environment into a mental image; thus, the best way to assess the status of identity, if, on the one hand, they are objectivity independent, and on the other hand, individuals are present in the environment as objective objects and the individuality of individual elements, first recognizing the environmental appearance and then adapting it to their mind identity will be possible in the two ways below [5]:

1) Addressing the expectations from an environmental objective element;
2) Adapting it to the ideas arising in the individuals' minds [15]. The place is the most significant feature in transforming the environment into identity. The environmental semantic quality becomes meaningful when having an identity and roots.

Table 2: Effective components in improving Environmental Identity (Soleimani, Etesam, & Habib, 2013) [16]

Experts	Year	Effective components in improving Environmental Identity	Experts	Year	Effective components in improving Environmental Identity
Charles Correa	1983	Continuity, personalization, adaptation to human needs, adaptation of form to technology and materials, adaptation to climate, adaptation to culture, adaptation to the spirit of the time	Lynch	1960	Adaptation of form and function, Transparency, Adaptation to texture, Readability, Adaptation to culture, Adaptation, Adaptation to the spirit of the time, Personalization, Adaptation to human needs
Schultz	2003	Adaptation of form and function, Transparency, Adaptation to texture, Readability, Adaptation to culture, Adaptation, Adaptation to the spirit of the time, Personalization, Adaptation to human needs	Lang	1987	Adaptation to the spirit of the time, adaptation to human needs, personalization, adaptation to context, adaptation to culture, creativity and innovation
Jeffrey Broadbent	2009	Adaptation to texture, adaptation to climate, adaptation to culture, adaptation to human needs, adaptation to the spirit of the time, adaptation of form to technology and materials	Kenneth Frampton	2006	Continuity, adaptation to the spirit of the time, adaptation to culture, adaptation of form to technology and materials, creativity and innovation, adaptation to climate
Amos Rapoport	2012	Adaptation to human needs, adaptation to culture, personalization, flexibility, adaptation to texture, readability	Cullen Gordon	2011	Adaptation to culture, personalization, creativity and innovation, adaptation to context

Previous studies have only expressed these effects passively and the lack of attention to the effective factors in the field of identification has not been done simultaneously in the semantic and visual dimensions.
In this regard, the researcher has divided this chapter of the research into two separate parts. In the first part, he deals with the typology of types of signs and then, the effect of semantic and visual perceptual components of the environment on the identity of the Fahadan neighborhood of Yazd in this regard. Examine the components. (Chart .1: Conceptual model of research).

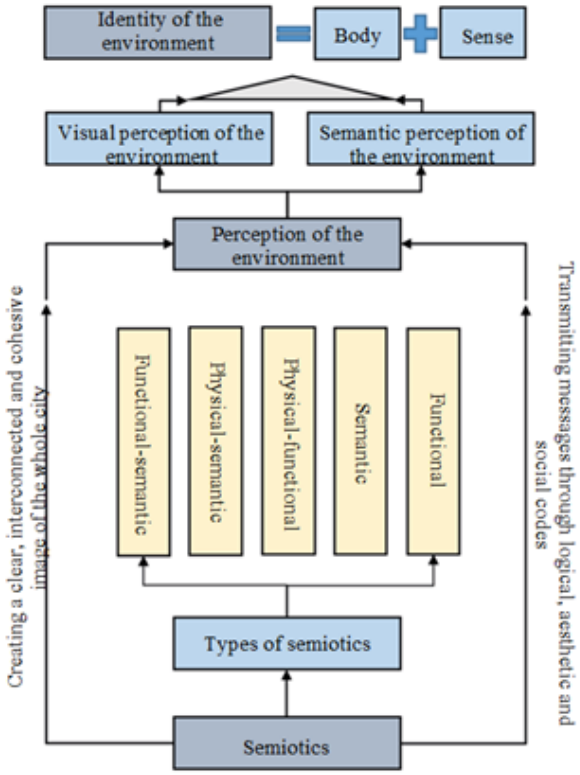

Chart 1: Conceptual model of research
(Source: Authors)

3. Background research

Eshaghieh Firoozabadi in 2019 in the article "Assessing the potential of recreation capacities of culture-based in Fahadan neighborhood of Yazd with the aim of developing tourism in the neighborhood" has examined the capacities of recreating culture-based approach to the success of urban tourism in the Fahadan neighborhood of Yazd. The results indicate that among the four components of regeneration of the base culture, namely environmental, formal, functional, and semantic qualities, the semantic component has the highest capacity in the neighborhood to recreate the base culture and tourism development, and in contrast to the functional component needs strengthening and planning. It has more relevant to the goals of recreation and tourism development. This order of their priorities is that the Fahadan neighborhood, due to its antiquity and historical background, has a "semantic dimension" and a high mental image for the visitors of the neighborhood, so that the transfer of meaning has been done well in the neighborhood. The elements that have been able to find their place in the minds of users are the tomb of Sheikh Fahadan, Ghadmagah Mosque, Fahadan Mosque, Ziaieh School. The existing space organization of the neighborhood is largely in line with the mental image of tourists. Also, the existence of social interactions in a local public space has made users like these spaces and voluntarily want to be present in that space [17].

Hekmatnia in 2018 in the article "Study of the role of public participation in improving the worn texture of Fahadan neighborhood in Yazd" examines the factors affecting people's participation in organizing the worn texture of Fahadan neighborhood in Yazd. The results show that the willingness of the subjects to participate in the renovation and improvement of their neighborhood is not at an appropriate level that this willingness to participate can be achieved through participation in the executive part of the improvement and reconstruction of worn-out tissue such as manpower (household labor) Or the provision of items of required materials, the results of which indicate the weak tendency of the subjects in the fields expressed [18].

Mohammadi et al. in 2016 in the article "The relationship between social network and the development of case study neighborhoods; Fahadan neighborhood of Yazd city "to study the relationship between social network and neighborhood development in Fahadan neighborhood of Yazd city. According to the results of this study, there is a direct and significant relationship between social networks and neighborhood development. Also, among the components of social participation, network quality and civic participation have the largest share in explaining neighborhood development, respectively [19].

Naqsan Mohammadi et al. in 2013 in the article "Explaining the local criteria of sustainability in the centers of historical contexts (a case study of Fahadan neighborhood of Yazd)" to identify and introduce the criteria of the center of sustainable neighborhoods taken from the historical context of Yazd and Fahadan neighborhood. The results of the research indicate that the basic principles of stability such as interconnection, composition, spatial contrast, confinement, etc. have been involved in the design of the center of the Fahadan neighborhood [20].

Alipour et al. in 2013 in the article "Comparative study of Iranian-Islamic identity in traditional and contemporary areas of Iran; Study sample: Fahadan neighborhood of Yazd and 2-3 neighborhood of the new city of Binalood ". The results of the research indicate that the criteria of unity in plurality, hierarchy, and privacy, avoidance of arrogance and manifestation, balance and coordination, self-sufficiency and centrality around religious elements are suitable criteria for examining Iranian-Islamic identity in neighborhoods, and comparison Based on these criteria, the above-mentioned two neighborhoods show that Fahadan neighborhood of Yazd has higher identity values than neighborhood 2-3 of Binalood city [21].

4. Research Method

This study has a nested mixed-method in terms of type and it is applied-development research in terms of method. The qualitative research method is employed in a nested mixed-method quantification study to answer the research question. The Delphi system is employed in the qualitative method for validating the extraction of variables, including the following steps: 1- First brainstorming for the important factors 2- Limiting the main list to the most significant cases 3- Ranking the list of important factors briefly explained. Brainstorming: Research questions related to the issue are presented at two stages placed in the form of one question.

Initially, the qualitative question about the factors is emphasized as the main objective of the Delphi question, turning into three questions in line with the main question and becoming simpler to dominate the question. Fourth-six professors were interviewed. (Table.3) The results of identifying factors were assessed by professors and repetitive responses were eliminated. This step includes extracting and validating the list of factors.

Limiting factors: At this stage, recognizing the importance of ranking factors was according to the different perspectives of various groups; thus, the strategy was to have groups thinking similarly about the importance of factors. Research experts tried to reconcile the extracted factors. This stage has a multiplicity of votes, including a questionnaire of the most significant factors. Rating of the relevant factors: This step is aimed at reaching a consensus on the ranking of relevant factors in each board. Research suggests that in Delphi groups, reaching a consensus is much more difficult than reaching an agreement in groups with direct interaction among the members. This step involves rating the selected factors [23].

Then a questionnaire is developed according to the factors extracted. In the quantitative stage, the questionnaire is considered based on the Likert scale and one question is considered for the question of what are the visual and semantic signs in identifying the environment of the Fahadan neighborhood of Yazd city. The formula CVI: 0.75 is employed for questionnaire validity, being for 20 experts. Cronbach's alpha is employed for the questionnaire's reliability, equal to 0.78 for this questionnaire. The results are entered into the software and the regression inter-test is utilized to share each factor. The internal correlation matrix diagram of the variables is employed to use the linear or multivariate regression type.

After plotting the correlation matrix, it was revealed that the factors did not have any linear relationship, justifying the use of multivariate regression. The number of questionnaires for sampling is determined by the Morgan table, in which 373 questionnaires are used for a population of 7,000, and the distribution of this questionnaire is random. (Chart. 2)

Table 3: Expertise of the interviewees (Source: Authors)

Interviewees	Number	Frequency	Cumulative percentage
Professors of architecture	16	34.8	34.8
Professors of landscape architecture	9	19.5	54.3
Professors of urban design	12	26.2	8.50
Professors of urban planning	9	19.5	100
Total	46	100	-

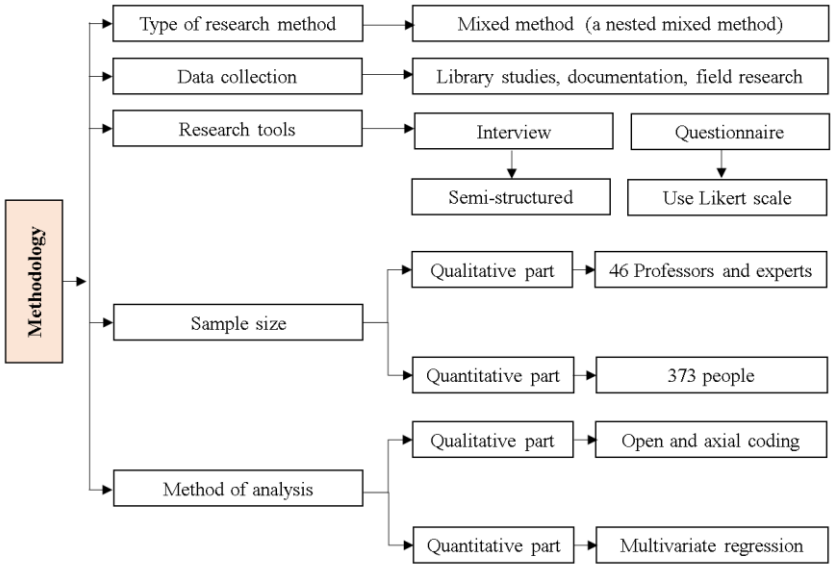

Chart 2: Research method process (Source: Authors)

5. Scope of Study

Fahadan is the name of one of the oldest neighborhoods in Yazd, located near the neighborhoods of Bazarno, Shah Abolghasem, and Kooshakno. Also known as Yuzdaran neighborhood, this neighborhood was previously the residence of nobles, elders, and dignitaries. Established in the early fifth century AH, Fahadan neighborhood is surrounded by four main streets named Imam Khomeini, Qiam, Seyed Gol Sorkh, and Fahadan. It is limited to Fahadan Street from the north, Qiam Street from the south, Imam Khomeini Street from the east and Seyed Gol Sorkh Street from the west.

Major uses in the collection include residential, commercial, educational, cultural, administrative, tourism, warehouse, and ruined uses. The main activity points inside the texture include Jame' Mosque complex (including Jame' Mosque, Seyed Rokanuddin Tomb, Vaqat Al-Saat Square, Bazaar and Chahar Sooq Shahi, Religious Islamic School, and Vaziri Library). Fahadan Neighborhood Center (including Davazdah Imams (Twelve Imams) Tomb, Iskandar Prison, Fahadan Hosseinieh, and Fahadan Hotel) is a collection of elements related to cultural heritage and part of the market. (Fig.1)

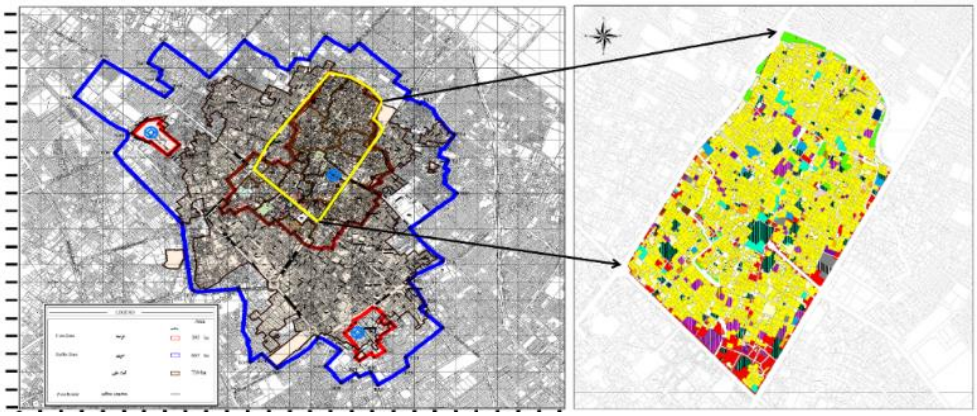

Fig. 1: Scope of study (Source: Authors)

6. Findings and Discussion

6.1. Qualitative Findings

In conclusion, all the codes extracted from the interviews related to the role of functional planning in creating sustainable buildings are provided in the figure below.

6.1.1. Open Coding

At this stage, the collected data have been frequently reviewed and considered from various angles. Now, the researcher attempts to identify the hidden concepts of the collected data by reviewing them. Finally, with the data obtained from interviews with professors and experts, 27 concepts related to the semantic and visual perception signs in identification were extracted through open coding. This experience structure was according to the type of meanings derived from positive experience and all the complex connections of various dimensions forming the main nature of the signs of semantic and visual perception in identification.

The main sections of the resulting space became the fundamental issue for discussing the affective dimensions of the semantic and visual perception signs in identification and the questions proposed in this regard. Subsequently, the classes formed in open coding were compared and their relationship with their subclasses was investigated. Similar classes were then merged and categorized into axial classes.

6.1.1.1. Extraction of Descriptive-Interpretive Codes in Open Coding

At this stage, the interview transcription is first studied carefully and word-by-word in search of topics related to the research questions, and at each point in the interview where a topic is found, that part of the interview is chosen and a descriptive topic is assigned to it. Descriptive coding of the interview transcriptions is followed by interpretation of their meanings. In the following, a descriptive and interpretive coding of some of the interview transcriptions is presented. (Refer to Table.4)

Table 4: Excerpts from concept codes extracted from the interviews text (Source: Authors)

Extracted conceptual code	Statements taken from the text of the interview and impressions
Symbolic meanings Hierarchy of presence	The components of the environmental significance provide a platform for reaching the perception of the meanings of existence in place, resulting in the creation of place's value and symbolic meanings in the mind. Then the sense of place is achieved from the result of internal relations among various levels of meaning of place, the hierarchy of human presence in various places and levels.
Visual appearance	The human vision structure affects the formation of criteria of the urban wall design and visual perception. The visual environment is analyzed based on its conformity with the human's physiological and visual mechanism and identified in accordance with the visual standards in understanding the image of the visual environment for human eye.
Physical identity Semantic identity	Iranian urban space has identity and its identity is manifested in culture, environment, body, and meaning; while it is not in this way in today's urban space.
Visual manifestation of unity	To preserve the identity and organize the visual system for reading the meanings of the historical context, the lasting values of the neighborhood must be preserved; and attracting and retaining the neighborhood visual cues, creating the spatial unity of the collection, restoring the social and historical identity of the neighborhood, reviving neighborhood units, passages, and historic accesses must be considered.
Perceptual richness Environment readability	Architectural signs of the city cannot provide a meaning appropriate to the individual's culture and identity, and in today's cities, urban spaces lack a clear sense of place and identity. Outstanding buildings and urban signs may play a significant role in enhancing the quality of urban spaces, while being a step towards giving meaning to space as well as creating a sense of place in the audience and making urban spaces readable and understandable, besides creating a sense of place in them.
Sense of ownership Knowledge of the environment	Every age has its own identity and signs; however, where rupture occurs, instances of identity crisis in individuals and the constructed environment show themselves. Thus, although the city is constantly changing, the rate of change in elements, signs, and meanings is not the same; accordingly, its originality and identity is preserved, indicating that the sense of ownership and knowledge of the environment is of paramount importance in the viewer's visual vision.
Harmony between body and meaning	With a cultural pattern, a city cannot be implemented anywhere on the earth, and the identity of each city differs from another city. Human, culture, and human behaviors are considerable components in an environment's identity; hence, the urban environment with an identity can be as a link between the individual and society, the individual and history, past, urban life, time, environment, and nature around him/her. Before focusing on the mentioned content factors, today's urbanization is summed up in physical manifestations. Thus, no concept can be considered for it, since the uniformity of the texture of cities, the mismatch of the apparent form of space and its meaning, lack of attention to the concept of culture in the body and meaning can be observed in it.
Harmony between body and building function	In architecture, everything begins from meaning, and indeed, it means that it constitutes the spirit governing human societies as well as every human thing and its crew even man-made buildings. The issue always occupying the architects' minds and causing their viewpoints to collide with each other is whether the form must eventually follow the function or it must be a function of beauty and the function follows the form.
Environment readability Knowledge of the environment	The individuals' positive presence and consequently the promotion and amplification of the level of social relations between individuals in society rely on a correct perception of the environment as well as the attention to the constructed space's signs and semantics. The space structure and its components' accompaniment guide the environmental social action and perception by citizens in defining space besides reading its spatial identity.
Perception of the environment	Signs may play a significant role in the design process to increase the sense of place and build a better quality about the architectural space; hence, the evocative meanings play a significant role in the design of architectural space and the audience's perception.
Natural elements Visual appearance	Human's behavior in the city relies on his/her perception of the environment and the perception phenomenon is a mental process in which sensory experiences become significant, through which human recognizes the relationships of things and the meanings of objects. Thus, it is a sign of a natural element, different from the environment in terms of form and function and employed to induce a sense of place and guide visual meanings in the audience eyes.

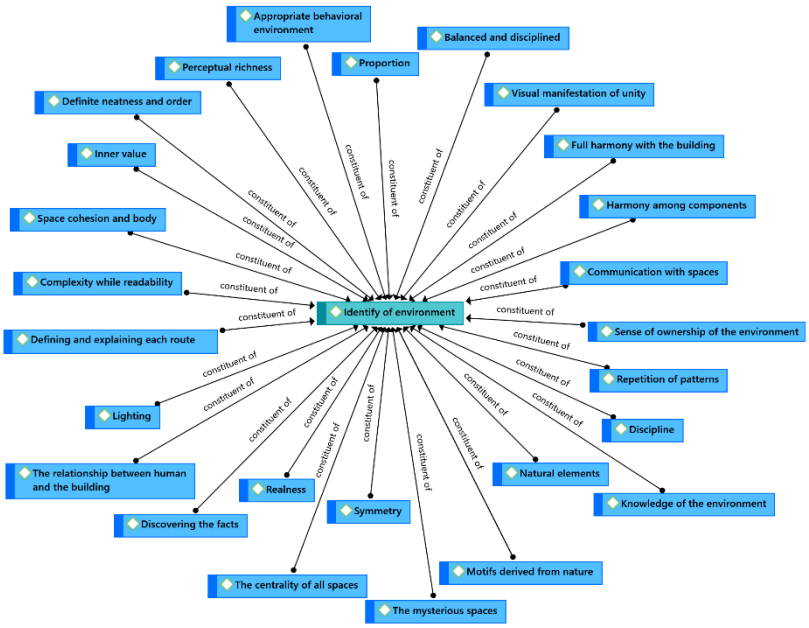

Fig. 2: Open coding of variables extracted from the interview transcription (Source: Authors)

6.1.2. Axial Coding

In this study, the classes formed in open coding are compared with each other in axial coding, besides investigating their relationship with their subclasses. Similar classes were merged. Gradually, the data became more abstract. The classes are continuously compared until ensuring that each concept is unique and cannot be integrated with each other. Then, the related concepts are centered around a more common axis (a more abstract concept). This stage is focused on the conditions leading to the formation of the phenomenon in question, besides the contexts in which the phenomenon occurs and the behavioral patterns employed to control the phenomenon and the consequences of these behaviors in the Fahadan neighborhood.

Accordingly, at the end of the central coding, the main concepts that are the central idea among the concepts are identified. Axial coding refers to the reconnection of data broken in open coding. At this classification stage, according to their common characteristics and dimensions, the codes are centered around an axis of the principle to provide the background for the emergence of the hidden process in the data. Axial coding systematically develops classes and makes them interact with their subclasses. To this end, all the codes are re-examined and those with common features are reclassified. Moreover, similar groups are placed in the same class to form a subclass around their main class. The main classes are named based on the concepts within them. Based on the following table, the extracted codes are classified and the prominence of each number of codes is specified by frequency (repetition).

Moreover, the codes are categorized. Due to their non-compliance with theoretical principles, 23 codes were eliminated. The categorized codes are according to interpretation and adaptation to the concepts in the theoretical literature of the visual and semantic signs in the identification of the Fahadan neighborhood for identification. With a value of 16, the highest prominence is related to perceptual richness and the lowest one is related to lighting with a value of 4.

Table 5: Coding and categorizing open codes and extracting central code for each category (Source: Authors)

Concept	Category	Prominence	Subcategory
Visual signs in identification	Purposefulness	10	The centrality of all spaces
	Unity/plurality	11	Space cohesion and body
		8	Repetition of patterns
	Clarity	12	Complexity while readability
		6	Definite neatness and order
	Hierarchy	7	Defining and explaining each route
	Harmony	8	Communication with spaces
		8	Balanced and disciplined
		8	Full harmony with the building
	Limits and privacy	9	The relationship between human and the building
	The element of nature	5	Natural elements
		7	Motifs derived from nature
	Reflection	8	Harmony among components
		10	Visual manifestation of unity
	Geometric patterns	9	Proportion
		8	Discipline
		8	Symmetry
	Mirror	6	Lighting
		4	Lighting
Semantic signs in identification	Cryptography	9	Inner value
		8	The mysterious spaces
		11	Realness
	Symbol	9	Discovering the facts
	The concept of space	13	Knowledge of the environment
		12	Sense of ownership of the environment
		16	Perceptual richness
		14	Appropriate behavioral environment

After extraction, the codes are categorized in terms of proximity to a feature for axial coding. The extraction result includes the dimensions of purposefulness, unity/plurality, clarity, hierarchy, harmony, limits and privacy, the element of nature, reflection, geometric patterns, mirror, cryptography, symbol, and the concept of space. (Fig. 3)

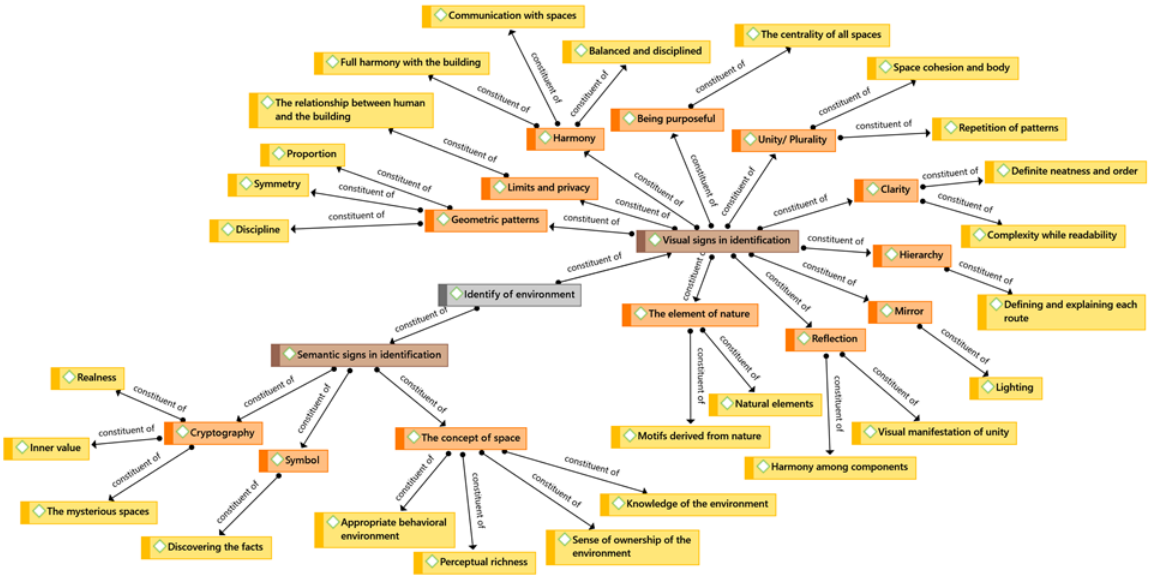

Fig. 3: Axial coding of variables (Source: Authors)

5.2. Quantitative Findings

In the descriptive statistics section, the male participants in this study are 62% and females are 38%. At this stage, after choosing the variables selected by the Delphi method, a questionnaire is developed and randomly distributed among the residents of the Fahadan neighborhood of Yazd. The results are then entered into SPSS25 software. Regression and correlation equations are employed for analysis. Two-Sample Kolmogorov-Smirnov Test is utilized for checking the parametric and non-parametric types of data.

Table 6: Kolmogorov-Smirnov test to assess the normality of the variable of semantic and visual signs in identification (Source: Authors)

Variable	Mean	Standard deviation	Kolmogorov-Smirnov Z	p
Semantic and visual signs in identification	27.77	3.23	0.793	0.575

As observed in the table above (Table 6), Kolmogorov-Smirnov test is not significant for the physical components score (p = 0.555); thus, the identification components have a normal distribution and parametric analysis may be used for it.

Table 7: Correlation between explaining semantic and visual characteristics in identification in Fahadan neighborhood of Yazd (Source: Authors)

	Purposefulness	Unity / plurality	Clarity	Hierarchy	Harmony	Limits and privacy	The element of nature	Reflection	Geometric patterns	Mirror	Cryptography	Symbol	The concept of space
Purposefulness	1												
Unity / plurality	0.625	1											
Clarity	0.621	0.626	1										
Hierarchy	0.117	0.656	0.421	1									
Harmony	0.224	0.487	0.214	0.356	1								
Limits and privacy	0.112	0.565	0.895	0.325	0.589**	1							
The element of nature	0.306	0.215	0.210	0.112	0.545	0.016	1						
Reflection	0.307	0.112	0.214	0.245	0.116	0.215	*0.369	1					
Geometric patterns	0.805*	0.118	0.245	0.875**	0.415	0.626	0.752	0.568*	1				
Mirror	0.605*	0.214	0.857	0.278	0.235	0.540*	0.341	0.114	0.385	1			
Cryptography	0.730**	0.223	0.651	0.366*	0.895	0.203	0.125	0.126	0.015	0.495	1		
Symbol	0.114*	0.328	0.256	0.241	0.321	0.023	0.135	0.611	0.321	0.214	0.415	1	
The concept of space	0.225	0.954**	0.135	0.246	0.668	0.156	0.368	0.625	0.568	0.625	0.324	0.218	1

*P<0.05 & **P<0.01

At this stage, the variables are measured using Pearson correlation. In the Fahadan neighborhood of Yazd, the highest type of correlation is seen between the concept of space and unity and plurality with a value of 0.954, and then cryptography and harmony with a value of 0.895 and in general, the variable of the concept of space has the highest correlation with other variables and the lowest correlation is for the element of nature and limit and privacy. Therefore, it is revealed that in examining the degree of sociability, the variables of space syntax technique may be used. The regression and correlation analysis results are presented as follows: In the correlation test, a high correlation is found between visual and semantic variables.

The significant F value obtained for each index ($P < 0.05$) is the basis of the ANOVA results and statistical indices of regression between visual and semantic signs. By affecting one of them, the other is affected. With the value (1.000), the highest correlation is for the components of the concept of the space, and then cryptography (0.968) has a strong relationship with other variables; moreover, the lowest share is related to the element of nature with a value of (0.457). Nevertheless, all values are larger than 0.4, paving the way for using this technique to identify the suitable indicators in the Fahadan neighborhood of Yazd. the highest share in this neighborhood is related to the components of the concept of space, with the value (1.000) and then cryptography with the value (0.968); and the lowest share is related to the element of nature with the value (0.457).

Given the research findings, achieving neighborhood identification should consider the characteristics below: (Table 9)

Table 8: Systematic regression of each of the factors of semantic and visual signs in identification (Source: Authors)

Dimension	Scale	Coefficient of Determination	F	B	β	T	Significance	Degree of freedom (DF)
Visual signs in identification	Purposefulness	0.615	527.222	1.000	0.781	46.522	0.000	**383**
	Unity / plurality	0.689	382.412	1.000	0.663	20.321	0.000	**383**
	Clarity	0.846	217.343	1.000	0.662	40.223	0.000	**383**
	Hierarchy	0.762	201.612	1.000	0.664	8.958	0.000	**383**
	Harmony	0.743	643.623	1.000	0.662	11.134	0.000	**383**
	Limits and privacy	0.753	849.683	1.000	0.652	18.441	0.000	**383**
	The element of nature	0.457	673.643	1.000	0.662	21.341	0.000	**383**
	Reflection	0.770	276.748	1.000	0.464	47.963	0.000	**383**
	Geometric patterns	0.795	199.943	1.000	0.452	46.226	0.000	**383**
	Mirror	0.571	184.945	1.000	0.483	49.173	0.000	**383**
Semantic identification	Cryptography	0.968	673.643	1.000	0.662	21.341	0.000	**383**
	Symbol	0.732	656.782	1.000	0.410	25.876	0.000	**383**
	The concept of space	1.000	405.122	1.000	0.732	42.152	0.000	**383**

Table 9: Factors of neighborhoods' identification (Source: Authors)

Research findings			
Paying attention to the view of signs and combination of traditional materials like bricks and tiles, and modern ones like glass and wood in the building facade inspired by the past identity.	Attaching unique and harmonious elements to the walls.	Developing new rules in construction to control the number of floors and keep the skyline desirable.	Creating harmony and considering a special color palette in the façade.
Creating corridors for viewing signs.	Employing flexible and unique furniture throughout the neighborhood.	Using unique vegetation on sidewalks.	Creating rhythm in the openings existing in the walls.
Creating a spatial contrast through creating a green porch at the western and southern entrances of the neighborhood.	Creating a porch at the entrances of the neighborhood with a combination of wood and vegetation.	Creating flexible spaces for holding exhibitions and traditional markets to strengthen citizens' knowledge of the neighborhood.	Encouraging the residents to participate in beautification of their private and semi-private spaces in a coordinated manner.
Designing information kiosks with a combination of wood, light, and vegetation.	Creating visual and auditory richness on sidewalks through creating river gardens.	Creating sensory-movement richness on the sidewalks of the entrance streets of the neighborhood by concrete wash	Providing incentive packages to owners to renovate worn-out facades.

		mosaic to induce the sense of entering the neighborhood.	
Using signage to guide the signs.	Creating accent lighting for signs.	Creating sequential lighting on the floor to guide the signs at night for orientation.	Using signs and boards leading to signs with outstanding color theme.

According to the results of the correlation coefficient, the element that has the greatest impact on the identity of the Fahadan neighborhood of Yazd is the factor of the "concept of space". In addition to its body and in addition to the geometric and aesthetic features of this body, space also has a meaning or meaning that plays a role in the collective memory of society. In addition, functions can also be defined for different spaces in different periods, which is possible by referring to different branches of the identity of Iranian urban spaces (physical identity, semantic identity, and functional identity). That every object has an identity and this identity is related to the attributes that are the result of the action of that object and represent the spiritual characteristics of that identity that is manifested in appearance and body. Each space has an identity with different strengths and weaknesses, and the final identity of the space is the result of its functional, physical, environmental, cultural, and semantic identities. Human perception of the environment is one of the most central issues in environmental psychology. It is a process through which human beings select the necessary data based on their needs from their environment. Therefore, it is a purposeful process and depends on the culture of attitude and value that governs perceptual thinking. Therefore, the process of perception is always associated with human knowledge of the environment. Creating a clear mental image can identify neighborhood units as places with individual and social meanings. If these identity elements have attractiveness and desirability, they become assets for the desirability of all urban uses and functions.

7. Conclusion

The issue of visual and semantic signs refers to one of the focus points of recent research in Iranian architecture and urbanization, and the attempts for identification of a space satisfying citizens in various aspects is considered one of the main strategies of architectural research. In this regard, coherent architectural studies on landscape, identification, and its organization in urban areas may provide effectiveness on the desired readability through recognizing the meanings and signs. However, what is important is to identify the identification arrays including the visual elements, the way they work, as well as the quality of the relationships between them, playing a significant role in organizing, ordering, and characterizing urban contexts.

Hence, here the researcher tries to re-read and study the identification and its ideas besides studying these ideas in the Fahadan neighborhood of Yazd in order to show the importance and prominent role of visual and semantic signs in identification through examining urban signs and meanings. The researcher believes that through analyzing identification and explaining the semantic and visual semiotic characteristics in the historical context of Yazd, particularly the Fahadan neighborhood, the present paper may be employed as a way to re-read visual arrays and better perceive them in other cities of Iran. Given the research findings, the following relation can be generally expressed for the share of each of the semantic and visual components affecting the identification of the Fahadan neighborhood of Yazd:

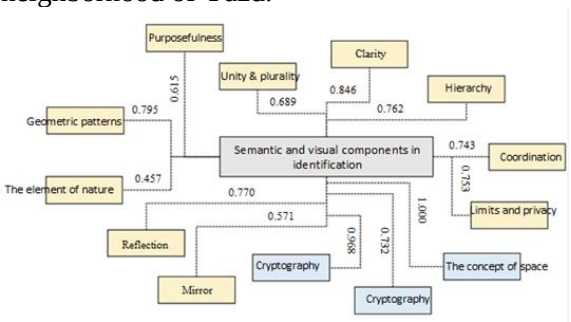

Chart 3: The share of each of the semantic and visual components affecting the identification of Fahadan neighborhood of Yazd (Source: Authors)

Indicating the extent of differences in semantic and visual components in the identification of the Fahadan neighborhood of Yazd city. In the Fahadan, with a value of (1,000), the highest share is related to the component of the concept of space and then cryptography with a value of (0.968), while the lowest share is related to the element of nature with a value of (0.457).

The concept of space leads to a deeper knowledge of space and increases the sense of ownership over it. The relationship between man and space leads to spatial identity

(quantitative and qualitative properties of space and behavioral patterns. Understands and these comprehensible facts are called "objectivity" so that if reality is assumed to be the environment and the place or place is information of the category of reality, space is a selected part of the information of the environment to that particular place. When the amount of information received from the environment is high if the environment is familiar, it creates a sense of belonging in space, with an increasing sense of belonging to the space, perceptual richness increases and the appropriate behavioral environment is created. The Fahadan neighborhood of Yazd, by creating and associating "public memories" with the residents, provides them with belonging and dependence that has made the space meaningful and gives them to "fellow neighborhoods" who are more active than settling. There is also a structural and functional systematization in the neighborhood and an order in its architecture.
This has made the Fahadan neighborhood different.
With overviewing the factors affecting the identification of the neighborhood, it is possible to contribute formulating more appropriate design criteria besides providing the possibility of designing neighborhoods of higher quality. Therefore, urban planners and designers should pay certain attention to the set of factors and characteristics creating the bed for the formation of different emotions between the people and the place on a neighborhood scale. This will provide the basis for the residential environment's growth and qualitative development for different residents as a basis for social life.

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