

Investigating and Assessing the Impact of Criteria on the Physical Identity of the Urban Street Walls (Case Study: Hafez Street, Shiraz)

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Abstract

Urban bodies are effective elements that affect the quality of urban spaces, its improvement causes better quality of the city. Streetscape is another main components of urban buildings having impact on visual and physical quality of the building and urban spaces. Resulting in effective decision making by planners. The building's façade, urban walls overlooking the streets and squares are considered as influencing environmental element to improve the physical quality and aesthetic of the urban spaces. The present study, investigate the urban walls and its role in the quality of physical identity of façade. The effective element for the Hafez Street of Shiraz was investigated for the physical identity of the street walls. It was found that how the obtained results can be used in future research to organize and optimize the street facades. The research implies analytical-applied method, data was collected through questionnaire. The Morgan table has been used to specify the number of questionnaires. The reliability and validity of the questionnaire was confirmed by Cronbach's alpha coefficient. The data analyses were done using Pearson correlation coefficient and SPSS.

The findings showed that indicators ground connecting line, complexity and contrast, positive and negative surfaces, diversity of structure, human scale and skyline according to visitors, have maximum impact on physical identity of the street walls. The experts viewpoints indicators, diversity of structure, complexity and contrast, ground connecting line, human scale, positive and negative surfaces, and rhythm and harmony have maximum impact on physical identity of the Hafez street walls.

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1. Introduction

Recently, the urban spaces are wrapped with bodies that ignore the visual elevation values. This challenge has reduced the attraction of activities. The pedestrian space acts as a two dimensional track for traffic to pass. This visual turmoil along with other pollutant has distorted the urban space, and urban aesthetic faces difficulties (Davarinejad Moghadam and Rahimian Moghaddam, 2017: 2). The structure of ancient cities has the tendency and strength of living with lasting phenomenon. The city inhabitant need these lasting spaces so as to belong to them and to percept the meaning of inhabitants from past to present.

Kevin Lynch defines persistence as the resistance level of element of a city against the deterioration and destruction and the ability to operate over a long period of time (Pakzad, 2006: 113). The human living in environment has an influence on human behavior and identity towards its own values (Aminzadeh and Naghizadeh, 2002: 31). The city can be seen as an environment for expressing identity, values derived from beliefs, world perspective, and culture of the inhabitant. This concept has undergone changes overtime in different countries with different natural and human environment and influenced by historical and ideological changes (Mirmohammadi, 1996: 181; Habibi, 2005; Koneo, 2005; Falahat, 2011; quoted from Abu-Lughod, 1987).

The city has been influenced by factors such as physical, social, economy, and cultural issues and has shaped its identity in proportion to the factors. One of the most important physical element which has direct correlation with the citizens in the urban landscape. The building facades located in the urban texture other than giving interior space the form to the building, also encloses another space which is called as urban space. In fact, the external surfaces of the building provides lighting and landscape for that building and at the same time forms space that are streets, alley and square and in all called as urban spaces and proportional to these spaces it is the interior surface. These spaces belong to public and community, and the users of these spaces are more than the interior spaces. One of the most important element of physical urban effective in relation to the citizens and strengthen the sense of place in the urban space is the composition of building facades and in other words the city elevations. The façade of the building in composition with other buildings and in the space called as streets was evaluated. Therefore, the urban landscape is not formed by a single architect at a specific time but, it is formed over time by numerous builders (Crohna, 2011:45).

The factors that miss-identifies in the urban landscape are the taste implementation, un-professional involvement in the work, dominance of building and sell, implementing the owner or employer's taste in the design and executing the elevation, the lack of architect's involvement in the design, poor construction material, lack of proper control and ignoring the principles of traditional Iranian architecture. To construct a beautiful environment, one must create areas for issues such as comfort, diversity, identity and environment legibility (Mousavi Sarvineh Baghi and Sadeghi, 2016: 100). Unfortunately, because of rapid construction in the recent years has paid less attention to these components. The reason is that today's city landscape has taken the shape regardless to physical city, principle of architecture and urban aesthetic. Therefore, a review is needed in order to regain the effective fundamental principles on the design of walls of public spaces.

In this study, initially the urban walls and its role in the quality of physical identity in urban facades were investigated. Then by studying the Hafez Street in Shiraz, the effective elements in the physical identity of the walls of this street was investigated. So, that in future research one uses the result to organize and optimize the walls and facades of this street.

The purpose of this study is to create a conceptual and appropriate framework for assessing the criteria and indicators of the physical identity in urban walls. The question raised, can be expressed that which criteria and indicators are effective in creating the physical identity of street walls? To what extent the walls of the street are effective in the physical identity of that street?

With the above mentioned issues it is assumed that the existing indicators of the physical identity on walls of the street is the fundamental physical identity of street and using physical identity dimensions can manage and design the quality of street and its wall and can benefit in urban planning management and urban design.

2. Literature Review

Camillositha in the book entitled, 'Art of building cities' has stated its restoration views in terms of spatial or place hierarchy, integration and adaptation, historical identity, balance through the organization of urban spaces for not going at high speed in ancient texture and giving priority to pedestrian (Habibi, 2001: 49). Christopher Alexander has considered three aims of intermediacy in the ancient texture as organizing, changing and the action plan is the rebuilding, renovation and improvement. The proposed user is the contemporary building and the intermediacy method is the comprehensive urban restoration (Habibi and Maghsudi, 2002: 50).

Identity expresses the characteristic of each individual or phenomenon (Bamanian et al., 2010: 40). Identity is the result of everyday cognitive emotions and extensive social communication that needs place for formation (Pourjafar and Hashemi Damneh, 2011: 12). This case causes the creation of similarity in individual and nation, which leads to distinction between individuals and groups (Akbari, 2008: 220). Each framework has a physical order, visual order, physical comfort and balance (Bahreini and Tajbakhsh, 2001: 20). Therefore, physical identity means characteristics that distinguishes the body of city from strangers and reveals its similarity to itself. The following criteria are considered for its evaluation 1) Distinction/Similarity, 2) Continuity/Transformation, 3) Unity/Plurality (Mirmaghtadaei, 2004: 37). In some cases, urban walls are considered as structural phenomenon resulting from environmental impacts (climate, economy). In assessing the expectation from urban façade, four factors such as protection, communication with urban space (to offer light, visibility, access and ventilation), property owner, and ultimately being as part of the whole were considered (Pakzad et al., 2003: 32). According to Gordon Cullen (1961), urban landscape is the art to integrate the structural and visibility of the building, street and places that built the urban environment (Cullen, 2003: 78). In view of John Raskin, urban landscape is planning and urban design and primarily it is values, human goals, and the recognition of social responsibilities by majority of the community (Golkar, 2003). The urban landscape is the result of contact between people and the city, and in this regard, man activities has an influence on the urban landscape and behavior and cognitive perception of the citizens is through contact with urban landscape (Crow, Brown and Young, 2006: 282).

According to Golkar (2003), the urban aspect is a triple combination from the visual landscape of the city, cognitive aspect and emotional aspect of the city which is based on behavior (Golkar, 2003). Gordon Collen (2003), considers urban landscape as the art of proportion. Collen's statement for the term urban landscape is based on physical city with the emphasis on observation in the city. In his book, highlights the importance of consistent observation of the environment. He states urban landscape that when a building is built on a site it is considered as the architectural experience, but if many buildings are built together as new event occur is considered as urban landscape. This new event is called as art of proportion (Collen, 2003). Lynch (1961), in his book entitled, 'City's cognitive image', has presented the concept of city cognitive image. He has

proposed the urban landscape cognitive dimension. Therefore, if Collen had emphasized on objective dimension, Lynch has considered cognitive dimension (Lynch, 1994: 189). Lynch considers perception, physical and functional as three factors in urban landscape (Rezazadeh, 2006: 23). Lynch for the study of mental image of city considers each urban environment as three elements which are identity, structure and meaning (Table 1).

Table 1 Key concept by experts in the area of physical identity and the design of urban walls

Researcher	Year	Key concept (urban walls)
Kevin Lynch	1960	Perception, physical, functional
Mansouri Karimi	2008	Aesthetic, functional, identity
Moshaver	2010	
Abdollah Khan Gorji	2006	Visual, physical, spatial, activity, identity, environment
Tavassolli	2000	Order, unity, composition, harmony, symmetry, balance, rhythm, centrality, window divisions, visual stability, volume, building mass, street space enclosure, vertical rhythms, horizontal rhythms, skyline, shape continuity, attention to the corners, attention to composition of elements and façade, coordination of colors and materials of buildings, identification of valuable facades
Pakzad	2003	Façade width, transparent and opaque surfaces, empty surface, elevation line, console or projection, posters, lighting, plants, corner building and ground line, combination of two elevation, dominant background color, material and texture of the elevation, proportion of ventilation, maintaining basic pattern, body and sky in designing elevation so that it can be understood from near and far away.
Atashin	2012	Wall proportion, floor, color, skyline proportion, sequential vision, rhythm, harmony, architectural style, projection and depression.

(Source: Author, 2018)

3. Conceptual Framework of the Research

3.1. Concept of Physical Identity

Physical identity means the characteristic that distinguishes the body of the city from strangers and reveals its similarity to itself. This characteristic should be in a way that the body of city along with the preserving the continuity of time must evolve, and finally lead to the emergence of a whole. The conceptual view of physical identity is synonym with the term personality and sense of place.

The criteria for assessing the physical identity are (Table 2):

1. Distinction / Similarity mean the distinction from stranger and similarity with itself.
2. Continuity / Transformation mean connection with the past and non-discontinuity.
3. Unity / Plurality: means the connection between different and heterogeneous components in a way that create a whole (Godarzi Soroush, 2013: 103).

Theories on connectivity and regionalism are the basis to interpret and describe the above criteria in the area of architecture and urban design. Identity is the norms and values categories that discusses about its needs, valuation and normative deployment. In many specialized and research documents, the study of identity in the artificial environment has been carried out with respect to perception theories of environment and behavioral sciences. In these studies, identity means sense of belonging and to assess the identity criteria like sense of security, memorable, sense of belonging

and dependency has been implemented (Daneshpour, 2000: 25). In Fig 1, it indicates number of physical identity components in the urban walls.

The fundamental components of urban walls although been connected and not separable, but with respect to the study criteria are studied separately. From Carmona viewpoint the physical urban landscape is divided into three types of walls, roofs and earth which are described as;

Rooftop view: Rooftop according to the viewers views consist set of elements that lies between the skyline and horizon line. The skyline is the baseline separating the physical wall with the sky. The horizon line is the upper boundary of the vertical wall.

Urban wall view: Among the physical elements, the urban walls play an important role in defining the city's landscape. The quality of perception of a classical urban space in the very first step is the origin of the discipline resulting from the ratio of dimension and the size of the two elements of the space. The perception of spaces is carried out in various proportions of walls and floors dimension and in different areas (Carmona, 2003: 149-158).

Earth view: The earth view represent the base landscape of urban space and collection of natural and artificial elements surrounded. Aldo Rossi (Italian architect) states that the elements which forms the city's physical landscape are divided into two categories; a) the manmade element that can be separated to two types as static and variable elements; b) natural elements: the physical base that occupies the city and defined by natural factors (Rossi, 1984).

In another definition by Pakzad, the physical elements and physical urban landscape are classified to two natural and artificial elements. The urban landscape space component includes body of the city, floors, furniture, urban equipment, vegetation cover, water, etc. (Pakzad, 2006: 118).

3.2. Concept of Urban Walls

The façade of the building is like a shirt that displays the physical and visual character of a building. This elevation other than been unique is consistent with the body, the form, the street (Tavassoli, 2000: 42). Each building and architectural complexes located in the urban space must have visual relation with the outside and effective on the landscape features of its surrounding environment, which by locating several facades near to each other will create the urban wall. It is necessary that facade in visual terms follows principles and rules so that it has an effect on the aesthetic of the city.

The elevation of each building is effective in urban complex and this influence is transferred to street forms or squares. In fact, the urban façade consists of urban buildings. Therefore, in architectural terms it directly point out to elevation of the building (Pakzad, 2007: 82). In fact the wall of the building appears as a display façade of architecture combination. The architectural combination contains a kind of meaning and hence can stimulate the sense of human being and communicate with them. For this reason, major part of human communication with its surrounding environment happens through its visual and cognitive communication with the architectural composition of that environment (Safamanesh, 1994: 180).

Pakzad (2003), believes that the elevation is the partition of inside and outside of the building and as three dimensional element intersecting the characteristic and private aspect, the architecture of building, public and urban aspects. In this case, the façade is considered as a part of the body and urban landscape and has a wider role than the architectural role (Pakzad, 2003: 54). Pakzad calls façade as the surface constituent of each body and believes that each elevation is part of the body that forms the shell of each building. The façade is a factor that separates the inside and outside of building and directly effects the function, value of the street and square. Street is a space composed

of different architecture that the beauty of street from its physical dimension includes a set of street rules and their components are un-limited. The factors are wall proportion, floor proportion, color, skyline, consecutive view, rhythm, harmony, architectural style, projection, and depression. The aesthetic of street is the science of interpreting the components, the forms, and the street that should act in harmony and create a continuous set (Atashinbar, 2012: 14).

Table 2 Assessment criteria for physical identity

Distinction / Similarity	Distinction from stranger and similarity with itself
Continuity / Transformation	The connection with the past and non-discontinuity (continuity of meaning and self-values) along with innovation and creativity according to the time circumstances
Unity / Plurality	The connection between various and heterogeneous components in a way to create a whole

(Source: Godarzi Soroush, 2013: 103)

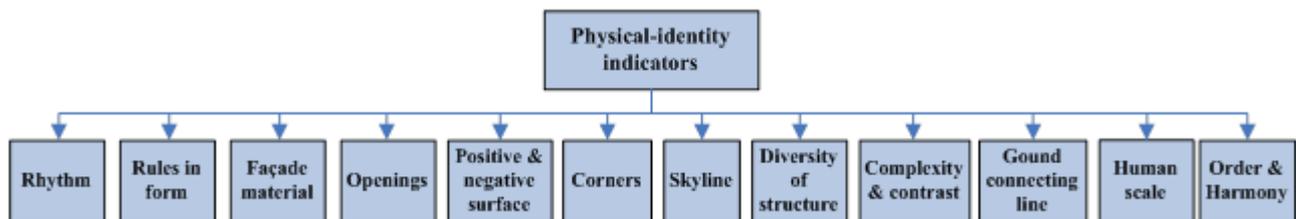


Chart 1 Indicators to assess the physical-identity characteristics of urban walls (Source: Author, 2018).

4. Investigating the Urban Walls in Hafez Street, Shiraz

The existence of forms and patterns proportional to the perception of citizens is necessary in an urban space. Today, in many developed countries, the existence of these forms in designing the urban walls plays a significant role in improving the quality of urban space. However, most cities of the country has faced this problem of inappropriate perception of the environment by the people. The most important planning of the urban planners is the formation of proportional spaces on the street that an individual by understanding this has the feeling of comfort and relaxation. The problem of the existing forms and suitable patterns of the urban walls is to improve the quality of space. The Hafez Street is one of the main and old street of Shiraz that the route accesses to several recreational and historical places like Hafezieh, Jahanama garden, tomb of Ali son of Hamzeh, national library, national garden, and Quran gateway; and many Iranian and foreign travelers pass-by this street everyday (Fig 1). But, the inappropriate forms and patterns on the street walls have caused the passerby not to be completely aware of the environment. Therefore, the presence of visitors in Shiraz and streets like Hafez has caused the need for suitable pattern and forms on this street to increase the visual and spatial quality (Fig 2).



Fig 1 Location of Hafez Street in Shiraz



Fig 2 Hafez Street condition and its wall (Source: Author, 2018).

5. Methodology

This study is based on analytical-applied research. The field survey and data collection method is through observations and questionnaire. The collected data are analyzed. One of the important techniques in data is the questionnaire for which it is necessary to determine the statistical population and sample size. First, to recognize the objective and subjective criteria, the wall identity has been used by the experts' views of architecture and urban planner. Accordingly, the sample size as per Morgan table is the population of Shiraz which needs 384 questionnaires. The questionnaire was distributed among common people and the other half among the experts in the field. The reason to select these two group, is that the citizens with respect to their experience have more realistic view, while the experts opinion are based on the scientific and technical knowledge. The views of citizens and visitors are used to organize, repair and changes of the street wall.

The purpose is based on the achieved data and views of experts and visitors, and the standard examined. To determine the probable problems of this questionnaire and to ensure its reliability it has been tested and the questionnaire is verified. One of the methods for calculation is the reliability of the Cronbach Alpha Coefficient. To calculate this in the study, a pre-test was done by distributing 120 questionnaires. Then, using SPSS software the alpha value for the entire questionnaire was determine shown in Table 3.

In the study of humanities, the alpha coefficient above 0.7 is acceptable (Azad and Momeni, 2003: 20). Therefore, with respect to alpha of each dimension and the entire questionnaire is more than 0.7, which confirms the desirable reliability of the questionnaire. Finally, the obtained data were analyzed using SPSS software.

Table 3 Cronbach's alpha of the physical identity dimension of the street walls

Physical identity dimension	Internal alpha	Physical identity dimension	Internal alpha
Scale and human size	0.793	Ground connecting line	0.799
Positive and negative surface	0.794	Skyline	0.817
Façade material	0.805	Complexity and Contrast	0.805
Proportion and harmony	0.807	Rhythm and harmony	0.796
Plaster	0.806	Type and opening forms	0.834
Variety of structure	0.803	Order and harmony	0.827

6. Evaluate and Analyze the Physical Identity Data

To analyses the data obtained from the questionnaire the descriptive statistic and prioritization of each indicator of physical identity were evaluated based on the viewpoint of people (visitors) and experts. The descriptive finding of the study, through the questionnaire was filled by ordinary people (Table 4), shows that the indicators of the ground connecting line, complexity and contrast, positive and negative surface, diversity of structure, human scale, and skyline had the maximum impact on the physical identity of the body and the street walls of Hafez Street. The indicators which had the minimum impact are corners, variables, order and harmony, building openings, façade material, proportion and harmony, rhythm in the body, and building façade (Table 4).

The result of the questionnaire survey completed by the experts show that the diversity of structure, complexity and contrast, ground connecting line, human scale, positive and negative surface, rhythm and harmony had maximum impact. The indicators with openings, order and harmony, proportions, material and corner, and skyline had the least impact on creating the physical identity of the street walls of Hafez in Shiraz (Table 5).

Table 4 Correlation test result between variables (ordinary people)

No	Indicator	Agree and completely agree	Disagree and completely disagree
1	Scale and human size	66.7	20.8
2	Positive and negative surface	75	20.8
3	Façade material	37.5	54.1
4	Proportion and harmony	45.9	41.6
5	Plaster	16.7	37.5
6	Diversity of structure	66.7	16.7
7	Ground connecting line	75	12.5
8	Skyline	62.5	20.8
9	Complexity and contrast	75	16.7
10	Rhythm and harmony	54.1	37.5
11	Type and opening forms	29.2	62.5
12	Order and harmony	20.8	75

(Source: Author, 2018)

Table 5 Correlation test result between variables (Experts)

No	Indicator	Agree and completely agree	Disagree and completely disagree
1	Scale and human size	79.9	13.3
2	Positive and negative surface	73.3	20
3	Façade material	20	73.3
4	Proportion and harmony	19.9	79.9
5	Plaster	20	73.3
6	Diversity of structure	93.4	6.7
7	Ground connecting line	79.9	13.3
8	Skyline	53.3	39.9
9	Complexity and contrast	86.7	13.3
10	Rhythm and harmony	53.4	46.7
11	Type and opening forms	6.7	86.7
12	Order and harmony	13.3	93.4

(Source: Author, 2018)

7. Conclusion

In this study, the criteria and parameters of the physical identity of urban walls has been presented by 12 indicators. The view of the visitors and experts visiting the Hafez Street using SPSS software were weighted, calculated, processed and analyzed. According to the views of visitors the indicators of ground connecting line, complexity and contrast, positive and negative surface, diversity of structure, human scale, and skyline; and views of experts indicators such as diversity of structure, complexity and contrast, ground connecting line, human scale, positive and negative surface, rhythm and harmony had the maximum impact in creating the physical identity of this street walls. Also, for the view point of visitor the indicators such as corners, variables, order and harmony, building openings, façade material, proportion and harmony, rhythm in the body and building façade; and openings, order and harmony, proportions, material and corner, and skyline had the least impact on creating the physical identity of the street walls of Hafez in Shiraz.

In some cases, the priority of the indicators of physical identity according to the views of the users of space differs with the priorities of the views of experts. This difference is due to the insight

of these two groups related to the urban issues. In fact, the citizens with respect to their experience had more realistic view, while the experts' opinion was based on the scientific and technical knowledge. In the future studies, the obtained result can be used to organize and optimize the wall and facades of this street.

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