Investigation of the Ability to Redefine the Components of Popular Architecture Facades in Contemporary Architecture from Semiotics Point of View (Case study: Poonak Zone of Qazvin)

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Abstract

The purpose of this research is to investigate the ability to redefine the components and indicators of popular architecture facades in contemporary architecture. The research method is content analysis and descriptive-analytic and survey with semiotic and Delphi technique. At first, popular architecture is analyzed using descriptive and analytical methods. Next, 14 components of the popular architecture façades assessment are identified and prioritized in three rounds through the survey and Delphi technique. In the third stage, case studies are selected by experts on the basis of the components of the popular architecture facades assessment that are identified in the previous step. In the fourth stage, selected samples are investigated in terms of semiotics and 28 signs are extracted as indicators. In the last step, the ability to redefine these signs as indicators of popular architecture facades in contemporary architecture is examined with the Delphi technique in two rounds. Indicators and components that are not redefinable or are weakly redefined are excluded. Finally, redefinable components and indicators in contemporary architecture facades are prioritized. The results of the research show that some of the components cannot be redefined in the contemporary architecture facades due to their imitative and eclectic indexes. Some components can be redefined through one index, and others have the ability to be redefined through both indicators. From the experts' point of view, the components of understandable for the general public, variety, new techniques, and old patterns are the most important redefinable component in contemporary architecture facades. Eventually, it turned out that popular architecture has common points with experts, and according to the views of experts and people, there can be some kind of architecture with complex aesthetics that spreads both to the elite and to the general public.

Keywords: Popular architecture, Semiotics, Facades, Contemporary architecture.

1. Introduction

Residential buildings are the most influential element in contemporary architecture since they are the most important urban elements that are meaningful. In contemporary architecture, the endless diversity of the main facades of the building represents a huge variety in the architecture of our cities. While other hidden facades are simple walls without decorations, the only street façade that is visible to the public is flashy. Therefore, the confusion of architectural facades in today's cities of Iran is one of the fundamental issues. In fact, in contemporary Iranian architecture, mainly in the residential sector, we are witnessing a kind of architecture that is very popular with the public, while being criticized by architects and experts. The lack of awareness of the people's will and the lack of review of the capabilities of popular facades are causing a gap between the architects and the people. This research seeks to answer the question of what components of popular architecture facades are capable of redefining in contemporary Iranian architectural facades? If the components and indicators of popular architecture facades can be redefined in contemporary architecture, there is closer proximity between popular architecture and architects' architecture and the gap between people and experts in the field of architectural facades will be less. In this research, postmodernism will first be considered as the basis of popular architecture, as well as semiotics as one of the most important factors in the transfer of meaning in popular architecture. Finally, the components of popular architecture facades evaluation are extracted and their redefinability is evaluated.

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2. The Theoretical Structure of Research

2.1. Popular architecture

Postmodernity is a time or situation after modernity and can be regarded as a set of factors that are rooted in the disintegration of social concepts of modernity. According to the opinion of some thinkers, postmodernity is a movement towards a post-industrial age that has been mentioned with other titles, such as consumer society, information society, electoral society or high-tech technology, and etc. (Bani Masoud, 2012: 16).

Table1
Postmodern characteristics

Anti-foundationalism	Characteristic antipathy towards systematic generalizations and the totalizing metanarratives. This results in a "diversity or multiplicity of narratives, liberation from all conformity, and freedom to experience as many ways of
De-differentiation	De-differentiation comprises the erosion and effacement of established hierarchies and the blurring of what were formerly clear-cut entities. This blurring has a further liberating effect, bringing freedom from constraints and conventions. Opportunities are for self-expression with all styles permitted and subcultures increasingly trendsetters, and emphasis on the contributions of
Fragmentation	Fragmentation denotes the disintegration of knowledge, language, political and social life, mass-market economics, the unified self and the disconnected array of vivid images generated by the media. Individuals have a host of roles, identities or selves which are fluid, mutable and negotiable (Brown, 2006). Postmodern consumers embrace multiplicity and variety through their
Consumption and production reversal	Consumption is prioritized in the fragmentation of other traditional sources of meaning Under postmodernity, the role of marketers and advertisers is to provide consumers with the raw materials with which consumers can construct unique identities.

(Source:Canavan, McCamley, 2018, 2)

The narrowing of the gap between intellectual culture and popular culture is considered to be the essential characteristic of life in the postmodern era. According to Huyssen, postmodernism left out "endless hostility" of modernism "towards mass culture" (Ward, 2008: 30). The postmodern question in the early 1980s was the question of how artists should respond to popular culture (Ward, 2008: 63). Generally, Literary, cultural and artistic works placed at least in three levels of aestheticism: Popular works with popular aesthetics which prevalent in public level. Fine artwork with Awesome Aesthetics That Come to Elite Levels. Fine artwork with sophisticated aesthetics, which spread both at the elite level and among the general public .(Kheime Dooz, 2013, 8) Popular art is concerned with the common interests, common Emotions and Common and accepted tastes of the general public and as a result, attracted more attention to the people to their own. Popular art is understood and appreciated according to the people's expectations and values, which can be claimed that this art represents the shared values and interests of the people. An art that is much more reliant on the concept of the community than any aesthetic flow. It is clear that such an art, while exploiting these beliefs, attitudes, and expectations, also strengthens them. (Navits, 2011, 236)

Some features of postmodern art:

1. Their goal is to attract more audiences
2. Discuss the relationship between art and popular culture
3. Oppose the idea of modernism that art defines itself and states that the "artistic property" of objects and images is defined by social interpretations.
4. Propose that all cultural products are involved in complex social relationships. Artists are largely inside the community. The critical position in contrast to the conservative position assumes that artists must be in a position outside of popular culture and commodity so that they can criticize it in principle and fundamentally. While Postmodernism says that such a situation may be neither possible nor desirable.
5. They do not define themselves with the rejection of modernism or popular culture but act as an uncertain region between them. (Ward, 2008: 78).

In the definition of postmodern architecture, Charles Jencks states that: "postmodern architecture combines modern techniques with something else to enable architecture to interact with the general public and a minority, usually other architects. To a certain extent, modern architecture has lost its credibility due to the failure of effective irrelevant to the contestation with the end-users (Jencks, 1997: 16).

Undoubtedly, the main motive for the birth of postmodern architecture was the social breakdown of modern architecture (Jencks, 1997: 18). The modernist architect imposed anything he considered suitable for the "masses" and tried to coordinate them with abstract systems and logic. Modernists hate unnecessary decorations, but many people find it absolutely necessary. Postmodernism is a playful approach that is more democratic and less elitist (Ward, 2008: 35). Modernism failed to some extent in the mass production of housing and building the city since it was unable to make a connection with residents and consumers that might not have liked this style or did not understand what it says and even how it should be used. Thus, amphibology, the main definition of postmodernism, has been used as a tool for connecting at different levels at a single time (Jencks, 1997: 22). Frederic Jameson considers the postmodern art and architecture to merely cut and paste images and styles that were already ready. Jameson sees these things as signs that are separated from their true realms and are reused in new and meaningless combinations, in a trade-intensive and low-volume environment that is from popular culture. (Jencks, 1997: 16). Charles Jencks has commended postmodernism because it has succeeded to go beyond modernist elitism. The goal of modernist ideas was that the building should not have any associations.

Postmodern buildings, instead of imposing a single meaning or formula and method, have more freedom of style and allow the individual to enjoy the pursuit of association and irrelevant to the contestation (Ward, 2008: 36).

Public architecture is a kind of architecture that is widely welcomed by ordinary people. In the popular definition in Dehkhoda's dictionary, popular is defined as: "What ordinary people like, what is generally accepted" (Dehkhoda, 1998: 1968). Postmodern architecture is also called "pop architecture" or "folk architecture" because this architecture uses popular volumes, decorations, and colors that are interesting to the public. In the Postmodern Architecture Language, Jencks reminds us that the postmodern building has a duality in terms and concepts, one for the intellectuals and the other for the general public (Ghobadian, 2004: 105). Popular tendencies of postmodernism began in the 1970s under the title of semiotics, being reflected as the architecture of commercial and recreational spaces. The western examples are works of postmodern classicism by American architects (PoMo), especially the works of architects such as Robert Venturi, Charles Willard Moore, Michael Graves, and Philip Johnson (Bani Masoud, 2012: 117). The PoMo movement once again introduced classic elements (the pillars of the facade, pediments and the like) into essentially modernized forms as decorations, which sought to become neo-populism (Bani Masoud, 2012: 172).

Table 2
The Viewpoints of Theorists on the Concepts of Postmodern Popular Tendencies

Index	Theory	Theorist	Year	Reference
Social concepts	-Speaks in many languages to attract the most audiences	Charles Jencks (Postmodern Architecture Language)	1991	(Bani Masoud, 2012: 172)
	-Buildings in accordance with the requirements and orders of the employer	Robert Venturi (rehearsal from Vegas)	1979	(Bani Masoud, 2012: 50)
	-Symbols in architecture are influenced by culture and people	Charles Jencks (General Principles of Postmodern Architecture)	1997	(Bani Masoud, 2012: 48)
	-The dual codes are one for the intelligentsia and the other for the general public	Charles Jencks (What is Postmodernism?)	1991	(Bani Masoud, 2012: 47)
	-Relies on the concept of irrelevant to the context	Higgins and Radino	1999	(Navits, 2011: 235)
	-Formed on the basis of common people's interests	Higgins and Radino	1999	(Navits, 2011: 235)
	-Produced for as many people as possible	Doeit McDonald		(Navits, 2011: 228)
	-Ease of access	Abraham Kaplan	1953 1966	(Navits, 2011: 228)
Symbolic Concepts	-Encrypted and Symbolic Architecture	Charles Jencks (What is postmodernism?)	1991	(Bani Masoud, 2012: 172) (Bani Masoud, 2012: 48)
	-Architecture needs a metaphor.	Charles Jencks (General Principles of Postmodern Architecture)	1997	(Bani Masoud, 2012: 48)
	-Architecture is created through codes (symbols).	Charles Jencks (General Principles of Postmodern Architecture)	1997	(Bani Masoud, 2012: 51)
	-A sign is more important than architecture	Robert Venturi (Complexity and Contradiction in Architecture)	1997	
Formal concepts	-The inappropriate placing of elements in time	Nesbitt	1996	(Nesbitt, 2017: 122)
	-Rich with stereotypes	Abraham Kaplan	1966	(Navits, 2011: 228)
	-Variety	Nesbitt	1996	(Nesbitt, 2017: 134)
	-Use of mixing and inconsistency	Charles Jencks	1991	(Bani Masoud, 2012: 172) (Bani Masoud, 2012: 172)
	-Vitality, ambiguity, and humor	(Postmodern Architecture Language)	1991	(Bani Masoud, 2012: 48) (Navits, 2011: 227)
	-Decoration and patterns	Charles Jencks (Postmodern	1997	
	-Fake and glittering	Architecture Language)	1993	(Bani Masoud, 2012: 47)
	-New techniques of old patterns	Charles Jencks (General Principles of Postmodern Architecture)	1986	(Grrenberg, 2004: 12)
	-False art, entertaining industry by stimulating everyday excitement	Clemente Greenberg Charles Jencks (What is Postmodernism?) RJ Collingwood	1938	

Historical concepts	-The meaning of architecture in relation to history	Robert Venturi (Complexity and Contradiction in Architecture) Robert Stern	1997	(Nesbitt, 2017: 94)
	-Architecture is a historical and cultural response	Robert Venturi (rehearsal from Vegas)	1977	(Nesbitt, 2017: 30)
	-Inspiration from the past	Philip Johnson	1979	(Bani Masoud, 2012: 50)
	-Relationship to old buildings	Diane Ghirardo		
	-Reading history selectively		1994	(Nesbitt, 2017: 31)
			1996	(Nesbitt, 2017: 61)
Referral concepts	-Reminding architecture	Robert Venturi (rehearsal from Vegas)	1979	(Venturi, Scott Brown, Izenour, 2012: 76)
	-The building should create a relationship and connect with the past, and revive memories	Charles Willard Moore (home position)	1974	(Bani Masoud, 2012: 178)
	-Referral to the past or the present, or the issues that are commonplace or the old stereotypes	Robert Venturi (rehearsal from Vegas)	1979	(Venturi, Scott Brown, Izenour, 2012: 76)
	-Referral to historical architecture leads to greater familiarity and understanding	Nesbitt	1996	(Nesbitt, 2017: 131)

2.2. Semiotics

Human creates meaning more than anything else. We create meaning through the production and interpretation of "signs." In fact, as Pierce said, "we can only think through the signs." Signs usually appear in the form of words, images, sounds, smells, flavors, movements, and objects (Chandler, 2015: 41). One of the most common definitions of semiotics is presented by Umberto Echo, who states: "semiotics works with anything that can be regarded as indications." Semiotics not only includes the study of things that we call “sign” in everyday conversations but studying everything that refers to something else. Contemporary semiotics do not study signs in isolation, but they examine them as part of a system of signs. They seek to answer the question of how the meanings are made and how reality is represented. Semiotics is associated in many ways with the production of meaning and representation (Chandler, 2015: 20-21). In the knowledge of signs, each sign is examined in two aspects or has two dimensions, and it is natural that a sign can simultaneously have two aspects. The apparent aspect of the sign indicates its appearance, such as the shape, size, and color of the mark. The semantic dimension is the concept and the content of the sign. Understanding the meaning of a mark in most cases is only possible when the receiver has already learned the concept (Grötter, 2007: 502). There are two divergent traditions in semiotics that emerge from the Swiss linguist Ferdinand Saussure (1857-1913) and the American philosopher Charles Sanderson Pierce (1839-1914). While for linguist Saussure, semiology was a science that studied the role of signs as part of social life, for philosopher Charles Pierce, semiotics was the "formal theory of signs," which was closely related to logic. Pierce and Saussure are both known as the founder of what today is known as semiotics (Chandler, 2015: 25-26). In the following table, the patterns, classifications, and the meaning and function of the sign from the viewpoint of various theorists are presented.

Table 3
Comparison of the Pattern, Classification, Meaning and Function of the Sign from the Viewpoint of Different Theorists

	Theorist	Pattern	Classification	Meaning	Function
1	Saussure	Two-part pattern including sign and signifier	Symbol	Signs are meaningful within the system.	Social
2	Pierce	Three-part pattern including representamen, an object, and an interpretant	Icon, index, symbol	The meaning of the sign is another sign. Glossing sign	Logical
3	Maurice	Four-part pattern consisting of a sign, a subject, an interpretant, and an interpreter	Syntactic, Semantics, and Prosthetics	Each sign has a subject but it does not necessarily have example.	Unification of biological, psychological, social and human sciences
4	Umberto **Eco**	-	1- Signs that are abundant. 2. Signs that are made in one form, but they are of a definite quality of material uniqueness in terms of items. 3. Signs that have only one item in their type.	Semiotics is a systematic study of everything that is intended to be falsely used.	Cultural
5	Roland Bart	Two levels of phonetic, expressive and semantic elements	-	Search for implications of meanings in direct implications and implicit implications	Mythical

Peirce interprets form as a meaning and a self-interpreting sign. The result is that the sign is considered to be something this is determined by the form. The components of the architectural space have five spatial registers: the urban space, the utilitarian space, the aesthetic symbolic space, the bioclimatic space, and the tectonic plastic space (Chebaiki-Adli, Chabbi-Chemrouk, 2015).

Architectural semiotics reads space according to social and cultural-civil relations as a text arising from it. In facing the architectural space, the audience reproduces the space with its mental images and space and passwords. Considering the social status and cultural context of the architectural plan, the audience makes sense of the design. (Ghafari, Falamaki, 2017, 344)

3. Research Methodology

The research method was content analysis, descriptive-analytical and survey through semiotic and Delphi techniques. At first, popular architecture was analyzed using the content analysis and descriptive and analytical method and components of popular architecture facades were extracted. Components of the popular architecture façades assessment were identified and prioritized in three rounds through the Delphi technique and finally, 14 components were selected. In the next stage, samples were selected from Poonak zone of Qazvin on the basis of the components of the popular architecture facades assessment. The reason for choosing this area to select the samples is that it's a completely new texture, as well as having a homogeneous social structure and having a variety of facades and for some reason such as keeping some of the factors constant, such as land prices and construction quality. Considering that in qualitative research, the sample selection process continues to saturation and then sample collection process will be stopped. By choosing 30 façade of this neighborhood we reach to repeat in appearance (such as shape, decorations, materials, and colors). So the sample selection process was completed at this stage. Since popular facades have become spread in the last decade, according to the statistics of licenses issued since 2011, there were 9600 licenses, according to Cochran's formula with 0.1% error, 94 facades were selected randomly from the Punk zone. Since experts had to evaluate 14 components for 95 facets and 1330 items had to be evaluated, in order to maintain the reliability and validity of the questionnaire, one-third of the total data was randomly selected. In the case of qualitative research, sample selection continues until saturation is reached and the samples that have been replicated are discontinued. In this study, after evaluating 30 facades of 94 selected facades, it was concluded that facades with classical architectural elements were identified as popular, so the selection of samples was saturated and the sample collection process was completed.

Then, samples were analyzed using semiotic technique and signs used in this type of architecture were extracted. In the last step, the ability to redefine these signs as indicators of popular architecture facades in contemporary architecture was examined with the Delphi technique in two rounds. In the first round, the ability to redefine the signs was questioned by experts and the importance of each indicator in terms of the ability to be redefined in contemporary facades was measured. Indicators and components that are not redefinable or are weakly redefined are excluded. In the second round, redefinable components and indicators in contemporary architecture facades are prioritized.

Fig. 1. Plan of the study area (Source: Qazvin municipality)

4. Research process

The research process in this study consists of four steps, as shown in the table below.

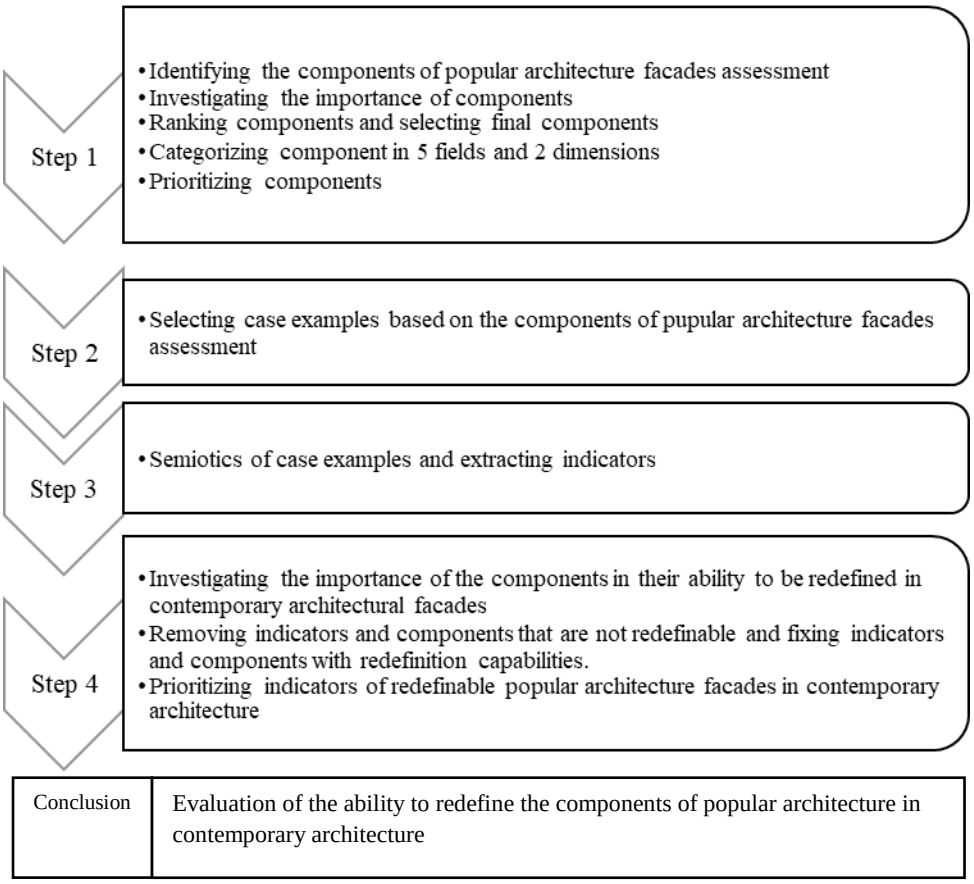


Fig. 2. Research Process

5. Findings and Discussion

In the evaluation of the popular architecture facades, 24 components were identified. In the pre-test phase, 4 components of fake and counterfeit, mendacious, rich with stereotypes and oldness, and vitality were eliminated because of heterogeneity.

Therefore, 20 components remained out of the 24 selected components.

First round: In this round, the importance of the components of the popular architecture facades assessment was asked from the interviewees. In an open question, they were also asked to add other components that they intended. Cronbach's alpha was 0.778 for the 20 data.

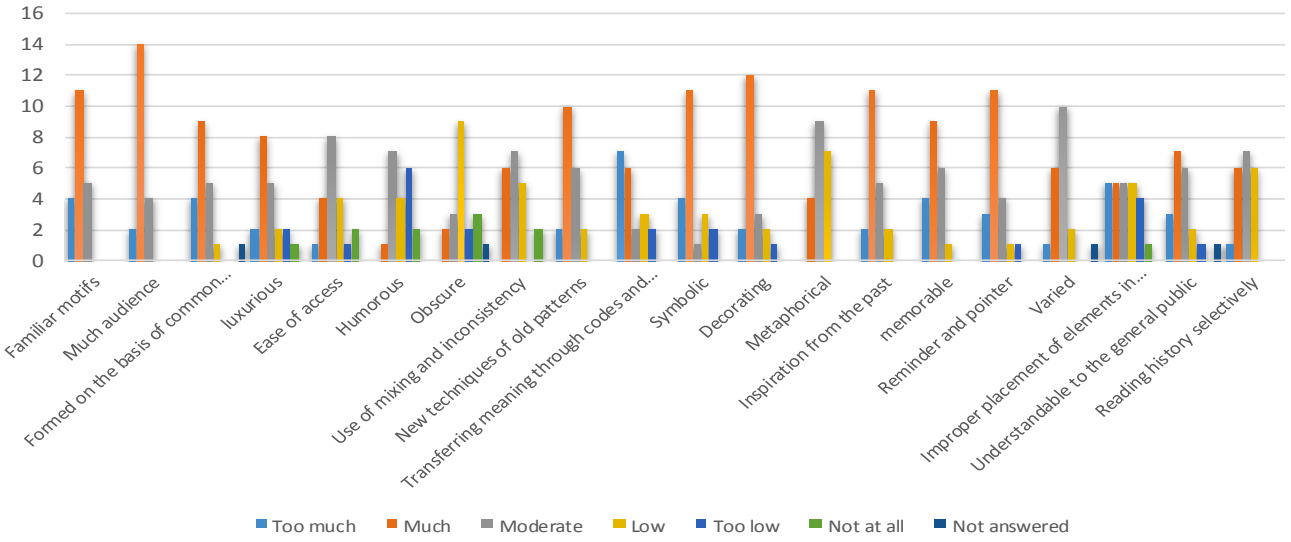


Fig. 3. The Frequency of the Importance of the Components of Identifying Popular Architecture Facades in the First Round

In this stage, four criteria were added by the experts, which included the installation of a sense of pride and being prosperous, irrelevant to the context, having a clear meaning, and magnificent and luxurious. In the next step, the components of popular architecture facades assessment were ranked.

Second round: By analyzing first-round data, six criteria were eliminated by experts due to the low mean score in the rankings, which included ease of access, the use of mixing and inconsistency, metaphor, improper placement in terms of time, Ambiguous, and humorous. The criterion of memorable was eliminated because of the semantic similarity with the reminder and the pointer and the symbolic criterion were also eliminated because of the semantic similarity with the transfer of meaning through the codes and symbols. The components of many audiences and formed on the basis of common interests of people were eliminated because of their obviousness. Finally, 10 components of the previous component, along with 4 proposed components of the experts, were selected for this stage. A total of 14 criteria were fixed at this stage, which was divided by panel members into two formal and semantic dimensions. In the second round, the interviewees were asked to categorize the components by dimension, based on the conceptual model context. Therefore, after analyzing the data, the context of each component was determined in this stage. In Table 4, the categorization of the components of popular architecture facades assessment was done in two formal and semantic dimensions and in terms of stylistics, form, decoration, perceptual meaning, and associative meanings.

Table 4
Ranking Components of Popular Architecture Facades Identification

	Component	Mean
1	Reminder and pointer	14.06
2	Familiar motifs	14.03
3	Transfer of meaning through codes and symbols	13.74
4	Formed on the basis of common interests of	13.62
5	Memorable	13.62
6	Many audiences	13.38
7	Symbolic	13.12
8	Inspiration from the past	12.68
9	Depending on decorations	12.47
10	New techniques of old patterns	11.71
11	Understandable to the general public	10.62
12	Glittering	9.97
13	Varied	9.82
14	Reading history selectively	9.59
15	Ease of access	7.32
16	Use of mixing and inconsistency	7.26
17	Metaphorical	7.03
18	Improper placement of elements in terms of	7.03
19	Ambiguous	4.94
20	Humorous	4

Table 5
Categorization of the components of popular architecture facades assessment

Dimensions	**Formal**			**Semantic**	
Context	Stylistics	Form	Decorations	Perceptual meaning	Associative meaning
Component	irrelevant to the context	magnificent and luxurious	Glittering	Understandable to the general public	Reminder and pointer
	Reading history selectively	Familiar motifs	Depending on decorations	having a clear meaning	instillation of a sense of pride and being prosperous
	New techniques of old patterns	Variety			Transfer of meaning through codes and symbols
					Inspiration from the past

Third Round: At this stage, the final components of popular architecture facades assessment were prioritized.

Table 6
Prioritizing components of popular architecture facades assessment based on the ean ranking

	Component	Mean
1	New techniques of old patterns	249
2	Reading history selectively	215
3	Variety	187
4	Inspiration from the past	185
5	Glittering	183
6	instillation of a sense of pride and being prosperous	180
7	Depending on decorations	151
8	Transfer of meaning through codes and symbols	145
9	Having a clear meaning	143
10	Understandable to the general public	127
11	Familiar motifs	96
12	Reminder and pointer	89
13	Irrelevant to the context	88
14	Magnificent and luxurious	76

6. Conceptual Framework of Research

The components of popular architecture facades assessment are categorized into two formal and semantic dimensions and in five contexts of (stylistics, form, decorations, perceptual meaning, and associative meaning).

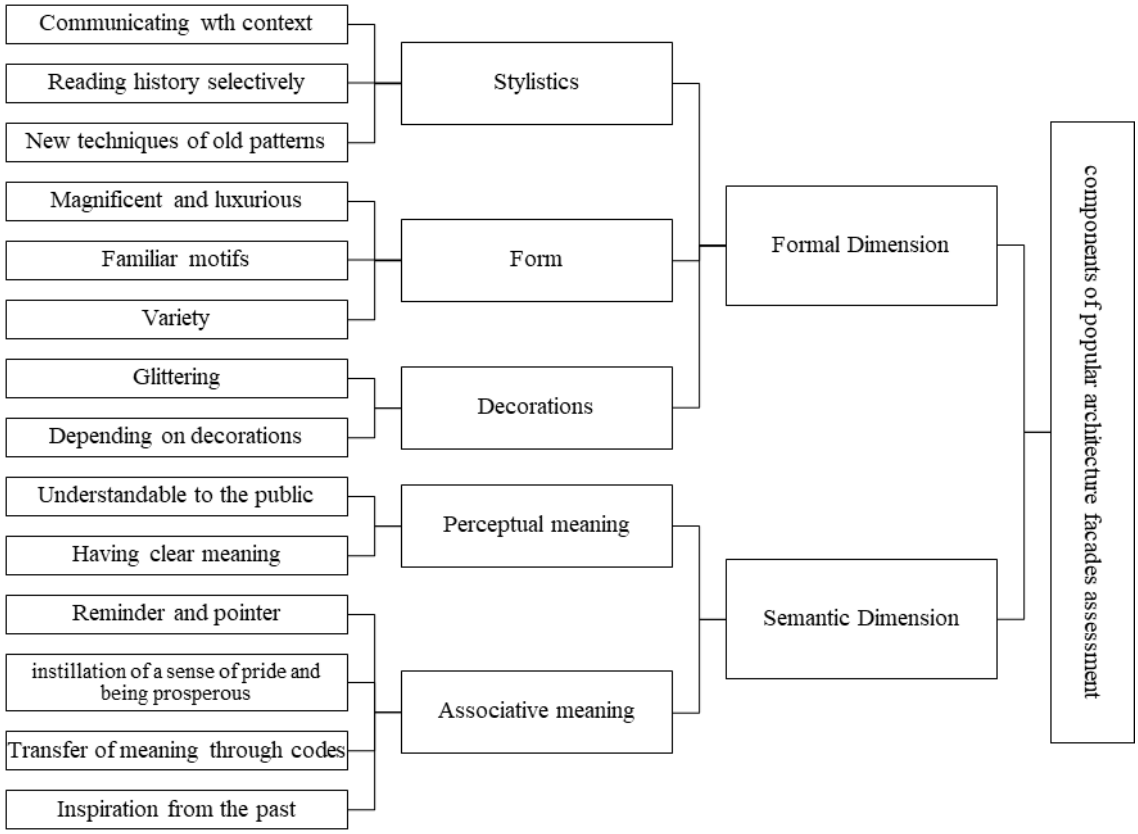


Fig. 4. The research model (components of popular architecture facades assessment in 5 contexts and 2 dimensions)

7. Case Examples

Samples were selected randomly in the Poonk zone. The population of the samples was 30 facades after being standardized and performing pre-test, and measuring the reliability and validity of the sample.

A questionnaire was distributed among 10 experts, asking them to measure the significance of these 30 facades on the basis of the components of popular architecture facades assessment based on the Likert scale.

Table 7
Case examples (Reference: Authors)

1	2	3	4	5	6	7	8	9	10
									

11	12	13	14	15	16	17	18	19	20
									

21	22	23	24	25	26	27	28	29	30
									

The significance of each component of assessing popular architecture facades, which was extracted from the previous stage, was asked by experts for each facade. A scale called popular architecture was constructed based on the sum of weighted averages of the components of popular architecture facades assessment. The highest figure for this scale is 48 and the lowest is 8. Responses were scaled for each image. Finally, one number was obtained for each image. The larger the number is (the closer to 48), the image is more popular.

Table 8
Prioritization of 30 studied facades based on a weighted average from low to high (Source: Authors)

Image	2	21	26	11	23	19	5	16	17	14	18	24	20	30	7	22	3	13	28	8	15	27	4	29	1	12	6	25	9	10
Mean	20.19	21.63	21.83	22.49	23.20	23.42	23.91	23.96	24.30	24.61	24.99	25.86	26.03	27.01	27.81	27.93	28.97	29.57	29.70	30.11	32.05	32.53	32.84	33.91	34.61	34.84	35.45	36.66	36.82	36.85

Thus, 50% of the total facades with the highest average were selected as popular architecture facades, as case studies. These facades are 10-9-25-6-12-1, respectively.

Table 9
Selected case examples (Reference: authors)

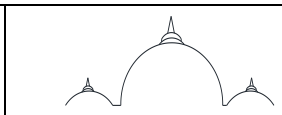
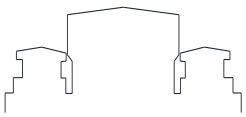
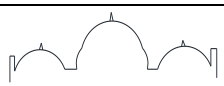
1	2	3	4	5	6
					

8. Semiotics of Popular Architectural Facades and Extraction of Indicators

The 6 studied facades were analyzed using the semiotic method and the signs in them were distinguished by the three basebands (ground floor), the middle band (between the first to the last floors) and the final band (skyline) in the following table.

Table 10
Semiotics of case examples

Façade Number	Baseband	Middle band	Final band	Skyline	Type of material	Symmetry	Frequency	Proportions

1	Define an entry with a row of a bulkhead	Use of indicator element (pediment, pair columns, and bulkhead) in the middle band	Diverse skyline (using three domes)		Stone	Symmetric	Iteration in the form of windows, columns, and bulkheads	The ratio of width to height is one to three Using a three-part division with an emphasis on the mid-section using more height and width and more indexed elements.
	The use of elements and materials related to collective memories (such as columns, domes, bulkhead, pediment, etc.) in all three bands Use of volume and depth in all three bands							
2	Simple baseband	Use of the indicator element (pediment and pair columns) in the middle band	Diverse skyline Use of pediment and bulkhead		Stone	Symmetric	Iteration in the form of windows, columns, bulkheads, and pediments	The ratio of width to height is one to two Using a three-part division with an emphasis on the mid-section using more height and width and more indexed elements.
	The use of elements and materials related to collective memories (such as columns, domes, bulkhead, pediment, etc.), Use of volume and depth in all three bands							
3	Define an entry with a bulkhead	The use of continuous windows and projecting pilasters with a height of two floors (scale change)	Diverse skyline		Stone	Nearly symmetric	Iteration in the form of windows, columns, bulkheads, and pediments	The ratio of width to height is one to two Using a three-part division with an emphasis on the mid-section using more height and width and more indexed elements.
	The use of elements and materials related to collective memories (such as columns, domes, bulkhead, pediment, etc.) in all three bands Use of volume and depth in all three							

	bands					
4	Define an entry with a row of a bulkhead	Use of the indicator element (pediment and pair columns) in the middle band	Diverse skyline	Stone	Symmetric	Iteration in the form of windows, columns, bulkheads, and pediments	The ratio of width to height is one to three Using a three-part division with an emphasis on the mid-section using more height and width and more indexed elements.
	The use of elements and materials related to collective memories (such as columns, domes, bulkhead, pediment, etc.) in all three bands Use of volume and depth in all three bands						
5	Define an entry with a row of a bulkhead	The use of continuous windows and projecting pilasters with a height of two floors (scale change)	Diverse skyline	Stone	Symmetric	Iteration in the form of windows, columns, bulkheads, and pediments	The ratio of width to height is one to 2.5 Using a three-part division with an emphasis on the mid-section using more height and width and more indexed elements.
	The use of elements and materials related to collective memories (such as columns, domes, bulkhead, pediment, etc., Use of volume and depth in all three bands						
6	Define an entry with a row of a bulkhead	Use of the indicator element (pediment and pair columns) in the middle band	Diverse skyline	Stone	Symmetric	Iteration in the form of windows, columns, bulkheads, and pediments	The ratio of width to height is one to two Using a three-part division with an emphasis on the mid-section using more height and width and more indexed elements.
	The use of elements and materials related to collective memories (such as columns, domes, bulkhead, pediment, etc.) in all three bands Use of volume and depth in all three bands						

9. With the semiotic analysis of popular architecture facades, 28 signs were extracted as indicators of these facades, which were presented in 14 components and in five contexts (stylistics, form, decoration, perceptual meaning, and associative meaning) in two formal and semantic dimensions.

Table 11
Indicators and Components of Popular Architectural Facades in Context and Dimension

Dimension	Context	Component	Indicator
Formal	Stylistic	1. Reading history selectively	1. The use of signs from classical and renaissance architecture
			2. The using of Gothic architecture proportions (drawn in the vertical direction)
		2. New techniques of old patterns	1. The use of signs of past architecture
			2. The use of modern technology in the construction of old elements
		3. Irrelevant to the context	1. The use of signs from classical and renaissance architecture
			2. Different from facades in neighboring textures
	Form	4. Magnificent and luxurious	1. Emphasize and pay attention to the end and middle bands using indicator elements
			2. Highlighting using scale change
		5. Familiar motifs	1. The use of pediment column in the dome arch
			2. Simulation with classic architecture
		6. Variety	1. Diversity in the skyline
			2. Variation in volume and depth creation
	Decoration	7. Glittering	1. The use of false and decorative elements
			2. The use of multiple signs of past majesty architectures
		8. Depending on decoration	1. The use of a lot of details in decorating
			2. The use of unusual decorative elements such as pilaster and baluster
Semantic	Perceptual meaning	9. Understandable by the general public	1. The use of understandable aesthetic signs for people such as rhythm, symmetry, and iteration
			2. The use of understandable symbols for people
		10. Having a clear meaning	1. Direct metaphor
			2. The use of simple and tangible signs
	Associative meaning	11. Reminder and pointer	1. Pointing to signs of classical architecture
			2. Elements of materials related to collective memories
		12. instillation of a sense of pride and being prosperous	1. Emphasize vertical direction and attention to high and majesty
			2. The use of luxurious materials and similar to the spectacular architecture
		13. Transfer of meaning through codes and symbols	1. The use of schematic symbols
			2. Reminding credit using valid signs
		14. Inspiration from the past	1. Iterate and simulate signs of classical architecture
			2. The plurality of column and arch combinations under the influence of Renaissance architecture

After determining the 14 components, 28 indicators that were effective in evaluating popular architecture facades were identified in line with the main objective of the study in two dimensions and five contexts (stylistics, form, decoration, perceptual meaning, and symbolic meaning). The ability to redefine these indicators was evaluated using the Delphi method. In the first step, the importance of the ability to redefine any of the indicators was determined by experts using the Likert valuation scale. It should be noted that the validity and reliability of the questionnaire have been confirmed by professors. After collecting and completing the questionnaires, analyzing the data, the significance of the redefinable indicators in the contemporary architectural facades was examined and the indicators whose average values were lower than the normal mean of the data were eliminated. Cronbach's alpha was 0.901 for 28 items.

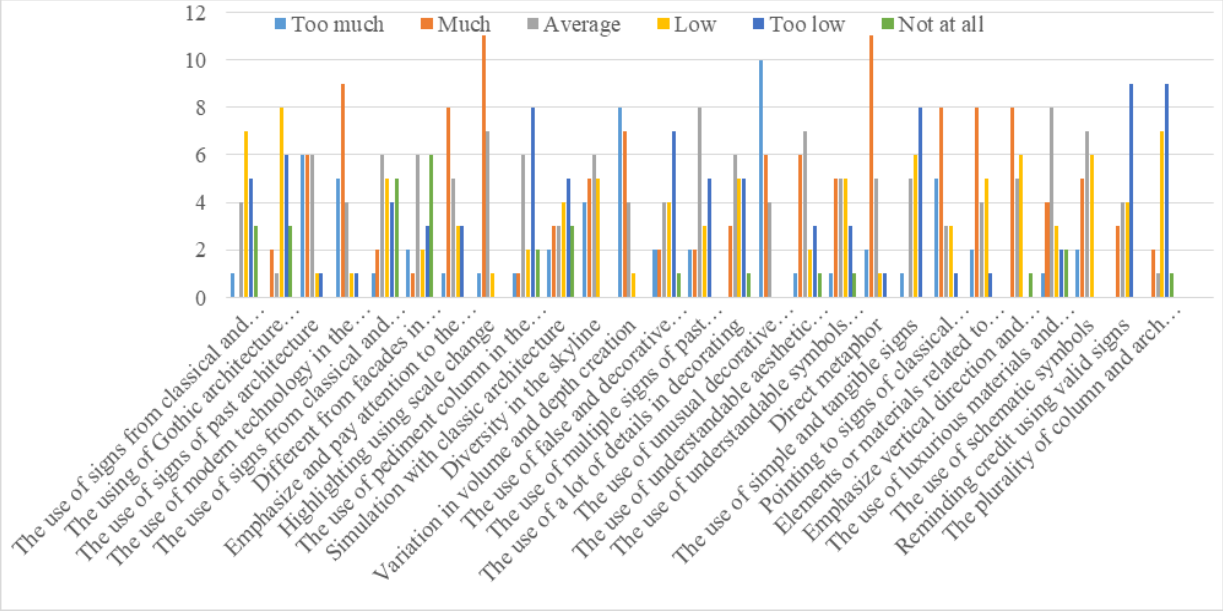


Fig. 5. Frequency of redefinability of popular architectural facades indicators in contemporary architecture

Table 12
Average data for redefinability of popular architectural facades through indicators

	Indicators	Average
1	The use of signs from classical and renaissance architecture	2.8
2	The using of Gothic architecture proportions (drawn in the vertical direction)	2.65
3	The use of signs of past architecture	4.75
4	The use of modern technology in the construction of old elements	4.8
5	The use of signs from classical and renaissance architecture	2.8
6	Different from facades in neighboring textures	2.95
7	Emphasize and pay attention to the end and middle bands using indicator elements	4.05
8	Highlighting using scale change	4.6
9	The use of pediment column in the dome arch	2.95
10	Simulation with classic architecture	3.2
11	Diversity in the skyline	4.4
12	Variation in volume and depth creation	5.1
13	The use of false and decorative elements	3.5
14	The use of multiple signs of past majesty architectures	3.8
15	The use of a lot of details in decorating	3.65
16	The use of unusual decorative elements such as pilaster and baluster	3.25
17	The use of understandable aesthetic signs for people such as rhythm, symmetry, and iteration	5.3
18	The use of understandable symbols for people	4.25
19	Direct metaphor	3.95
20	The use of simple and tangible signs	4.6
21	Pointing to signs of classical architecture	3
22	Elements of materials related to collective memories	4.65
23	Emphasize vertical direction and attention to high and majesty	3.85
24	The use of luxurious materials and similar to the spectacular architecture	3.65
25	The use of schematic symbols	3.65
26	Reminding credit using valid signs	4.15
27	Iterate and simulate signs of classical architecture	3.05
28	The plurality of column and arch combinations under the influence of Renaissance architecture	2.7

Based on the average of the data, the indicators that have an average below the normal mean of data, i.e. less than 3.5, means that they are either not redefinable, or their redefinability is low. Therefore, they are eliminated.

Table 13
Indicators with an average value lower than the normal average of data

	Dimension	Context	Components	Indicators	Average
1	Formal	Stylistics	Reading context selectively	The use of signs from classical and renaissance architecture	2.8
2	Formal	Stylistics	Reading context selectively	The using of Gothic architecture proportions (drawn in the vertical direction)	2.65
3	Formal	Stylistics	Irrelevant to context	The use of signs from classical and renaissance architecture	2.8
4	Formal	Stylistics	Irrelevant to context	Different from facades in neighboring textures	2.95
5	Formal	Form	Familiar motifs	The use of pediment column in the dome arch	2.95
6	Formal	Form	Familiar motifs	Simulation with classic architecture	3.2
7	Formal	Decorations	Glittering	The use of false and decorative elements	3.25
8	Formal	Decorations	Depending on decorations	The use of unusual decorative elements such as pilaster and baluster	3.25
9	Semantic	Associative meaning	Reminder and pointer	Pointing to signs of classical architecture	3
10	Semantic	Associative meaning	Inspiration form the past architecture of other lands	Iterate and simulate signs of classical architecture	3.05
11	Semantic	Associative meaning	Inspiration form the past architecture of other lands	The plurality of column and arch combinations under the influence of Renaissance architecture	2.7

The results of the above table indicate that experts believe that the components of reading history selectively and irrelevant to the context, the use of familiar motifs, and the inspiration from the past architecture of other lands cannot be redefined by any of the indicators in contemporary architectural facades. Redefinability of the component of glittering through the indicator of "the use of false and decorative elements", the component of reminder and pointer through the indicator of "pointing to signs of classical architecture", and the component of depending on decoration through the indicator of "the use of unusual decorative elements such as pilaster and baluster" is evaluated to be very weak. Many of the indicators that are related to the formal dimension of popular architecture facades cannot be redefined in contemporary architectural facades. At the next stage, experts were asked to prioritize the components that can be redefined.

Table 14
Prioritization of Redefinable Indicators of Popular Architectural Facades in Contemporary Architecture

Priority	Indicators	Score
1	The use of understandable aesthetic signs for people such as rhythm, symmetry, and iteration	319
2	Variation in volume and depth creation	260
3	The use of modern technology in the construction of old elements	257
4	The use of signs of past architecture	249
5	Highlighting using scale change	219
6	The use of simple and tangible signs	216
7	Elements of materials related to collective memories	193
8	Diversity in the skyline	185
9	The use of understandable symbols for people	178
10	Reminding credit using valid signs	154
11	Emphasize and pay attention to the end and middle bands using indicator elements	153
12	Direct metaphor	130
13	Emphasize vertical direction and attention to high and majesty	124
14	The use of multiple signs of past majesty architectures	117
15	The use of schematic symbols	104
16	The use of a lot of details in decorating	65
17	The use of luxurious materials and similar to the spectacular architecture	62

The data of this table indicates that the indicator of the use of understandable aesthetic signs for people such as rhythm, symmetry, and iteration in the component of understandable for the general public, the indicator of variation in volume and depth creation in the component of variety in the context of form, and the indicator of the use of modern technology in the construction of old elements in the component of new techniques of old patterns are the most important redefinable indicators of popular architecture facades in contemporary architecture. Finally, redefinable components in the popular architecture facades are prioritized.

Table 15
Prioritizing Redefinable Components in Contemporary Architecture

	Component	Score
1	Understandable to the general public	150
2	Variety	135
3	New techniques of old patterns	124
4	Reminder and pointer	123
5	Magnificent and luxurious	120
6	Having a clear meaning	103
7	Transfer of meaning through codes and symbols	100
8	Glittering	97
9	Depending on decorations	94
10	instillation of a sense of pride and being prosperous	73

10. Conclusions

Popular architecture is a kind of architecture that is highly accepted by people and criticized by architects. According to this issue, that pattern of the building should not be based solely on the architect's perspective, but should also take into account the mental background of the people. If there is closer proximity between popular architecture and architects' architecture, the gap between people and experts in the field of architectural facades will be less. The identification of popular architecture and the evaluation of this kind of facade from experts' points of view can be promising. In this study, 28 indicators and 14 components were identified as components of popular architecture facades assessment, which were categorized in five contexts and two dimensions. With the evaluation of the redefinability of indicators and components of popular architecture, it was found that some components cannot be redefined or can be weakly defined in Iranian contemporary architecture. In other words, components with imitative and eclectic indexes cannot be redefined. The components of reading history selectively, unrelated to the context, the use of familiar motifs, and the inspiration from the historical architecture of other lands cannot be redefined by any of the indicators in contemporary architectural facades. Also, redefinability of the component of glittering through the indicator of "the use of false and decorative elements", the component of reminder and pointer through the indicator of "pointing to signs of classical architecture", and the component of depending on decoration through the indicator of "the use of unusual decorative elements such as pilaster and baluster" is evaluated to be impossible. However, these components can be redefined through other indicators. The indicator of the use of understandable aesthetic signs for people such as rhythm, symmetry, and iteration in the component of understandable for the general public, the indicator of variation in volume and depth creation in the component of variety in the context of form, and the indicator of the use of modern technology in the construction of old elements in the component of new techniques of old patterns are the most important redefinable indicators of popular architecture facades in contemporary architecture. According to expert opinions, it became clear that contemporary architectural facades should be diverse and understandable to the people, and that new techniques can be used to represent old patterns. The components of reminder and pointer and magnificent and luxurious can be redefined in contemporary architectural facades. Contemporary architecture façade can have a clear meaning, and meanings can be transferred through codes and symbols. Finally, the three top priorities in terms of redefinability include glittering, depending on decoration, and ultimately installation of a sense of pride and being prosperous. The results of the research show that some of the components of popular architecture facades cannot be redefined at all, and some components can be redefined with one indicator and some other components with both indicators. In the table below, the components of popular architecture facades assessment are shown in order of priority in terms of redefinability.

Table 16
Prioritizing Redefinable Components and indicators in Contemporary Architecture

	Component	Redefinable indicators
1	Understandable to the general public	The use of understandable aesthetic signs for people such as rhythm, symmetry, and iteration
2	Variety	Variation in volume and depth creation
3	New techniques of old patterns	The use of modern technology in the construction of old elements
4	Reminder and pointer	Elements or materials related to collective memories
5	Magnificent and luxurious	Highlighting using scale change and emphasize and pay attention to the end and middle bands using indicator elements
6	Having a clear meaning	The use of simple and tangible signs and also a direct metaphor
7	Transfer of meaning through codes and symbols	Reminding credit using valid signs and the use of schematic symbols
8	Glittering	The use of signs of past majesty architecture
9	Depending on decorations	The use of a lot of details in decorating
10	instillation of a sense of pride and being prosperous	Emphasize vertical direction and attention to high and majesty

Eventually, it turned out that popular architecture has common points with experts, and according to the views of experts and people, there can be some kind of architecture with complex aesthetics that spreads both to the elite and to the general public.

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