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## Evaluation of the Components of Design Style in the Façade of Residential Buildings in Tehran

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### Research Article

#### Abstract

A specific social group causes complex differences in the way of looking at environmental transmitters, and this has made understanding the beauty, meanings and interpretations of signs dependent on their way of looking. Effective factors are effective in shaping urban facades, which have a direct impact on the designers, employers and residents of these buildings. This research has been carried out with the aim of extracting and measuring the effectiveness of the effective components in the beauty of buildings in Tehran. This research has a combined qualitative and quantitative approach, which first extracts the effective components in the design of facades from the theoretical literature, then begins to reduce the data in the ATLASTI software to refine the variable, for this purpose, a semi-structured interview was conducted with 28 expert panelists. It takes place after extracting coding, it enters the stage of axial coding. The results obtained in the qualitative phase are compiled in the form of a questionnaire and randomly distributed among three groups of employers, designers and experts for the intensity of the effect. The comparative results between these three groups were obtained with inferential statistics in JMP software. In the end, for the degree of correlation between the responses and the semantic differentiation of these groups, a graphical correlation is taken in the ORIGINPRO software. The results show that in the group of employers, the components of the type of materials, non-use of unusual and unfamiliar forms, age, objective image of the facade value of (1.000), the highest factor share is related to the component of using washable materials with the value of (0.254). In the group of designers, the component of not using unusual and unfamiliar forms, age, flexibility in execution, symmetry and rhythm with a value of (1.000) and the least related to gender with a value of (0.355) in the group of residents, the

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component of age, communication and proximity with value (1.000) and religion is the least related with the value (0.381).

*Keywords:* Effective Factors in Façade Design; Tehran Residential Buildings; Mixed Method

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## 1. Introduction

One of the most basic architectural elements involved with the urban space and the audience is always the view of the buildings that are located in the urban body and are located in direct and direct connection with the urban environment (Dadashpoor et al, 2022: 104). The developments of the last few decades, both in materials and variety of styles and due to the speed of construction, caused the need to pay attention to the view, coordination and organization of urban views (Atard and Kashi, 2017, 186). The external appearance of the building is considered as the basic element of the urban body and it has a significant importance in the formation of the body of the city. The disturbance and disharmony discussed in the architectural facades are related to all the spectrum of buildings, but since residential buildings are considered to be the dominant existing buildings, therefore the discussion of this research will be focused on this category of buildings (Shahbazi et al., 2019: 137). Housing is known for its importance as a space where people spend most of their time. Today, most of the attention paid to this issue has been focused on the issue of plan (Ghasemi, 2022: 104), but we know that the facade, as a facet of the building, has a significant impact on the mind of the audience, which in the interaction between inside and outside, psychologically, or causes peace and or it causes tension. As an allegory, view as Clothing and covering is the appearance of a building that represents the character inside and should be in proportion to it (Imani and Zafarmandi, 2016, 39).

Over time, this procedure is demonstrated from the inside to the outside and the house finds an urban procedure and tends to have an urban effect. The meeting point of the architect and all its teachings, thinking and theoretical knowledge with the style of the people is always one of the challenging points in the path of architectural opinions (Qasemi et al., 1401: 38). This issue is most important in the field of residential architecture. It reveals as the most exclusive choice of people in the field of architecture (Kasravi, 2016, 9). On the other hand, the maximum speed of housing construction in the last few decades and its growth in the vertical direction has basically not provided designers and experts with time to think and deal with the facade (Momeni et al., 2019: 19-21). In addition to this problem and the problems mentioned above, the lack of attention to the external signs of housing architecture that existed in the past, in addition to the dynamism of destructive thoughts such as showing off, boasting and luxury for the purpose of competition, is an alarm for the appearance of the residential building with the theme that it is dominated by them. Appearance is far from fulfilling its role (Torabzadeh, 2014). The plague that we refer to as "alienation of appearance and meaning" is proof of this in residential buildings in the city with different procedures that rarely convey the feeling of home to the observer (Vahdat and Rezaeirad, 2016: 77-84). In fact, with a close look at the appearance of the city, we see the inconsistency and myriad colors of the facades of the houses. Even in some cases, we can see views that have replaced strange and unfamiliar concepts in the mind of the audience, regardless of local culture and past urban identity, which have nothing to do with the concept of life (Scruten, 2006). The evidence shows that today, with the growth of population and immigration and the consequent increase in human needs for various uses, and with the advancement of technology and the speed of construction to meet the needs, a huge flood of multi-story buildings emerging from the ground.

Such extensive construction and the need to implement a shell on the body of each of them has caused maximum diversity in the field of facade construction (Imani and Zafarmandi, 2016: 36). This diversity is influenced by factors such as: design context, culture, economic goals, audience's style, designer's opinion, executive laws and reasons like that, and the facade is designed in the conflict of these factors. A problem that is a significant concern of many experts and urban designers today (Janipur, 2006). The social distinctions caused by the disparity in the cultural and economic capital of the citizens, along with the disorder and mismanagement of the city, have created the ground for the architects and designers of urban facades to shape the visual appearance of the city of Tehran in line with the style and style of the citizens, which unfortunately results in a chaotic appearance and disorder (Mohammad Hosseini et al., 2018: 39). At the same time, the architectural and urban planning community can provide the conditions by relying on its expertise and artistic vision to design a visual image while respecting the social capital and style of the general citizens from different strata of the society to preserve the identity and sense of belonging. to improve the quality of architecture and urban planning among the citizens in terms of the visual image of the city (Maudti, 2013). Some people think that dealing with the facade of the building is a personal matter and based on individual style, and some consider facade construction as a useless and luxurious work (Nasar, 1994). This research, with the aim of exploring the difference in the factors affecting the design of the facade by the three main groups of employers, designers and residents, tries to answer the question of how much the factors have a difference in factor share in different user groups.

## **2. Theoretical Framework**

### **2.1. Style in Architecture**

Every person's style is subject to various factors such as family upbringing, friends and neighbors, the general culture of the society, and in a general view, its surrounding environment (Danaci and Kiran, 2020: 231). Style does not exist in an absolute form and mixes with the environment of society in a back-and-forth process. If a person lives in a healthy and free environment psychologically and culturally, we can expect that its response to the society in the form of style will be indicative of its true desire and the result is that he is a reliable person; However, if the environment of the society does not have the necessary health and stability, according to the majority of sociologists and psychologists, it cannot be made to the style of the citizens (Esmaili et al., 2019: 72). Also, if the cultural environment is unstable and unhealthy, it will have a direct and indirect result on its cultural-identity actions, of which architects are also an integral part of it (Attia et al., 2020: 23-42).

### **2.2. Relationship between Architecture and Citizens' Style**

One of the challenging points in the architectural design of buildings, which has always been considered as the meeting point of architecture and the teachings of architects, is the meeting of the thinking and knowledge of architects with the style of their audience (Bagheri et al., 2020: 12). Understanding style and its relationship with the audience on the one hand and with society, on the other hand, is one of the requirements of these people's architectural approach to the issue of style and aesthetic tendencies of the audience (Yammiyavar and Roy, 2019: 313).

Aesthetic style or judgment is not an inherent gift, but a kind of social ability that has different levels of aesthetic understanding and as a result, people enjoy a different culture of style, which is

reflected in people's cultural choices (Calleri et al., 2018: 78-95). The choices appear to be formed based on the values arising from the social assets of individuals, but in reality, are influenced by factors outside this range and gradually turn the distinction between social classes and social groups into the culture (Hollander and Anderson, 2020: 219).

As an eternal and obvious choice, architecture reveals the aesthetic tendencies and style of people. It tries to help people of every culture and style to express their style standards with architectural answers, far from mechanisms based on excessive profiteering that leads to the dominance of one style and the marginalization of other styles (Bagheri et al., 2020: 19).

### 2.3. Relationship of Style in Contemporary Iranian Architecture

Iranian architecture is a story of how two eastern and western cultures meet. What is important is that society has the same structure and body. It is these structures and bodies that create a kind of social domination and the architect, by knowing the beliefs of the people and connecting with them, and getting to know the elites' point of view, rises to fight against social determinism and symbolic domination (Zarifpour Langroudi et al., 2019: 217-232).

This is where the culture of each class is separated from the forms of competition between classes and their struggles in symbolic fields and forms the symbolic forms of classifications. It gives them an identity. This causes every person in society to look at architecture to measure, style, and desire to build; in such a way that the first word in contemporary architecture is "being different" (Momeni et al., 2019: 15).

The response mechanism to such thinking creates a phenomenon called fashion, and this is what theorists such as "Georg Simmel", "Norbert Elias", "Vance Packard" and "Pierre Bourdieu" refer to as "fashionable" (Haghighi Nia, 2014: 3). This thinking is based on the premise that the members of a certain social order, based on their specific social, economic, and position in society, possess goods and identify themselves with them. Here, the role of the rich class in determining what is beautiful, tasteful, and desirable is noticeable. "Thorstein Veblen" describes the spread of the styles and norms of the rich class in all social classes (Shidane et al., 2014: 124).

**Table 1** Influence of Iran's contemporary cultural transformations on Iran's architectural transformations  
(Source: Authors)

| Macro spheres of influence                                |  |
|---|--|
| The transformation of thought foundations                 | <ul style="list-style-type: none"> <li>• To forget and destroy everything related to the past.</li> <li>• Defiance of the humblest beliefs and ideas against the most original ones</li> <li>• Wandering and fluctuating Iranian society between the two poles of tradition and innovation</li> <li>• Production of urban cultures in opposition to each other and interact with rural cultures (production of urban subcultures)</li> <li>• The tendency of the middle class to imitate</li> <li>• Production of examples of architectural indicators in closed-minded conditions.</li> </ul> |
| Interaction with models and versions of the western world | <ul style="list-style-type: none"> <li>• Globalization of all issues related to the city and architecture</li> <li>• Measuring everything with the West (good or bad)</li> <li>• Losing the connection of architecture with its past and following global styles and trends</li> <li>• Spreading and establishing the foundation of imported architecture, paying attention to the cultural capacity of our country (receiving the product of Western civilization and neglecting the production process in that context)</li> </ul>   |

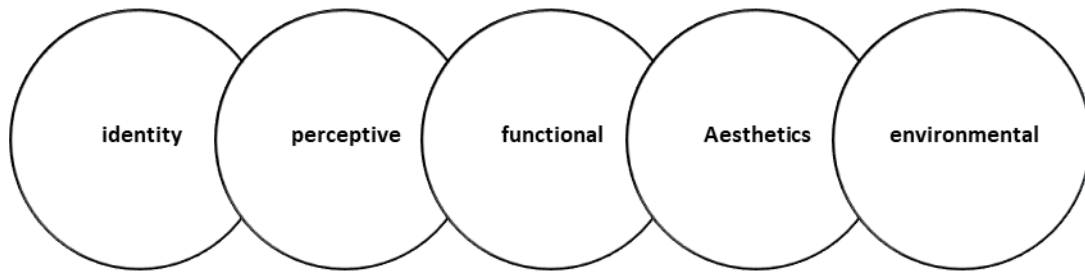
|   |  |
|---|--|
| Changes in the face and tone of architecture                                    | <ul style="list-style-type: none"> <li>• The introduction of architecture from the concept of goods and not a place of life and the city as a warehouse of goods and not a bed of civility</li> <li>• Converting Iranian architecture as a single identity to architectures in Iran or other words "multiple identities"</li> <li>• Applying the architect's styles or following the wishes and styles of the client</li> <li>• Rationalism and trying to create a work that is different from the surroundings (not paying attention to the urban space in the form of fashionism and diversity in the facade)</li> </ul> |
| Ideological confrontation and interaction between the government and the people | <ul style="list-style-type: none"> <li>• The visionary ruling the society, the government, and the people always follow it (until the 1960s)</li> <li>• Dreaming of individual people in confrontation and conflict with the dream of sovereignty (from the 1960s onwards)</li> <li>• Mismatch of cultural predictions in planning what happens during the program (unfamiliarity with social changes).</li> <li>• Propagation of the accepted culture of governance by centers of thought production and culture, addressing and expanding quantitative issues, narrowing the field to qualitative issues.</li> </ul>     |

#### 2.4. Importance of Façade in Architecture and Urban Planning

The city view consists of city buildings. Undoubtedly, the facade of each building is influential in the city complex in which it is present. In fact, the view of the buildings appears as a screen of architectural compositions. Architectural compositions contain a kind of meaning that can stimulate the human imagination and communicate with him. This is the reason why a major part of human communication with his surroundings happens through his visual and mental communication with the architectural compositions of that environment. This communication has a very abstract character that provides the ground for stimulating non-abstract and more specific communication (Khakzand and others, 2013: 16). In other words, architects produce "cultural capital" with their work, and cultural capital affects the level of citizens' analysis of the surrounding environment, skills, colloquial language, and their perception of aesthetics, and the result is the cause of inner desires. And their symbolic wealth is evident in the field of life in the form of character, legitimacy and recognition (Shayan Mehr, 2018: 24).

On the other hand, the developments of recent decades in the landscape of cities caused the development of rules and regulations for the organization of urban views to be considered. Today, identity, disorder, and visual disturbance can be considered as one of the most important criticisms of the landscape of cities. In this context, the dimensions to be considered in the examination of all examples and scales used in urban design can be considered to include the following dimensions:

Facade in building construction has a high visual and social importance. In fact, the facade can be considered the social aspect of the building and the language of dialogue and its interaction with the surrounding space; Also, one of the other reasons can be considered to beautify the appearance and exterior of the building and, as a result, the quality level of its residents; This is the reason that in recent decades, with the importance of finding the value of urban life, the facade has also received the attention of designers and citizens.



**Fig 1** Dimensions of interest in the scales used in urban design (Source: Khak Zand et al., 2014: 17)

In urban spaces, the façade is considered as the enclosing body of spaces. Every view in urban spaces has two important roles:

A part of the architecture enclosing the space

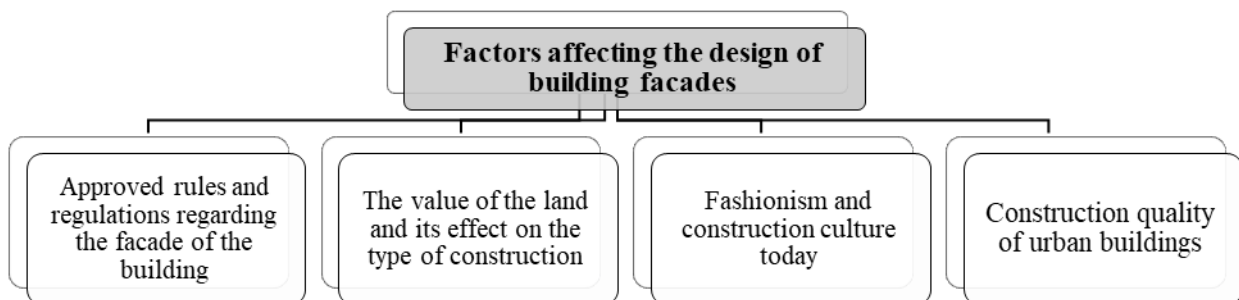
A part of the order governing the urban space

Actually, the facade is a curtain that separates the inside and outside of the building from each other; For this reason, it is considered a two-dimensional element:

- Individual dimension
- Social dimension
- Each building has four facades, which are:
  - Facing or facing the urban space (main front or facade)
  - Back view

the other two facades are called the sub-front of the building if they are not connected to the surrounding fabric.

"Kevin Lynch" in an article entitled "In the city" defines the criteria for determining a good look and appearance of the city, based on psychology, which are: "excitement, variety, capability, memorability, vitality, identity, imaginability, readability", flexibility, simplicity, clarity, dominance, a part of the form, compatibility with the environment, meaningfulness and educative" (Keshir and Shoshchian Moghadam, 2019: 48). Urban views are a combination of different components that are formed based on the events that happen in the streets and passages.



**Fig 2** Effective factors in the design of the facade of residential buildings (Source: Keshir and Shoghchian Moghadam, 2019: 48)

## 2.5. Factors Affecting the Design of Urban Façades

### a. Construction Quality of Urban Buildings

Examining the approaches in the field of the quality of construction of urban buildings shows that the existing theoretical approaches regarding the discussion of quality in the construction of urban buildings can be classified into two general categories: "Physical Design Approaches" and "Social Approaches". The point of distinction between these two forms in dealing with the category of environment quality and mental-behavioral components governing the society can be found among architects and employers and the style of citizens (Jolodar Karimi and Jahanbakhsh, 2015: 12-13).

In general, architects do not play a significant role in the architecture of private buildings and are influenced by market demand and fashion. It can be acknowledged that the style of imitative architects is among the traditionalist, modernist and modernist styles that the general public tends towards. In this way, mere imitation of Western architecture, both in the field of meaning and in the field of form, is considered the only way to create a new space. According to the architects of this style, meaning is not actually created, but a new meaning is imitated and injected. These groups penetrate the general level of Iranian architecture with an economic and entrepreneurial view of architecture, which they consider as a complex business (Haqqiniya, 2015: 11). The real architect and designer will never be willing to turn their backs on all their knowledge, thoughts and ideas and agree to the design and construction of any view in order to respond to the immature and fleeting tastes of the moment, which is also the result of the work of the architects themselves (Shariat Razavi and Kasraei, 2011: 122). Among these are architects who give in to the demands of employers and abandon the original meaning of architecture.

"Pakzad" writes in an article entitled "Phenomenology of the facade of residential buildings and the evolution of expectations from it": "In western architecture, the facade has a mode of presentation, so that it shows the person who lives behind it in the first place. Everything represents the sign and family character; Everything shows the social class and ownership of the owner of the house".

The style and desire of the employer is another very determining factor in the architecture of private buildings, which depends on the level of his economic possibilities. Each stratum of the society has its own way of looking at architecture and architectural logic, which forms its architecture along with its financial situation. The architectural logic of a rich man who has acquired his wealth by chance and is devoid of the characteristics of a born rich man is the logic of a general anarchist, only on a larger scale. He tends to display the material aspect of what he builds and is proud of this aspect of his building, so he pays a lot of attention to its artistic dimension, volume, appearance and materials. The architecture of a person who is familiar with the principles and beauties of ancient, traditional or western architecture, but his hand is empty with the architecture of a wealthy person who is unfamiliar with the aforementioned principles and only to make himself aware or pure imitation in the thought of splendid construction and at the same time influenced by the architectures. It is mentioned, there is a difference (Haqqiniya, 2015: 12), and since the employer has money, no one can object to him that he does not have the authority to act (Hashmi, 2013: 19). And finally, some architects sell their work before completion; Selling something that does not already exist externally will put the architect in a situation where the client will have the ability to interfere in any way (Afshari Nadri, 2013: 7).

### b. Fashionism and Construction Culture

One of the most important psycho-social factors that affect our aesthetic sense is the ruling cultural model. For example, we can mention the fashion or style adopted at this time (Pakzad and Homayoun, 2018: 113). Beauty at the level of fashion and a little less at the level of style is partially and relatively subject to specific subjective factors. At the level of fashion, the concept of beauty can change in the shortest period of time (Vaazi, 2011: 37). In recent decades (2005-2019), people followed fashion to a great extent and it was very important for them. During this period, architecture also became subject to fashion to some extent and their dominance became wider day by day. It was during this period that the use of classical and neoclassical style architecture in the facade of buildings was seen in a short period of time in the opinion of the wealthy stratum of the society and became widespread.

### c. Land Value and its Effect on the type of Construction

The amount of people's financial power has shaped the architectural quality of their buildings and has been one of the key factors that determine their architectural type. In the past years, due to various reasons, a new social class has emerged, which is seriously facing the crisis of unbalanced class promotion. A crisis that originates from imbalance and suspension. This means that this class did not have the necessary social and cultural contexts for this to happen, as economic growth has led to its class advancement, and it suddenly found itself in a situation that was very different from its previous situation and was inevitably in a situation has been forced to take a defensive position. A position that can be seen in many behaviors (Lanjovani, 2011: 111). The defensive stance of this emerging class is pride, which sometimes manifests itself in social behaviors, sometimes in details such as the shape of cars and houses, etc. This craving that some of our people show for a certain type of luxury in today's urban life is of the same kind of insistence to stabilize the position; But the insistence of this emerging class on boasting makes them fall into trivial examples of luxury. Examples that can be encountered in the architecture of some buildings in some special neighborhoods in the city of Tehran. Carving a large and terrifying volume of stone using medieval architectural styles is nothing but a hasty and trivial treatment of luxury in architecture (Vaazi, 2013: 37).

### d. Approved Rules and Regulations regarding the Building Façade

In the formation of any suitable architectural design, there are two very important factors, one is compliance with the principles and rules and regulations, and the other is the artistic style of the architect. The design of the facade as an external shell and a factor in showing off the building can show the peak of the architect's artistry. Wherever there are more and stricter rules and regulations, the possibility of individualism and personal style of the architect will be less and vice versa.

There is no doubt that the lack of adequate regulations and the procrastination of decision-making organizations of the urban landscape in all these years have created a long opportunity for the power of the creators of Western classical and neoclassical styles. Until 2008, when for the first time in the approval of the Supreme Council of Architecture and Urban Planning, the discussion of the facade and the need to pay attention to it as a visible element in the main thoroughfares is considered. The facade and urban landscape are considered a vague and neglected point in comprehensive and special plans. With the proposal of this resolution, which was compiled and approved by the highest decision-making authority in the country's urban planning field, all relevant



institutions, including the engineering system organization and municipalities, are obliged to draft a bill and executive regulations in a five-year period to improve the quality of TV and urban landscape. In Tehran, Nama Committees in the Vice-Chancellor of Architecture and Urban Development, as well as at the level of regional municipalities, started to operate as a pilot in several regions, from the end of 2010, and until December 2012, and near the end of the mentioned deadline, the bill was sent to the city council, but it was approved by the council. The city and the commission have not reached Article 5. (Rizvani, 2015: 62). Although the nascent facade management committees have followed their role seriously in the last year, in several areas of Tehran, with the goals and indicators set in the modification of the existing urban facades, there are still defects in the issue of executive guarantee. and legal, including the reference to the Article 100 Commission, the very weak presence of the Engineering Organization and competent engineers, designers or supervisors in the design to construction process, the postponement of facade control to the stage after receiving the building permit, the lack of incentive policies for projects with an Iranian identity, and most importantly Not taking issues such as citizenship education, promotion of general knowledge and aesthetics and functional efficiency of the relevant devices that were formed with the purpose of organizing the urban landscape down (Haqqiniya, 2016: 11).

**Table 2** The main points extracted about the facade of the building in the nationally approved laws

| <b>Law</b>  | <b>Important points in the review of the law regarding the image and urban views</b>  |
|---|---|
| <b>Facade rules in cities</b>   | Considering the minimum necessities<br>Limited design in the form of surfaces visible from the passages, not including all public spaces<br>No restrictions on materials for specific sections<br>Not using specialized vocabulary<br>Connection with other urban planning laws, lack of connection only with the theme of façade   |
| <b>Islamic urban planning rules in the preparation of urban plans</b>                                 | Continuous study about cities and Islamic architecture of the past and present of Iran and the world<br>Compilation of design principles and rules based on Islamic standards and requiring consultants and engineers to comply with them<br>Not mentioning different urban areas, historical cores, middle and new developments or new settlements.<br>The title of urban design in legal literature (Nama) for the first time   |
| <b>Paragraph "B" of Article 137 of the Law of the Third Program of the Development of the Country</b> | Qualitative change in the use of specialized vocabulary: identity and identity giving, the appearance of cities (the appearance of urban facades), architectural culture and native urbanism.<br>Paying attention to the scale of the image and body of the city (cities and villages)<br>Pointing to the features of local architecture and urban development and preventing the destruction of valuable buildings and bodies<br>Outlines, definitions, general rules, executive organization and revision<br>The approach of providing health and well-being, creating suitable living conditions, increasing social interactions and regulating the flow of civil life |
| <b>Rules and regulations for improving the quality of TV and urban landscape</b>                      | Upgrading the quality of the image and urban landscape, cleaning and improving the existing facades, adapting sidewalks and sidewalks, and organizing the public spaces of the city (façade materials, urban furniture, vegetation, urban facilities, signs and functions)<br>Paying attention to existing textures in parallel with future developments and new cities<br>Presenting construction and facade construction criteria in the historical part of the cities for the first time   |

|   |   |
|---|---|
|   | Designing responsibilities for urban management without defining executive duties for municipalities<br>Creation of the "Committee for the Quality Improvement of Television and Urban Scenery" under the Secretaryship of the Housing Organization with the aim of coordinating between urban management institutions  |
| <b>Rules and regulations of cultural heritage related to the issue of urban views</b> | Instructions for preparing special plans for historical context<br>Emphasis on "texture unity", "texture connection and natural environment", urban identity, "respect for scale", "architectural form and urban patterns", "open and green space", "sight and landscape"<br>Failure to define executive duties for municipalities and cultural heritage organizations<br>Supervision of the implementation of protection rules for buildings, collections, sites and historical contexts by councils<br>Assisting, participating in the beautification and safety of cultural spaces, textures, historical works of the markets by respecting the characteristics of historical textures.<br>Lack of seriousness in introducing the law enforcement supervisor |

## 2.6. Façade Components

The elements that are known as the elements of a view form the whole and the main shape of that view.

"Rob Carrier" says about this: "Façade elements are either functionally necessary or they are simply reliefs that give soul to the exterior" (Zarifpour Langroudi et al., 2019: 219). The indicators of proportions, cleanliness, balance and order in the "objective dimension" and attachment to the place, meaningfulness, calmness, readability and attractiveness in the "mental dimension" are in the priority of evaluating the beauty of the facade (Khakzand et al., 2013: 15). Analysis of the shapes and proportions, color, materials, decorations, age and style of the facade of the desired building is a researcher. The problem in architecture is the same figure, shape and body; In other words, independent boundaries that can be clearly identified on the building surfaces. The overall problem of the facade is its main divisions that create smaller shapes, the shape of windows and frames created for smaller decorations are the types of shapes studied in the field of building facades. The proportion of their dimensions to themselves and to each other is another issue that forms part of the beauty in architecture (Kasravi, 2016: 9-10).

**Table 3** Requirements and actions around the most important elements in the facade of the building

| Elements                       | requirements (don'ts)  | Actions (shoulds)   |
|--------------------------------|--|---|
| <b>Form, materials, colors</b> | <ol style="list-style-type: none"> <li>1. Prohibition of using all-glass or all-metal facades</li> <li>2. Prohibition of using unusual and heterogeneous colors on the facade of the building</li> <li>3. Prohibition of using multiple materials (up to 4 types)</li> <li>4. Prohibition of using unconventional forms in building design and construction</li> <li>5. Prohibiting the use of sharp or fragile materials in the area of the building that is exposed to human physical contact. (ground and first floor)</li> </ol> | <ol style="list-style-type: none"> <li>1. The necessity of using durable, long-lasting and resistant materials against erosion and pollution on the facade in axes, passages or special buildings</li> <li>2. The need to coordinate the dominant color of the facade with the color of the neighboring building</li> <li>3. Covering the gap between two buildings with materials suitable for the facade</li> </ol> |

|   |   |   |
|---|---|---|
| <b>Attachments of installation elements in facade and panel</b> | <ol style="list-style-type: none"> <li>1. Prohibition of design and implementation of facility elements in a visible way on the main and side facades and urban walls of the building</li> <li>2. Prohibition of writing on the facade of the building in excess of what is allowed in the approved facade plan.</li> <li>3. Prohibition of using signs and symbols of anti-cultural and anti-religious thinking on the facade of the building</li> </ol>   | <ol style="list-style-type: none"> <li>1. Institutional elements, including mechanical, electrical, etc., must be designed, implemented and installed in a part of the building that is not in public view.</li> <li>2. The place of the sign should be designed during the design of the facade of the building.</li> </ol>  |
| <b>Protrusions and openings</b>                                 | <ol style="list-style-type: none"> <li>1. It is forbidden to create any level difference in the lower level or the ground line in the facades such as edges, stairs, platforms, etc.</li> <li>2. Prohibition of creating any protrusion of the entrance space in the public thoroughfare</li> <li>3. The adjacent limit of protrusion of elements such as window edges, cornices and permitted frames in the public thoroughfare space should not exceed 10 cm.</li> <li>4. Prohibition of using openings with unfamiliar and different geometric shapes in the facade</li> </ol> | <ol style="list-style-type: none"> <li>1. The entrance area of the building should be legible and designed in accordance with the other components of the facade.</li> <li>2. In order to prevent water from sliding on the facade and causing stains, measures such as cornice should be provided for the bottom of the windows.</li> </ol>  |
| <b>roof</b>   | <ol style="list-style-type: none"> <li>1 Prohibiting the use of installation elements on the roof without proper covering in such a way that it can be seen from side passages.</li> </ol>  | <ol style="list-style-type: none"> <li>1. The front line of the building, its protrusion and the level of the roof should be in harmony with the neighboring buildings.</li> <li>2. The form, facade, color and dominant shape of the roof must be in harmony with the architectural features approved by the municipality.</li> <li>3. Measures such as drippers for the roof should be taken into account to prevent stains caused by water sliding on the facade.</li> </ol> |

## 2.7. Architects' point of view in Building Façade Design

The facade of the building is an important part of the micro landscape, which has a great impact on the aesthetic perception of people towards the urban environment around them; for this reason, it is necessary to pay basic attention to it in the process of designing and producing an architectural

work. In fact, it can be said that each of these works is the result of the thinking of architects and designers with different mental patterns, the result of which is the formation of the visual identity and identity of the city (Jem et al., 2019: 141).

The opinion of the architect in relation to the design components of the facade from the aesthetic aspect, indicates the mental patterns of the architect and the role of his tasks in the direction of giving identity to the urban appearance. This mental-theoretical model based on obvious and conscious principles organized in the architect's mind reaches the emergence stage in the form of the final plan and becomes a real thing and forms the tool language of an architect (Rizvani, 2015: 62).

## 2.8. Applying the Role or tyle of Citizens' in Façade Design

Applying style in the facade of today's buildings has no meaning; But at the same time, designers, builders, sellers, and contractors must be responsive to the current fashion and common style in the market and desired by citizens as customers; In fact, the conditions governing the housing market oblige the architects to satisfy the employers and not stay away from the competitive housing market, forcing them to be artistic and creative in designing the facade of the buildings. In this way, the owners, contractors and builders are looking for the index of their buildings and to satisfy the customers, and the customers are also looking for residential units that, in addition to being compatible with their economic and financial situation, show their personality (Shidane Merid and Sarmi, 2014: 6).

















In other words, it should be said that nowadays the facade has gone beyond the interface between the outside and the inside of the building and is considered as the second clothes of people. Just as people's clothes represent their personality, they also consider the facade to represent the personality, dignity and social status of the owners and residents of the building. In western societies, the facade has a dramatic aspect and is a sign of the family character, social class and ownership of the owner of that building (Rizvani, 2015: 62).

## 3. Research Method

The current research method is applied in terms of type, and in terms of the type of method, it has a nest-to-nest combination method. In order to answer the research questions, nest-to-nest research method of qualitative and quantitative type is used. First, in the study section, a systematic review of the main variables of the subject is done, after extracting the variables and creating a conceptual framework, it is tried to refine the variables according to the case sample using the Delphi method by experts. In the qualitative sampling of the current research, first of all, 28 experts who have complete knowledge on the design of residential buildings facades and style will be selected as a snowball. Opinions will be asked from them based on the use and possession of existing factors and components related to the subject.

Then, in the quantitative stage, the effective components in the design of the facade of the buildings obtained in the previous stage of the questionnaire with a Likert scale are compiled and provided to the users of the space randomly. The statistical population includes designers, employers, and residents (space users), and for more validity, the sample size taken from the upper limit of Morgan's table, which is 384 people, is used. ORIGINPRO and SIGMAPLOT software are used for ease of analysis with inferential statistics. Finally, based on the results, the correlation between the variables in the group is taken with the other group. The validity of the questionnaire using the CVI formula is 0.76 and the reliability using Cronbach's alpha is 0.75.

**Table 4** Case studies

| Facades number 1  | Facades number 2  | Facades number 3   | Facades number 4  |
|---|---|--|---|
|    |    |    |    |
| Facades number 5  | Facades number 6  | Facades number 7   | Facades number 8  |
|   |   |   |   |
| Facades number 9  | Facades number 10   | Facades number 11  | Facades number 12   |
|  |  |  |  |
| Facades number 13   | Facades number 14   | Facades number 15  | Facades number 16   |
|  |  |  |  |

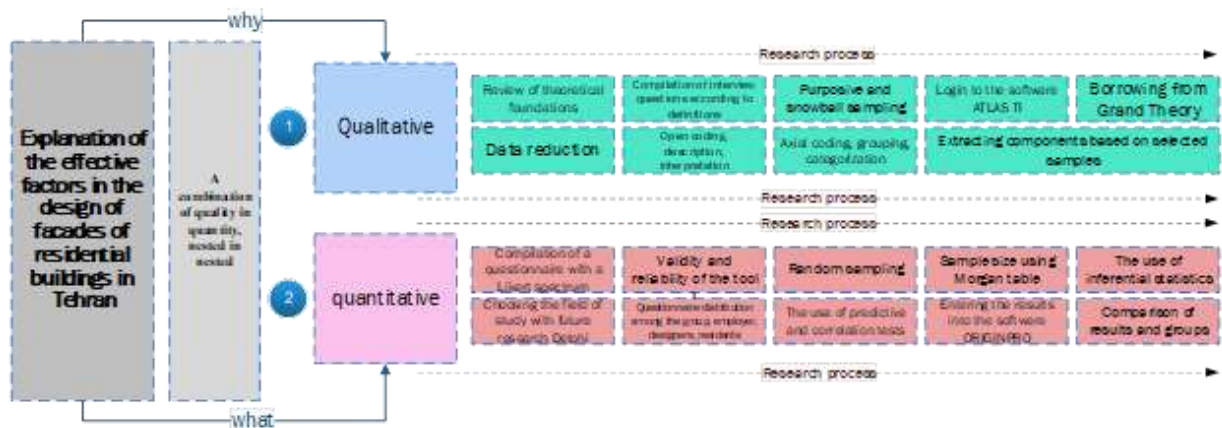


Fig 3 Diagram of the research process

## 4. Research Findings

### 4.1. Qualitative Findings

#### Open Coding

At this stage, data has been collected, reviewed and looked at from various angles many times. At this stage, the researcher tries to recognize the hidden concepts by reviewing the collected data set. At this stage, semi-structured interviews are conducted with 20 experts and architects, and this process continues until theoretical data saturation. For each set separately and briefly, a short summary of the conducted interviews is given, and the output of the software is placed in the form of a diagram.

Table 5 Examples of statements taken from the interview text and excerpts

| Persons  | Propositions taken from the text of the interview and interpretation   |
|--|--|
| Abdul Reza Zakai<br>University architecture professor<br>and author of the book<br>"Memaran Iran".             | The relationship between people's style in the construction of residential buildings and the flow that architects direct is completely two-way. On the one hand, architects can impose their ideas and thoughts in the field of architecture on the people, and on the other hand, people can play a role in guiding this flow with the lifestyle and patterns they choose for their lives. If we look at the architecture of the buildings of the past 50 years, the element We can clearly see the elegance in their design. Iranian buildings must have Iranian authenticity and be designed based on Iranian style and spirit. In my opinion, Tehran is one of the ugliest cities in the world, while it could be one of the best cities in terms of architecture and urban planning. One of the prominent and important issues among the people of any land is the place of life and the spirit governing the lifestyle of its ancestors. |
| Mohammad Salari, Chairman of<br>the Urban Planning and<br>Architecture Commission of<br>Tehran Islamic Council | Since in the past no supervision was applied on the facade design; This issue caused every owner or builder to design and implement the facade of the building according to their style and conditions. The consequence of this issue is that it has led to disturbance and chaos in the landscape of the country's cities, especially Tehran. In Nama   |

|  |   |
|--|---|
|  | committees, there should be an open space for people, trustees, and city watchers to participate, and the approach should be to realize the public rights of the city. This is despite the fact that sometimes decisions are issued in facade committees that are style less and have no basis, and this has caused previous architectural creations to be lost. Therefore, this is one of the serious problems in this department.   |
| <b>A member of Arkoverjavand engineers' group</b>  | <p>The design of the facade of a residential building is an important point that should be paid special attention to because the first thing that attracts attention when entering the building is the exterior of the building. Note that the exterior of the building, if done correctly, will increase the quality and material level of the building, and in addition, if the exterior of the building is beautiful and special, it will be recorded in the mind of every viewer as a memorable work.</p> <p>The facade of the building also beautifies and increases the life of residential buildings. In the design of the facade of any residential building, different materials such as stone, brick, glass, etc. can be used.</p>  |
| <b>Mohammad Mehdi Abedi<br/>Urban designer, university lecturer and scientific member of the facade committee of the 2nd district of Tehran Municipality</b> | <p>It is very interesting to know that it is still not clear, or at least I do not know, what happened when Roman and classical facades entered Iran. Of course, the interesting point here is that many believe that this facade is the product of the Iranians themselves; Or according to one of the professors of the committee of the view of the regions, the Romans themselves call the Roman view the Iranian view! Because you don't see in developed countries that they use Roman or classical facade proportions for residential facades - especially dense residential facades. Because they have different expectations from a residential facade. However, there are some Iranian designers and manufacturers, especially in Tehran, who know the market's style well and take the initiative and take the market's style into their hands. We have a set of expectations from the facade of every building.</p> <p>For example, you expect the facade and architecture of a cultural building to show that it is a cultural building. Or do you expect an office building to be clearly office. The same is true for residential facades. We expect a residential facade to show peace, intimacy, people, etc.</p>                              |
| <b>A member of Naqsh Shahr Consulting Engineers</b>  | <p>To design the facade of a building, you can use all kinds of classical, modern and Iranian facades, and the choice of each of the external facades of the building is a matter of style. Choosing materials for the facade of a residential building is one of the most important principles of facade design that should be taken into consideration. The condition to achieve an ideal and beautiful facade is to know what materials we should use next to each other so that the exterior of your building looks special and stylish. In general, in the design of the facade of a building, variety of colors and variety of textures are very important, and you can achieve a beautiful and suitable building facade by choosing the right materials.</p> <p>It is better to design the facade of a building in such a way that, despite being special, it is in harmony with the neighboring buildings and the lines and lines of facades in that area can be seen in the design of the facade. In the design of the facade, the culture and texture of the region should be examined before designing. Then the results of the investigations are combined with the creativity and art of architecture to reach a desired and desirable result.</p> |
| <b>Deputy Director of Civil Affairs Coordination in Tehran Province</b>  | This is despite the fact that the use of dangerous facades such as glass facades and stone facades, which are very dangerous in the event of an earthquake, and Roman facades and facades inconsistent with Iranian   |

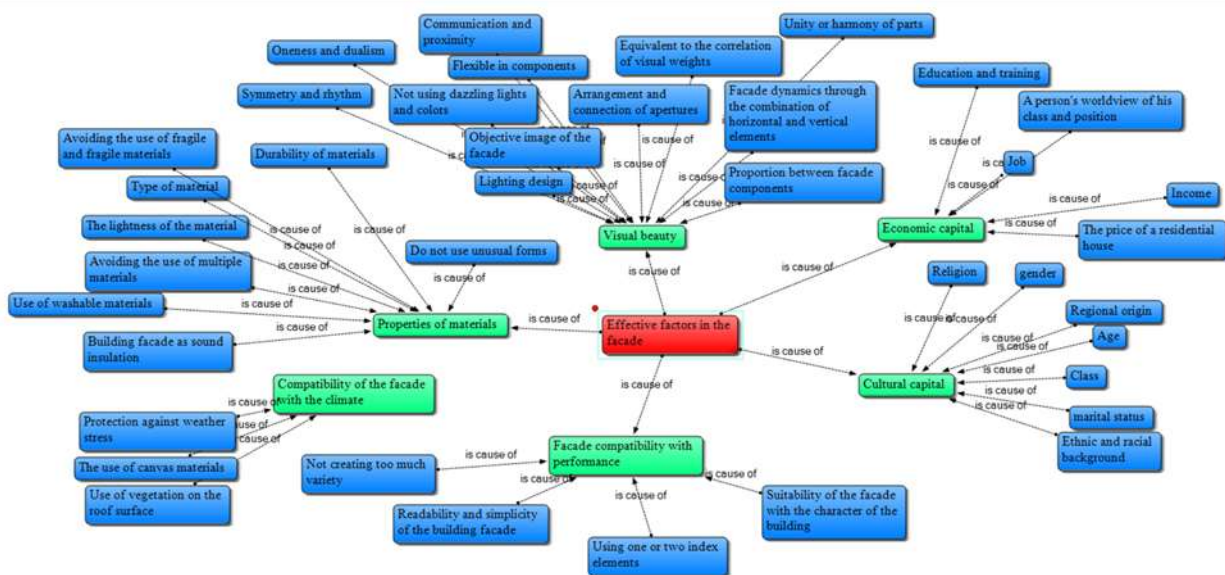


and Islamic facades are also very common, which also creates a visual disturbance in the city. The appearance of the buildings is so chaotic that in many facades, even the smallest technical inspection and supervision has not been done in their implementation, or the quality of the materials used in connecting the facade to the structure has not been done, which in case of an earthquake or the passage of time, irreparable risks for others, especially for passers-by. and will bring parked cars. The trend that has existed in the monitoring of urban constructions and facades by municipalities so far has been emphasizing facade construction and obtaining a thesis based on the guidelines of the Iranian Supreme Council of Urban Planning and Architecture, and in this case, the owners and architects have acted in a tasteful manner.

He said: Regarding glass or stone facades, there are percentages for the maximum use of materials, but unfortunately, architects and executives do not have strict supervision of their implementation, and we plan to monitor the execution of facades in the future by developing guidelines and forming technical committees for urban facades. to have

### Axial Coding

In the next step, the extracted codes were categorized, also the codes were categorized, verified and deleted in parts. Due to non-compliance with theoretical principles 23 codes were removed. The categorized codes were based on the interpretation and description and compliance with the concepts in the theoretical literature of citizens' style in designing residential facades.



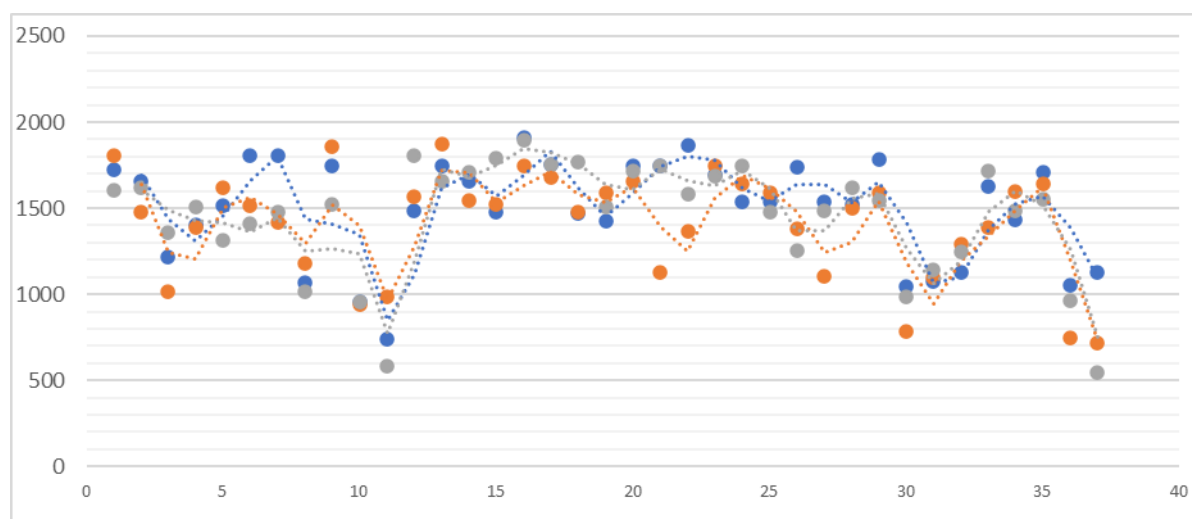
**Fig 4** Axial coding and classification of conceptual codes



## 4.2. Quantitative Findings

### Descriptive Statistics

According to the descriptive statistics, 253 people (72.1%) of the sample population were men and 98 people (27.9%) were women, and 74.4% were in the age group of 18-30 years. In this part, these analyzes are discussed according to the factors used in the effective factors in facade design. The working method is such that the question is designed according to the number of indicators of each factor (5 numbers) and each question has an answer between 1 and 5. The sum of scores of indicators of a factor means the score given by each person to the desired quality. So the score that can be obtained for each quality varies between 5 and 25. Based on this, we create categories in such a way that the people who have given a total score of 5 to 11 to a factor have estimated it poorly, 12 to 18 are average and 19 to 25 are good. The most important factors used in the frequency chart are as follows. In the group of employers, the highest frequency is related to the amount of income and the lowest frequency is related to the use of organic materials. In the group of residents, the highest frequency is related to age and the lowest frequency is related to the use of organic materials. In the group of designers, the amount of income is the most frequent and the least frequent is related to religion.



**Fig 5** Frequency diagram of effective components in facade design

### Inferential Statistics

In this stage, after choosing the selected variables from the qualitative stage, a questionnaire is compiled and randomly distributed among residents, designers and employers. The results are entered into the JMP software, predictive relationships (regression) and correlation relationships are used for analysis. Two-Sample Kolmogorov-Smirnov Test is used to check the parametric and non-parametric type of data.

**Table 6** Kolmogorov-Smirnov test to check the normality of the effective components in facade design

| variable         | Mean  | standard deviation | Z Kolmogorov Smirnov | p     |
|------------------|-------|--------------------|----------------------|-------|
| Physical factors | 27.77 | 23.3               | 0.793                | 0.314 |

As seen in Table 6, the Kolmogorov Smirnov test for the score of the effective components in facade design is significant ( $p=0.314$ ) and therefore the internal and external indicators do not have a normal distribution and non-parametric analyzes should be used.

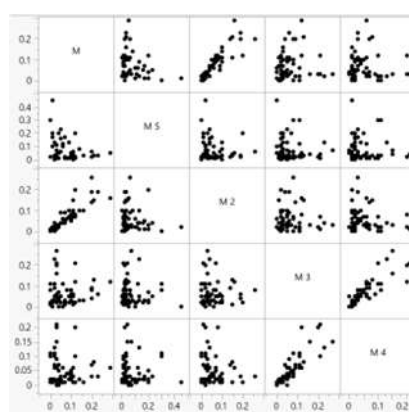
**Table 7** Correlation coefficient of effective components in the design of facades of residential buildings

| Dimension   | Variable   | employers | designers | residents | significance level |
|---|--|-----------|-----------|-----------|--------------------|
| <b>Properties of materials</b>                      | Durability of materials  | 0.741     | 0.645     | 0.552     | 0.000              |
|   | Type of material   | 0.429     | 0.788     | 0.544     | 0.000              |
|   | The lightness of the material  | 0.623     | 0.913     | 0.741     | 0.000              |
|   | Use of washable materials  | 0.685     | 0.514     | 0.489     | 0.000              |
|   | Avoiding the use of fragile and fragile materials                                      | 0.621     | 0.749     | 0.781     | 0.000              |
|   | Not using unusual and unfamiliar forms   | 0.652     | 0.656     | 0.418     | 0.000              |
|   | Avoiding the use of multiple materials on the facade of the building                   | 0.612     | 0.813     | 0.556     | 0.000              |
| <b>Cultural capital</b>                             | Ethnic background  | 0.381     | 0.625     | 0.745     | 0.000              |
|   | class  | 0.484     | 0.715     | 0.468     | 0.000              |
|   | marital status   | 0.464     | 0.806     | 0.764     | 0.000              |
|   | Religion   | 0.372     | 0.315     | 0.821     | 0.000              |
|   | gender   | 0.812     | 0.756     | 0.772     | 0.000              |
|   | Age  | 0.685     | 0.792     | 0.525     | 0.000              |
|   | Regional origin  | 0.597     | 0.755     | 0.917     | 0.000              |
| <b>Economic capital</b>                             | The price of a residential house   | 0.436     | 0.842     | 0.828     | 0.000              |
|   | Income   | 0.853     | 0.518     | 0.588     | 0.000              |
|   | Education and training   | 0.665     | 0.345     | 0.458     | 0.000              |
|   | A person's worldview of his class and position   | 0.213     | 0.583     | 0.518     | 0.000              |
| <b>Visual beauty</b>                                | Lighting design  | 0.425     | 0.919     | 0.552     | 0.000              |
|   | The dynamics of the facade through the combination of vertical and horizontal elements | 0.414     | 0.752     | 0.544     | 0.000              |
|   | Alignment of visual weights  | 0.421     | 0.584     | 0.741     | 0.000              |
|   | Unity or harmony of components   | 0.421     | 0.958     | 0.489     | 0.000              |
|   | Arrangement and connection of apertures  | 0.615     | 0.921     | 0.781     | 0.000              |
|   | Proportion between facade components   | 0.424     | 0.421     | 0.418     | 0.000              |
|   | Oneness and duality of view  | 0.423     | 0.296     | 0.556     | 0.000              |
|   | Communication and proximity  | 0.454     | 0.821     | 0.745     | 0.000              |
|   | Flexible implementation  | 0.521     | 0.285     | 0.468     | 0.000              |
|   | Symmetry and rhythm  | 0.542     | 0.675     | 0.764     | 0.000              |
|   | No use of light and dazzling colors  | 0.545     | 0.754     | 0.685     | 0.000              |
|   | Objective image of the facade  | 0.411     | 0.756     | 0.551     | 0.000              |
| <b>Facade compatibility with performance</b>        | Readability and simplicity of the building facade                                      | 0.309     | 0.661     | 0.537     | 0.000              |
|   | Not creating too much variety  | 0.517     | 0.874     | 0.747     | 0.000              |
|   | Suitability of the facade with the character of the building                           | 0.517     | 0.265     | 0.828     | 0.000              |
|   | Using one and two elements   | 0.607     | 0.727     | 0.272     | 0.000              |
| <b>Compatibility of the facade with the climate</b> | Use of vegetation on the roof surface  | 0.619     | 0.331     | 0.826     | 0.000              |
|   | Protection against weather stress  | 0.562     | 0.553     | 0.587     | 0.000              |

Based on the results obtained from the correlation table, it is clear that in the group of employers, the highest correlation coefficient is related to the amount of income with a value of (0.853) and the lowest component of a person's worldview of his class and position with a value of (0.213) in the group of designers. The component of unity with the coordination of the components with a value of (0.958) and the lowest is related to the suitability of the facade with the character of the building with a value of (0.265) in the group of residents, the highest correlation is related to the regional origin with a value of (0.917) and the lowest is related to the component is the use of one or two elements with a value of (0.272).

## Regression

To use the type of linear or multivariate regression, the internal correlation matrix diagram of the variables is used. After drawing the correlation matrix diagram, it was found that the factors have no linear relationship, so it is correct to use multivariate regression.



**Fig 6** Diagram of correlation matrix of factors

In the group of employers, the components of type of materials, non-use of unusual and unfamiliar forms, age, objective image of the facade with a value of (1.000) have the highest factor share and the least related to the component of using washable materials with a value of (0.254). In the group of designers, the component of not using unusual and unfamiliar forms, age, flexibility in execution, symmetry and rhythm with a value of (1.000) and the least related to gender with a value of (0.355) in the group of residents, the component of age, communication And proximity is with the value (1.000) and religion is the least related with the value (0.381).

**Table 8** Multivariate regression of effective components in facade design

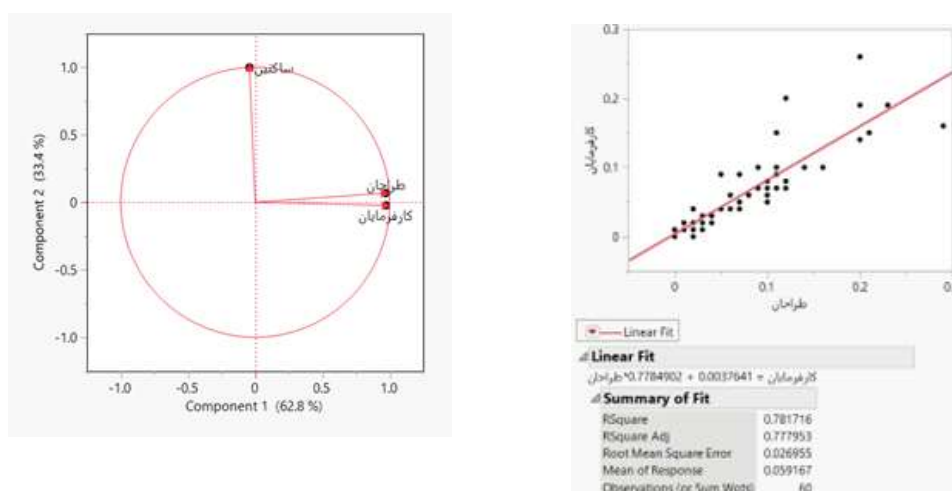
| Variable                      | employers                    |         |         |        | designers                    |         |         |        | residents                    |         |         |        |
|-------------------------------|------------------------------|---------|---------|--------|------------------------------|---------|---------|--------|------------------------------|---------|---------|--------|
|                               | coefficient of determination | F       | $\beta$ | t      | coefficient of determination | F       | $\beta$ | t      | coefficient of determination | F       | $\beta$ | t      |
| Durability of materials       | 0.757                        | 501.318 | 0.662   | 852.58 | 0.672                        | 245.627 | 0.665   | 231.12 | 0.855                        | 175.431 | 0.265   | 581.54 |
| Type of material              | 1.000                        | 801.544 | 0.406   | 686.69 | 0.820                        | 255.428 | 0.483   | 897.16 | 0.796                        | 425.154 | 0.727   | 855.33 |
| The lightness of the material | 0.659                        | 857.369 | 0.355   | 886.52 | 0.789                        | 383.527 | 0.464   | 458.36 | 0.511                        | 421.131 | 0.331   | 255.31 |
| Use of washable materials     | 0.254                        | 506.710 | 0.646   | 586.55 | 0.658                        | 911.259 | 0.452   | 458.36 | 0.804                        | 222.461 | 0.255   | 479.58 |
| Avoiding the use of           | 0.974                        | 289.658 | 0.262   | 321.83 | 0.815                        | 564.243 | 0.463   | 564.24 | 0.684                        | 214.475 | 0.275   | 944.61 |

|  |       |         |       |        |       |         |       |        |       |         |       |        |
|--|-------|---------|-------|--------|-------|---------|-------|--------|-------|---------|-------|--------|
| fragile and fragile materials  |       |         |       |        |       |         |       |        |       |         |       |        |
| Not using unusual and unfamiliar forms   | 1.000 | 526.689 | 0.735 | 681.16 | 1/000 | 611/621 | 0.472 | 325/29 | 0.711 | 309/215 | 0.963 | 956/15 |
| Avoiding the use of multiple materials on the facade of the building                   | 0.569 | 314/278 | 0.881 | 411.59 | 0.895 | 619/872 | 0.661 | 728/25 | 0.811 | 667/216 | 0.588 | 712/65 |
| Ethnic background  | 0.724 | 586/784 | 0.843 | 106.12 | 0.756 | 652/349 | 0.452 | 852/21 | 0.784 | 219/511 | 0.624 | 632/84 |
| class  | 0.882 | 695/174 | 0.982 | 296.42 | 0.723 | 941/285 | 0.401 | 555/35 | 0.684 | 175/431 | 0.646 | 141/89 |
| marital status   | 0.514 | 261/824 | 0.274 | 854.53 | 0.745 | 763/786 | 0.414 | 126/28 | 0.688 | 425/154 | 0.266 | 923/63 |
| Religion   | 0.823 | 316/512 | 0.374 | 581.74 | 0.795 | 943/153 | 0.421 | 878/34 | 0.388 | 125/302 | 0.735 | 544/14 |
| gender   | 0.676 | 255/984 | 0.921 | 228.55 | 0.355 | 624/485 | 0.421 | 288/92 | 0.711 | 125/423 | 0.881 | 488/21 |
| Age  | 1/000 | 250/518 | 0.421 | 518.39 | 1/000 | 034/574 | 0.615 | 538/55 | 1/000 | 405/121 | 0.865 | 232/45 |
| Regional origin  | 0.883 | 211/159 | 0.246 | 364.41 | 0.913 | 838/569 | 0.424 | 276/86 | 0.614 | 415/161 | 0.727 | 286/52 |
| The price of a residential house   | 0.823 | 588/453 | 0.821 | 526.58 | 0.522 | 864/921 | 0.423 | 554/44 | 0.789 | 219/523 | 0.331 | 522/22 |
| Income   | 0.607 | 255/439 | 0.285 | 258.62 | 0.685 | 351/582 | 0.454 | 346/22 | 0.455 | 211/305 | 0.425 | 323/16 |
| Education and training   | 0.518 | 565/325 | 0.675 | 322.37 | 0.695 | 658/447 | 0.521 | 321/86 | 0.653 | 415/245 | 0.823 | 312/38 |
| A person's worldview of his class and position   | 0.685 | 551/825 | 0.754 | 324.29 | 0.356 | 958/683 | 0.414 | 564/18 | 0.735 | 104/204 | 0.662 | 388/63 |
| Lighting design  | 0.575 | 133/746 | 0.921 | 825.21 | 0.425 | 620/875 | 0.421 | 823/18 | 0.658 | 221/324 | 0.406 | 839/25 |
| The dynamics of the facade through the combination of vertical and horizontal elements | 0.874 | 655/145 | 0.421 | 586.31 | 0.706 | 362/325 | 0.421 | 562/14 | 0.589 | 381/584 | 0.355 | 581/21 |
| Alignment of visual weights  | 0.756 | 325/659 | 0.246 | 566/48 | 0.723 | 382/742 | 0.615 | 566/48 | 0.754 | 388/858 | 0.646 | 456/69 |
| Unity or harmony of components   | 0.581 | 333/544 | 0.524 | 618/25 | 0.689 | 325/675 | 0.424 | 858/23 | 0.684 | 388/644 | 0.262 | 652/31 |
| Arrangement and connection of apertures  | 0.914 | 154/448 | 0.688 | 131/22 | 0.951 | 185/481 | 0.213 | 231/39 | 0.722 | 244/486 | 0.693 | 256/14 |
| Proportion between facade components   | 0.573 | 183/532 | 0.295 | 522/27 | 0.869 | 365/251 | 0.425 | 877/57 | 0.736 | 175/424 | 0.522 | 854/41 |
| Oneness and duality of view  | 0.747 | 425/186 | 0.855 | 652/85 | 0.661 | 469/815 | 0.414 | 458/63 | 0.758 | 424/210 | 0.365 | 413/23 |
| Communication and proximity  | 0.581 | 441/139 | 0.742 | 901/56 | 0.581 | 742/251 | 0.421 | 458/41 | 1/000 | 422/178 | 0.652 | 459/76 |
| Flexible implementation  | 0.744 | 288/458 | 0.922 | 501/88 | 1/000 | 223/541 | 0.421 | 985/52 | 0.792 | 226/544 | 0.625 | 545/24 |
| Symmetry and rhythm  | 0.814 | 239/488 | 0.629 | 312/20 | 1/000 | 219/852 | 0.615 | 325/84 | 0.698 | 269/375 | 0.516 | 314/79 |
| No use of light and dazzling colors  | 0.403 | 369/225 | 0.252 | 421/62 | 0.511 | 575/249 | 0.424 | 722/25 | 0.857 | 495/248 | 0.352 | 728/18 |
| Objective image of the facade  | 1/000 | 614/255 | 0.982 | 042/13 | 0.542 | 154/254 | 0.423 | 882/45 | 0.399 | 106/225 | 0.745 | 812/25 |
| Readability and simplicity of the building facade                                      | 0.741 | 366/520 | 0.845 | 255/31 | 0.725 | 288/458 | 0.511 | 121/48 | 0.872 | 614/255 | 0.745 | 0.711  |
| Not creating too much variety  | 0.699 | 639/621 | 0.653 | 479/58 | 0.746 | 239/488 | 0.284 | 963/47 | 0.932 | 349/214 | 0.699 | 0.312  |
| Suitability of the facade with the character of the building                           | 0.758 | 981/919 | 0.211 | 982/21 | 0.875 | 369/225 | 0.326 | 0.421  | 0.836 | 698/215 | 0.452 | 0.214  |
| Using one and two elements   | 0.713 | 183/532 | 0.395 | 134/11 | 0.863 | 614/255 | 0.745 | 0.246  | 0.942 | 214/365 | 0.523 | 0.742  |
| Use of vegetation on the roof surface  | 0.544 | 425/186 | 0.211 | 425/24 | 0.792 | 349/214 | 0.699 | 0.821  | 0.711 | 789/522 | 0.842 | 0.752  |
| Protection against weather stress  | 0.654 | 441/139 | 0.251 | 132/23 | 0.698 | 698/215 | 0.452 | 0.285  | 0.855 | 632/741 | 0.623 | 0.711  |

## 5. Discussion

According to the results obtained from the descriptive statistics and the difference between the results obtained between the two groups, it is clear that the components with higher frequency do not necessarily have a larger factor share. The components in the employer's group have a lower correlation coefficient than other groups. In the group of employers, economic capital has a greater share than other dimensions, and from their point of view, financial capital can influence other

factors and promote them. It has factors and promotes various factors, even though people are not in a good financial situation, but the way they look at beauty is affected. In the group of residents, paying attention to the aesthetic matter and the harmony of the ratio of the whole to the part and vice versa can affect other dimensions. In general, the stimuli in the group of employers, residents, designers include economic, cultural and aesthetic capital, respectively. The type of response in the group Employers and designers, the obtained results show that their way of looking at the factors has a lot of correlation and shows the high closeness of the results, which is displayed in the Fig 7.



**Fig 7** Correlation between factors in different groups

In the group of employers, the type of materials and the non-use of unconventional forms emphasize the economic aspect. The component of the objective image of the facade refers to the look of a product on the building and considers the facade as a cover to present the product. All groups and larger coefficients contain a combination of the two views of employers and residents, but most of them have a positive and meaningful relationship with the employer group. To considers it effective and the way of understanding beauty to be different in different ages.

## 6. Conclusion

The meeting point of the architect and all its teachings, thinking and theoretical knowledge with people's style is always one of the challenging points in the path of architectural design. This issue reveals its greatest importance in the architectural field of the facade of residential buildings as the most exclusive choice of people in the field of architecture. Contrary to popular beliefs arising from long-standing aesthetic approaches, aesthetic style or judgment is not an innate gift, but a social ability that is acquired through education and the process of socialization; And people have different levels of aesthetic understanding according to the social facilities and conditions they benefit from, and as a result, they benefit from a different style culture that reveals itself in their cultural choices. Choices that, although initially based on the values derived from people's social assets, are also influenced by mechanisms outside this range. In the meantime, architecture as one of the most lasting and obvious of these choices reveals the aesthetic tendencies and tastes of people. This research showed that the components are widely effective in the formation and design

of facades in various aspects, but it seems that there is a gap between the group of employers, designers and the group of residents, and the architects consider the employers as the main axis and their satisfaction as a sufficient condition for their designs. They know that while the main beneficiaries are the residents, whose views are not involved in the design, for this purpose and the closeness of the views of these three groups, the following solutions are suggested:

- Providing basic studies about the style of the users, residents and audiences of the designed buildings along with the plan submitted to the Simav Manzar Committee for approval.
- The presence of residents or space users in order to ask and answer questions with the Gutman spectrum about the beauty of the designed façade.
- Creating continuous communication through media culture and using smart systems to align the tastes of the three groups and the closeness of opinion to native Iranian architecture.
- Emphasis on Iranian facades and familiarization of people and employers with Iranian noble buildings and introduction of their physical and spatial structure.

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