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Investigating the Factors Influencing the Diversity of the Various Residential Buildings Façades (Case Study: Vali-Asr Neighborhood in Tabriz)

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ABSTRACT: The study methodology is a mixed research method that is contextual and semantic in terms of the data's nature; in terms of the logic of thinking, the study method is deductive, and in terms of the analysis levels, it is analytical-interpretive. The selected strategy of this research is grounded theory, with the preliminary analyses (qualitative research method) being conducted based on Strauss and Corbin's systematic coding using MaxQDA software. Then, in the second stage, the importance coefficients of the topics extracted from semi-structured interviews were analyzed using the analytic hierarchy process (AHP) using Expert Choice Software. The research findings indicate that most of the respondents find "recognition and creation of emotional bond through the use of the past generations" memories" and "the neighborhood's historical form and shape" as two selectable solutions and, of course, in the authors" minds, considering the population growth and increase in the demands for new houses in the intended texture and, consequently, increase in the number of constructions and the change in the city's countenance, these solutions seem to be somewhat illogical. "The necessity for amending the urban and regional criteria and regulations," and also, "enhancing the awareness of the designers and the area's addressees," and, subsequently, "reducing the influence of the designers" tastes" are the other factors that seem to be more widely applicable for they can prevent the emergence of visual abnormalities on the façades to a large extent.

Keywords: *Pluralism, Façade Designing, Contemporary Architecture, Grounded Theory, Tabriz, Vali-asr Street.*

INTRODUCTION

The hasty growth and the immethodical contextual architectural expansion in urban architecture have taken place so that many of the urban complexes have not been able to adapt themselves to this immethodical growth. The visual countenance of the city's architecture, which includes a vast spectrum of façades and exterior views, was inflicted with the visual disorder. The outcome of this rapid and hasty contextual growth has been the inability to supervise all the essential constructions and changes in the outlook of the facades in the form of a diversity of architectural contexts and building façades. The visual countenance of the building's façades in the cities" architectural landscape is among the essential constituents of the landscape's identity (Ghasemi Isfahani, 2004). The architectural landscape is not a collection of facades and shells of city buildings in the correct definition. However, a group of all the tangible and perceivable elements that influence the human senses are comprehended by the observes within the format of a perceptual, mental, and objective process that is the outcome of the information received from the buildings (Mansouri, 2004).

The architecture and scenes of Iran's contemporary cities and metropolitans are replete with wonderful developmental designs differing from before and others (Mo'azzami, 2013). In this regard, the investigation of the facades" executive criteria in the comprehensive urban strategies indicates that there are two critical factors in the formation of every appropriate architectural design: one is the observance of the principles, regulations, criteria, and rules, and the other is the architectural engineers" tastes and artistic zeal. Designing a façade as the external shell and a factor of the buildings" outlooks and exterior views can manifest the architect's utmost versatility. The architects" are less individually and personally motivated by their tastes wherever there are many stricter rules and regulations; the reverse also holds. In Tabriz, due to the weak façade-construction criteria, there has been this possibility

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of the engineers" imposition of their own personal and the employers" tastes for the formation of the facades, which might also have been influenced by advertisement and common masonry in various contemporary periods with the very extended differences and, even, opposite ranges of the forms and constructional materials on the buildings" façades along the primary and secondary passageways in this metropolitan city is a testimony to the nonexistence of sufficient criteria and regulations that has to lead to the private customized façade-construction. Of course, the nonexistence of sound designing and executive measures for facades" construction has not been so favorable to the architects, architectural designers, and city-building.

After the victory of the Islamic Revolution, the occurrence of the extensive evolutions stemming from the revolution's values and, also, the infiltration of the western postmodern pluralistic thoughts, and the resultant production of paradigms differing from those of the society's traditional culture have caused the creation of many metamorphoses in many of the architectural fields (Habib & Hosseini, 2010). The Iranian society passed the transition from the traditional culture to modern society very fast and without creating the required infrastructures. It is now witnessing the advent of a network-like society (Asefi & Imani, 2013). Iran's contemporary architecture has been shaped on a ground that has been constantly influenced by modernization, industrialization, and globalization streams (Ebrahimi & Eslami, 2009). Different challenges and pluralism would follow the entrance of a technology of a type into the society on various grounds, cultural and identity crises included (Asefi & Imani, 2012). In Iran, diversity orientations, pluralism, eclecticism, and the numerosity of the perspectives have been among contemporary architecture's primary indices during the past decades (Habib & Hosseini, 2010). Of course, the thing that can be traced as the distinctive feature between the western world and Iran in terms of the designing mindset is the way of dealing with the designing methodology's pluralism (Melles, 2008); this phenomenon is not only not viewed as a designing weakness, but it can reduce the designing's problems by offering nature-centered alternatives.

Residential facades are amongst the most effective elements regarding the quality of the urban spaces, and their correction can result in the elevation of the objective landscape's quality. In between, the exterior views of the streets should be envisioned as one of the major constituents of the urban bodies. The inappropriate objective landscape of today's cities is the product of a vicious circle. So, there is a need for essential recognition of the problems and offering regulations capable of coordinating the movement of the related forces in a given direction. The codification of a framework for the urban residential bodies is per se of particular importance. It has to be conducted in proportion to the grounds and the physical conditions and according to the type of usability.

A glance at the urban residential bodies in Tabriz that possesses specific properties makes it clear that these facades are not only not aesthetically and environmentally in a good situation, but they contain an excessive pluralism affirming the significance and necessity of this research. The factors that lead to pluralism in designing the urban residential facades are the main subject of this current research paper. Initially, in its various scales (macro and micro-levels), the objective landscape should be qualified for multiple identity properties about its functional and visual dimensions, eventually accompanied by a stabilized shape or form. Considering the above-mentioned materials, the primary questions of the study can be posited in the following words: "what are the factors and processes influencing the diversity in the contemporary residential facades in Vali Asr Neighborhood in Tabriz? In this regard, which of the aspects has the highest importance coefficients?

The urban landscape is the citizens" understanding of a city, using the perception of its facades city's contextual aspects and dimensions) and association of their related meanings (mental and memory-related elements and sizes). The three goals of the urban landscape are: "aesthetical, cultural-identity," and "functional" (Mansouri, 2004). From the perspective of Golkar (2003), a city's landscape is a threefold combination of the city's objective landscape, the city's mental landscape, and the city's emotional landscape as the foundations of behaviors (Golkar, 2003). Cullen et al. (2003) realizes the urban landscape as the art of proportions. By "urban landscape, "Cullen means a landscape designed concerning the city's context and emphasizing the views of a city. In his book, Cullen et al. (2003) points to the importance of consecutive opinions in an environment. He also states that it is more of an architectural experience when a building is singularly made in a place, but a large number of buildings at one another's side leads to the occurrence of a new phenomenon in the area of the urban landscape; this recent phenomenon is termed the art of proportions (Cullen et al, 2003). Lynch (1994) offered the concept of the cities" mental images by publishing a book named the "image of the city. " In this book, Lynch proposes the mental aspects of an urban landscape. In this way, if Cullen emphasized more on the objective elements of the landscape, Lynch pays more attention to the mental image thereof (Lynch, 1994). Lynch recognizes three perceptual, physical and functional factors as necessary in the urban landscape (Rezazadeh, 2007, 23). every urban environment is considered of three components: identity, structure, and meaning. The investigations show that a city's landscape can be examined in three macro and micro-scales. The streets" façade or exterior view is one of the notable aspects of exploring the streets" landscape. Therefore, in continuing the concept of a façade, the street façade, the street element, and the factors influencing the design of a favorable street façade should be investigated.

Based on the definition by Cullen et al. (2003), the urban landscape is the art of bestowing visual and structural integrity to the system of buildings, streets, and places that constitute

an urban environment (Cullen et al., 2003). This way, from his perspective, the landscape of every city is a response to human behaviors, climatic situations, security and safety factors, and, in other words, the skillful interventions within the framework of enhancing the environment's abilities. Every person's perception of the urban landscape is influenced by the sense of sight, place, and the environmental contexts within which s/he lives (Mahmoudi, 2006). According to John Raskin, the urban landscape is more than urban planning and designing issues. In the first place, it is the issue of the human values and goals and the authentication of the social responsibilities by every individual member of the society (Golkar, 2003). The urban landscape is the product of human-city contact. In line with this, human beings influence the urban landscape through their activities within the cities" visual landscape structure. The citizens" behaviors and mental perceptions are also impressed by their contact with the urban landscape.

In between, residential facades exert a considerable effect on the formation of the urban landscape. Although the problem of the residential facades" disorder is one of the everyday matters criticized by the urban architects and designers, few independent resources can be found in this regard when referring to the architectural texts in Iran and Europe. In an article called "phenomenology of the residential buildings" facades and the evolutionary trends of the expectations from them, " Pakzad (2003) realizes the inability to respond to the expectations created in the course of history for the facades as the root cause of the disorders in the buildings" facades; these expectations among other things are the protection of the residents against the external threats, creation of the relationship between the inside and outside, introducing the personality and prestige of the owner and the designer, not practicing individualism, accepting responsibility and, also, removal of the intellectual bottlenecks. Morovvati & Rad (2014) also realize the limitation of the criteria and unawareness of Iran's architectural principles, lack of proper modulations, inconsistency in forms and job-seekers, and use of the unidentified tendencies in architecture as the causes of confusion and non-coordination in the urban body. In a research titled " investigating such a crisis as non-identification in today's urban facades, " Jalili (2016) expresses that the well-needed investigation of the plans and designs offered by experts and designs" field observations concerning the peripheral constructions in terms of the quality of the design and façade and volume proportion with the near buildings and building culture for enhancing the awareness of the Islamic Iranian identity as some solutions for this issue.

In an article called "investigating the effect of the urban facades on the identity of Iran's contemporary architecture," Rushan (2015) states that the concept and meaning have been forsaken in the buildings" façades and concepts like visual literacy that have been entirely legible in the traditional architecture are now completely illegible in the contemporary period, or the city has become the arena of the conventional relations. Thus, it is believed in the article above that if one wants to prevent the visual contamination in the facades, it is necessary to pay attention to the meaning in terms of protecting the identity, citizenship, and local and architectural values in line with the definition of the visual literacy values.

In an article named "investigating the evolution trend of the housing and façade-building in Iran, " Jaberi Rad & Kaboli (2015) deals with the explication of the evolutions that have come about in the houses" shapes of the climatic, geographical, cultural, and historical conditions in the face of the urban texture; the article also offers a history of the houses" emergence and investigates the elements applied in the houses" facades as the identifying shell from the Neolithic era to the contemporary Islamic Republic of Iran's period. Research called "the effect of architecture and city on cultural values" as well deals with the roots of the ideas "the effect of environment on human beings," "the indicators of the environment's effect on human beings," "the effect of the constructed environment on the human beings" and "induction of the cultural values in the cities of Iran. " In a book termed "an analysis of Iran's contemporary architecture, " Ansari (2016) deals with the grounds and classification of the current status. In research named "cultural considerations in shaping the urban facades with an emphasis on the structure of Iran's urban facades," Naghizadeh et al. (2010) realize the current crisis as having been caused by weakness in the identification of the friendly culture, educational problems, foreign cultures" advertisement, absence of coherent and effective regulations and weakness in the urban management solutions in architectural designing and city-building and proposes the study of the Islamic theoretical foundations and philosophy as being necessary for achieving an Iranian Islamic identity and avoiding the modern mindsets and attitudes and way of treating as but some of the promising solutions.

Similar studies are available in this regard in the resources, and some of them have been pointed out in this section. Botta (2021) asserts that there is a need to define regulations and principles capable of predicting specific paths to reduce general pluralism in the designing domain to stabilize the position of architecture as a technical-scientific field in the contemporary world (Botta, 2021).

Kobylarczyk & Marchwinski (2020), shown in research that the pluralism existing in the designing realm has occurred between the anthropologists and ecologists in recent years. Attention should be paid explicitly in the present era to the evolutions in the ecological objectives of architecture and the threats that might lead under the influence of limited perceptions of these subjects to the distortions of architecture. In the end, the authors express that the informed and well-calculated definition of the decision-making's flexibility regarding the ecological and anthropological objectives provides a robust premise for the creation of stable and sustainable architecture parallel to the general concept of development; they also finally express that

both of these fields should make specified and binding decisions in respect to one another so that the architectural designing's pluralism can be reduced (Kobylarczyk & Marchwinski, 2020). In an article aiming at delineating the contemporary and current formal trends in the urban housing planning based on specimens of the recent decades" specifications actualization, Januszewski (2018) seeks a design and architectural paradigm in the area of the urban housing. These authors realize the absence of the formal assumptions in the architectural designing area as one of the most important reasons for pluralism and express that the solutions suggested for this subject all feature an individual nature. They also assert in a part that, instead of carrying a social idea, form has become a means for artistic and spatial expressions. This study covers the problems of such new phenomena as the urban blocks" variegations, contemporary urban regions" incongruity, functional hybrids (dualities), and the functional and formal pluralism in the contemporary urban spaces (Januszewski, 2018). Luck (2018) deals with the participatory designs in architecture and states that all these solutions have evolved in the contemporary world. This exploration shows that the current interests in the participatory design reflect more advancing forms and shapes of architecture's functioning where the participatory interventions in the daily setups confirm and accept the inherent value of the pluralism. Architects presently working in this field get the people engaged with the designing processes in different ways and in various scales of building the future. This factor can be considered for its possession of a dual and, occasionally, paradoxical nature. Improvisation during learning includes the application of the contemporary themes in participatory designing, and they are factors that can regulate the uncertain and variable conditions, thereby eventually creating more convergence. This means of designing proposes new questions for research about designing based on action (of course, by considering the conditions governing a given project) and reducing pluralism and regard of all the tastes during the 21st century (Luck, 2018). The cases explored and analyzed in the study's background have been given in Table 1.

Table 1: study background with an investigation of the domestic and foreign resources on the authors" intended area

Author and Year	Title	General results
Botta (2021)	Design as common good/framing design through pluralism and social values	In the contemporary world, the position of architecture as a technical-scientific field can be stabilized by the well-needed definition of the regulations and principles. that predict paths for reducing the general pluralism in the designing area.
Kobylarczyk & Marchwinski (2020)	Pluralism of goals of pro-ecological architecture	An informed and calculated definition of the decision-making's flexibility regarding the ecological and anthropological objectives creates a premise for creating stable and sustainable architecture in line with the general development concept. Both areas should make specified and binding decisions to reduce the architectural design's pluralism.
Januszewski (2018)	The synergy of pluralism, an urban form in the modern housing environment	The form has become a means for formal and spatial expressions instead of carrying a social idea. This study covers the problems of new phenomena like the metamorphosis of the urban blocks, the incongruence of the contemporary urban regions, functional hybrids (dualities), and functional and formal multiplicities.
Luck (2018)	Participatory Design in architectural practice: changing practices in Future-making in uncertain Time	This exploration shows that the current interests in participatory design reflect more advancing forms of architectural performance where the participatory interventions in the daily setups confirm and accept the inherent values of pluralism.
Jalili (2016)	Investigation of the crisis of non-identification in today's urban facades	It's vital to investigate the plans and designs offered by experts concerning the peripheral constructions in terms of the quality of the façade. Design and façade and volume proportion with the nearby buildings to enhance awareness of the Islamic Iranian identity as some solutions.
Jaberi Rad (2015)	Investigation of the evolution trends of housing and façade-construction in Iran	The author deals with the explication of the evolutions that have come about in the house's shapes about the climatic, geographical, cultural, and historical conditions; the article also offers a history of the houses'' emergence. It investigates the elements applied in the houses'' facades as the identifying shell from the Neolithic era to the contemporary Islamic Republic of Iran's period.
Rushan (2015)	Investigation of the effect of the urban facades on Iran's contemporary architectural identity	Concept and meaning have been forsaken in the buildings'' façades, and concepts like visual literacy that have been entirely legible in traditional architecture are now illegible in the contemporary period or, better said, the city has become the arena of conventional relations.

Continiue of Table 1: study background with an investigation of the domestic and foreign resources on the authors" intended area

Author and Year	Title	General results
Morovvati & Rad (2014)	Value-based phenomenology of the new residential buildings'' facades, a solution for the genesis of urban identity in Tehran's Vali Asr Street	The limitation of the criteria and unawareness of Iran's architectural principles, lack of applying proper modulations, inconsistency in forms and job-seekers, and use of the not well-identified tendencies in architecture are the causes of confusion and non-coordination in the urban body (in the area of the residential buildings).
Naghizadeh et al. (2010)	Cultural considerations in shaping the urban facades by relying on the structure of the Iranian cities'' facades in the Islamic period	Weakness in identifying the friendly culture, educational problems, foreign cultures'' advertisements, absence of coherent and effective regulations, and deficiency in the urban management solutions in architectural designing and city-building are subjected to playing a role in the architecture's cultural identity and Iran's contemporary city-building crises.
Pakzad (2003)	Phenomenology of the residential buildings'' façade and the evolution trends of the expectations thereof	The inability to respond to the expectations created in the course of history for the facades is the cause of the disorders in the buildings'' facades. These expectations, among other things, are the protection of the residents against external threats, the creation of a relationship between the inside and outside, the introduction of the personality and prestige of the owner and the designer, not practicing individualism, accepting responsibility and, also, removal of the intellectual bottlenecks.

MATERIALS AND METHODS

Vali Asr Estate in Tabriz has been selected as the case study. This part of the city is located on the northeastern side thereof. The preparation and implementation of the plans for Vali Asr Estate were carried out in early 1970 following the comprehensive plans" preliminary verification through purchasing some of the lands on the west side of Baranj Village outside the comprehensive plan's limits. Vali Asr Estate is part of the contextual region in TabrizMunicipality's District One.

The reason for choosing this area and focusing on it is the rapid changes in fabric and the high density and demand for changes in the buildings or high level of construction.

Like the entire city's facades, the facades in Vali Asr Estate are made of stone, brick, wood, or combined construction materials. Since the neighborhood's construction originally dates back to the 1970s, the buildings in this estate, like the others in the entire city, have facades constructed of diverse materials in different styles; some of these facades" examples are in the residential buildings" facades made during the recent years (Table 2).

The present study used a mixed research methodology. In fact, in the first section, the qualitative research method is used; then, considering the information analysis method, a systematic approach based on Strauss-Corbin is applied in three primary stages of open coding (identification of the topics and subtopics), axial coding (finding the central topic and linking it to the other related topics and offering a diagram or a linear model) and selective coding (creation of a theory about the link between the classifications and topics in the axial coding). So, all of the results obtained from the interviews are in a table; after that, the codes are chosen and named. This stage is of great importance because the output of this section is the very final topics of the study that lay the foundation of the later quantitative studies. (Fig 2)

To accomplish the study's objectives and reach documented results, the following methods are chosen in order:

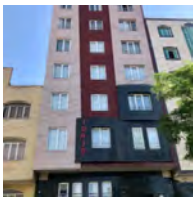
Open coding: shapes the preliminary concepts of the data gathered about the studied phenomenon by dividing the data

Fig. 1: the position of Vali Asr Estate (District 1) on TabrizMunicipality's map (Tabriz Municipality, 2019)

into smaller chunks, thereby identifying, categorizing, and labeling the concepts.

Axial Coding: This stage aims to establish relationships between the concepts produced in the open coding stage. The essence of the linking process in axial coding is focusing on and determining a topic as the axial topic and then putting the other topics of the same kind under the title of the primary topic. In axial coding, an open coded topic is selected as the central phenomenon and investigated at the center of the process; then, the other topics are linked to it. These other topics may include causal conditions (factors influencing the central phenomenon), strategies (measures taken based on the central phenomenon),

Table 2: various facades studied in this research paper

Studied case	Constructional materials and construction year	(General explanations of the façade (style	Façade's formal configuration	Overview of the façade
Specimen no.1	Brick-made (the 1980s)	The façade is made in a modern style without any special configuration in terms of form; it is made of just three-centimeter bricks. The only diversity is in the color of the bricks used for the terrace to create simple images	The façade's formal diversity is very simple, and the façade lacks indentations or protrusions.	
Specimen no.2	Stone-made (2016)	The façade is made based on the classical-Roman style, and it uses classical proportions. The façade is made of just one sort of masonry (stone) in its configuration.	The formal diversity used in the body of the façade is very complicated, and its excessive clutter might also appear annoying.	
Specimen no.3	Combined (stone) (2013)	Modern style has caused the agreeability of using various stones in the body of the façade (two or three kinds of stone) in various colors for a period in building construction procedures of this estate.	Formal diversity in the intended façade can be evaluated as intermediate.	
Specimen no.4	Combined (stone and wood)	This façade's design style can be termed contemporary. The use of wood on the façade can contribute to inducing a sense of warmth from the apparent body in cold and dry climates. The use of wood in the recent facades is completely modern in terms of originality and identity. It is not rooted in the historical facades'' implementations in Tabriz and Vali Asr Neighborhood.	Due to the difference in the nature of the combined facades made of stone and wood, diverse combinations are usually applied in terms of the difference in the protrusions.	
Specimen no.5	Combined (stone and brick) (2014)	One of the most common residential facades in the intended region is the one that was very common during the 2000s and 2010s and was made of brick and stone. One advantage of this type of façade is the good color and form diversity; it is also very much congruent in terms of its constructional materials and their technical features. It has to be pointed out in the end that designing style of this façade should be also envisioned as contemporary.	Due to the heaviness of the constructional materials used on this kind of façade, not much of the protrusion difference can be applied in this type of façade and, of course, it is not to be viewed as a negative aspect considering the approach.	

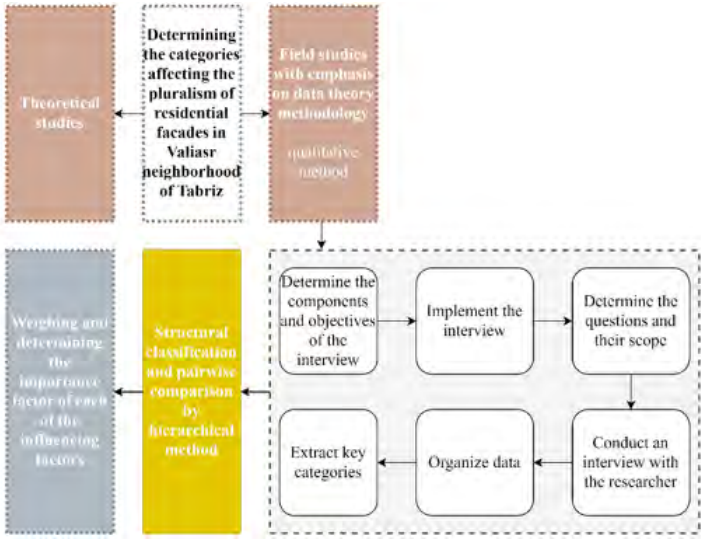


Fig.2: Process of performing mixed research in this study

intervening and background conditions (general and special situational factors that influence the strategies), and outcomes (results obtained following the application of the strategies).

Selective coding: in this stage, the research uses a few abstract topics to codify the theory, and there would be no need to code the new data. The applied topics are theoretically saturated, and each is juxtaposed based on the first and second coded concepts logically; next, the author should choose the core topic (Nowruz Borazjani, 2018, 260). In this stage of the research, the interview texts' coding is begun considering the trend of the related studies and analyses. At first, in the open coding stage, 179 codes were identified. Then, in the next stage, the codes with the same topics, repeated codes, were blended in the form of specific topics. In the end, the identified topics were divided into 20 conceptual clusters (axial code) into various sets of conditions (causal conditions, intervening conditions, and background conditions) so that the interactions could be reduced in this way (Table 3).

Before dealing with the second section, it is worth mentioning that field interviews were conducted in two parts with a group of residents and several architects actively working in the neighborhood, reaching 35 individuals. The second section utilized quantitative tools and factors' matrix of pairwise comparisons. Moreover, the second section of the research is of the applied-developmental type, with the method being both qualitative and quantitative. In this part, the studied cases are determined based on specific indices and evaluated according to the primary factors. The other researchers' investigation of the studies carried out, use of their results, and study of the extant documents and resources are amongst the tools applied herein, as seen in the first part (study background). Then, the outputs of the interviews and their coding give a matrix of factors, the importance coefficient of each of which should be specified. In this research and the second part of the combined research methodology, AHP has been used by the authors. AHP, an abbreviation for the analytic hierarchy process, was introduced in 1983 by Thomas Saaty (Yazdbakhsh et al., 2009, 85). In order to determine the weights of the scales and rate the options and choices, pairwise comparisons are to be made (Momeni, 2008, 41). The questionnaire used for AHP and multi-criteria decision-making is the experts' questionnaire. To prepare the experts' questionnaire, pairwise comparisons of the elements should be made. For every level of the hierarchy, a pairwise comparison matrix is made. A nine-point scale is applied for scoring (Table 4).

The goal of the AHP is to select the best choice based on various scales through pairwise comparison. This technique is also used to assign weights to the scales. Since the increase in the elements of every cluster renders the pairwise comparisons difficult, the decision-making scales are usually divided into specific subscales (Rahnema, 2009, 43). As was asserted before, the relative importance or priority of the decision-making scales is specified by using qualitative pairwise comparisons. One of the main advantages of AHP is the possibility of simultaneous consideration of the mental judgments by the use of tangible quantitative scales and intangible qualitative scales (Zanjirchi, 2011).

In this writing, out of the 15 questionnaires completed by the experts (the architectural designing areas researchers, architects, and city-builders with membership in construction engineering organizations, professors of university, and Ph.D. students with majors related to architectural designing). The

Table 3: the process of coding the contents related to the various levels" codes in the interview texts

A sample of open-coded topics (initial topics)	Topics'' axial coding	Number of repetition	Selective coding
Currently, society's cultural status has undergone a lot of changes.	Change in the lifestyle	13	Causal conditions
I think the main reason for this phenomenon (façade pluralism) should be sought in the individuals'' life changes.			
We had used traditional bricks in our previous home but, now, things have changed.			
The architecture market is in the hands of a few people.	Designer's individualism and exertion of personal taste	10	
Now, the designer's brand is credible, and everyone says, "I want a given person to design my house. "			
It is now a long time that stone is not used in this neighborhood.	Quality of the masonry and solidarity of the façade	9	
I have not seen so many people using wood or brick.			
Everybody is building the façade the way s/he wants and the facades are not even uniform in terms of the construction technique.	Façade construction technology	8	
My mother said, "it would be nice for us if we could have a house in this neighborhood (Vali Asr). "	Social prestige	13	
Now, everyone is living in his or her own style; the individuals are not so much communicating.	Social communication and coherence	6	Background conditions
I have seen a lot of diversity in this neighborhood during these past few years. I cannot remember anything.	Individuals'' historical memory	4	
They were saying in the upper alleys that the designer had been brought from Tehran. Well, I am asking you how would s/he know about the things here?	The designer's recognition of the fabric and context	3	
The designer should be one of the people masses, one of the residents from Tabriz!!			
Nowadays, people are looking for new things. To some, it is very important to be different.	Traditionalism in the neighborhood's residence	6	
I think it is the designer who should know about the background	Architect's background orientations	7	
If the designer wants to use modern elements, saying, in historical textures, no culture-building work can be any more done. People acquire their awareness from the designers'' works.			
I have been here since childhood but this neighborhood does not provoke any sense of nostalgia in me because the individuals I knew or my neighbors are not any longer living here.	Sense of attachment to the place	9	
This neighborhood is viewed as the city's wealthy region.	Value of the region and land	15	Intervening conditions
I do not know how much is a piece of land now because the inflations are no more annually increased and one can say that the prices change on a weekly basis.			
Unfortunately, the life scales of the individuals have been changed to their financial statuses; those who have more money come to live here!!	The constructors'' economic power	10	
People want the same façade. Do not meddle with what they are doing!	Socialtaste's level	14	
This issue should be said in the faculties of the universities.	The effect of training and position of the architecture faculties	12	
My daughter has graduated from a university in architecture, but she is a fan of commercial facades; we should build what is demanded by the market			
Municipalities or governments, itself, does not know what is wrong and what is right	High-level regulations and policies	11	

Continiue of Table 3: the process of coding the contents related to the various levels" codes in the interview texts

A sample of open-coded topics (initial topics)	Topics" axial coding	Number of repetition	Selective coding
The individuals should refer to their past	Emotional bond with the past in the individuals	4	Interactions
As I see it, the urban regulations should create limits, and, as far as I know, things have been just recently done.	Correction of the urban regulations and criteria	6	
Culture should be built in this regard but, of course, not by governmental media but, in private professional meetings and conferences; of course, this is what I think.	Increase in the awareness of the designers and addressees	10	
Designers should stay adherent to the Iranian architectural principles; they should also enhance the people's taste; they should not be just looking for the people's taste, for it is not where it has come and on what basis it has been formed!!	Reduction in the imposition of the personal tastes	9	

Table 4: scores specified based on the preferred priorities (Source: Zebardast, 2001, 67)

Score (intensity of preference)	1	3	5	7	9	2, 4, 6 and 8
Definition	Identically preferred	A little preferred	More preferred	Very much preferred	Completely preferred	Intermediately preferred

individuals with the required expertise for responding in the related research fields will be selected. These individuals are somehow connected with the present subject and have information about technical matters (construction domain) and theoretical matters (subjective domain). The questionnaire's structure has been designed so that the questions be related to various kinds of classifications or prominent topics regarding contemporary urban facades" pluralism, especially residential facades, according to the indices and factors extracted from the qualitative sections coding and, in the end, comprehensive investigations will be carried out in regard of their intensities and weaknesses. The expert should provide answers based on Likert's nine-point scales (from identically preferred to altogether preferred, which are scored from one to nine). The obtained scores enable the determination of the weight coefficient.

Every index is once investigated along with the other indices and another time alongside its subsets indicators and indices. The weight coefficient shows which of the studied indices features higher priority regarding the indices influencing the multiplicity of the façade design in the urban residential bodies in the studied region, considering the experts" choices on the Delphi method.

RESULTS AND DISCUSSION

Conditional Topics: after conducting semi-structured interviews with the individuals residing in the intended neighborhood and with several of the neighborhood's architects and designers, the items that can be called conditional topics in the present research fall into three sets.

The first set includes topics that should be explored as the cause of the governing phenomenon (herein, the multiplicity of the thefaçade's designs) in the intended region. These factors are termed "causal topics" that elucidate the reasons for the emergence of such factors. In this study, factors like "change in the lifestyle," "designers' individualism and imposition of their tastes," "quality of the masonry and façade's solidarity," "technology used for building the façade," and, finally, "social prestige" can be pointed out as but some of the causal topics. The main factors in this regard are the change in the society members' lifestyles and the governance of the new values amongst the people masses as they also acquired the highest numbers in the interviews. Alternatively, as an example, in the interviews, the residents pointed to the designers' imposition on their tastes. They demanded that the design work be completed to match what the employers wanted concerning their prestige and give their facades a unique look—the main reasons for the multiplicity of the residential facades. The technical and nonsocial factor that can be grouped with the causal topics is the other causal topic that has exacerbated the pluralism governing the façade's designs. For example, the constructor or the designer becomes inclined to use specific expensive masonry (in a match with the employer's tendencies) to accomplish the objectives above. This same issue causes the scale "choice of the masonry" to be inflicted with flaws and incredible diversity.

The second set, ideally by the backgrounds governing the conditions existing in the city and society's levels, can be placed under the title of "background conditions." It includes factors like "social solidarity and coherence," "the neighborhood's historical memory," "the designers' recognition of the works' textures and grounds," "the neighborhood residents' traditionalism," "architect's background orientations," and

"sense of spatial attachment in the residents." This set of factors is always influential generally and historically (antecedently), as also pointed out in the interviews by the authors.

The third set is called "intervening conditions," It includes the set of conditions that are subsequently added to the system and can have positive or adverse effects based on the type of approach. In this relation, many interviewees have pointed to the hidden factors in this regard. As an example, amongst the codes extracted from the interviews, the land and region's value and the constructors' economic power are the reasons for the emergence of the different and uncommon plans. A sort of competition in economic matters as well as in becoming the undisputed constructor in the neighborhoods is one of the essential intervening factors like "the level of social taste" or "the effect of education and training and the position of the architectural faculties" and, also, "the high-level regulations" can be enumerated amongst the intervening conditions. Interactive Topics (Solutions):

The point that is worth mentioning in the end, according to the field interviews with the residents and architects of the region as the solution for controlling the multiplicity or pluralism in the residential buildings' facades, is that the interactive topics are comprised of several factors. According to the field interviews, this set of factors has been specified, as seen in Table 1. Most of the questioned individuals realize the recognition and creation of emotional bonds by using the past generations' memories and revitalizing the neighborhood's historical form and shape as one of the solutions. Of course, in the authors' opinion, this robust solution seems to be a little irrational considering the population growth and increase in demand for new houses with the intended texture in the foresaid context hence the subsequent increase in the constructions and the change in the city's countenance. The other factors that seem to be more applicable in this cross-section of time are the necessity of correcting the urban and regional regulations and criteria, also increase in the awareness of the designers and addresses, and, consequently, a reduction in the imposition of the designers' tastes that can to a large extent prevent the emergence of the facades' visual abnormalities. In the end, the model extracted from MaxQDA is explained below. It is worth mentioning that the background factors have been positively recounted in the following Figure. In contrast, the absence of these conditions causes the creation of multiplicities in the façade's designs. The experts and the addressees pointed out the background conditions in the interviews. In this regard, the authors have not changed the extracted codes (Fig 3)

In the next stage, the experts should investigate the factors using the Delphi hierarchical model so that the weight of each of the scales can be determined (Fig 4). Then, correct programs can be made in macro-level policies and other strategies devised for the urban and regional domains. Afterward, the multiplicity governing the designing of the residential facades could be reduced in the architectural community.

The second part of the study's findings pertains to determining

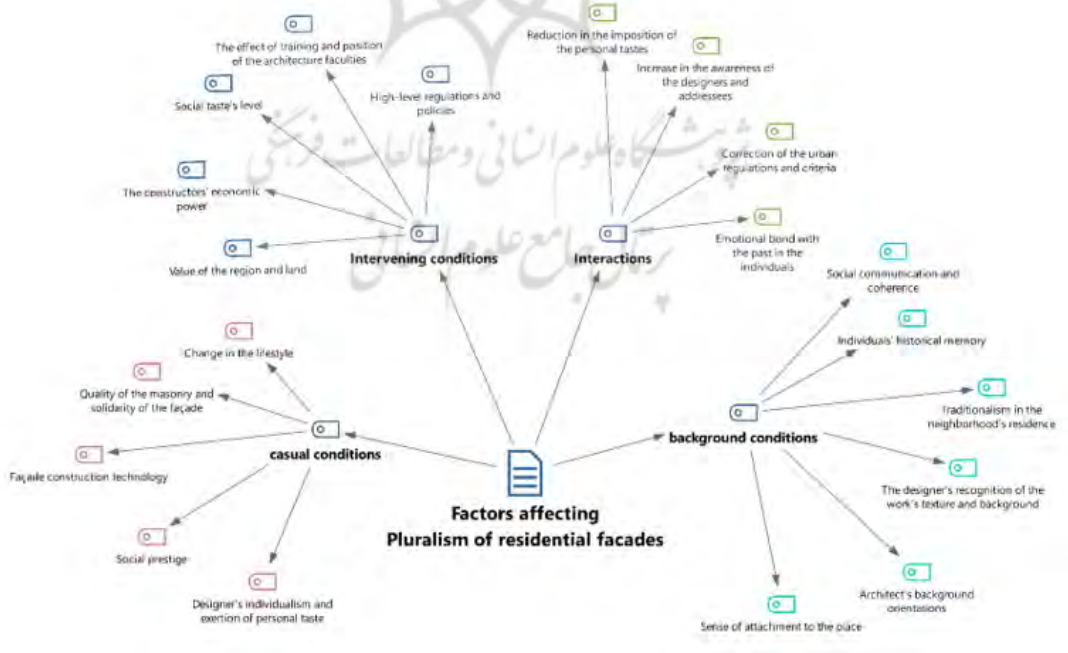


Fig.3: the final model of the factors influencing the residential buildings' façade multiplicity based on the semi-structured interviews as extracted from MAXQDA Software

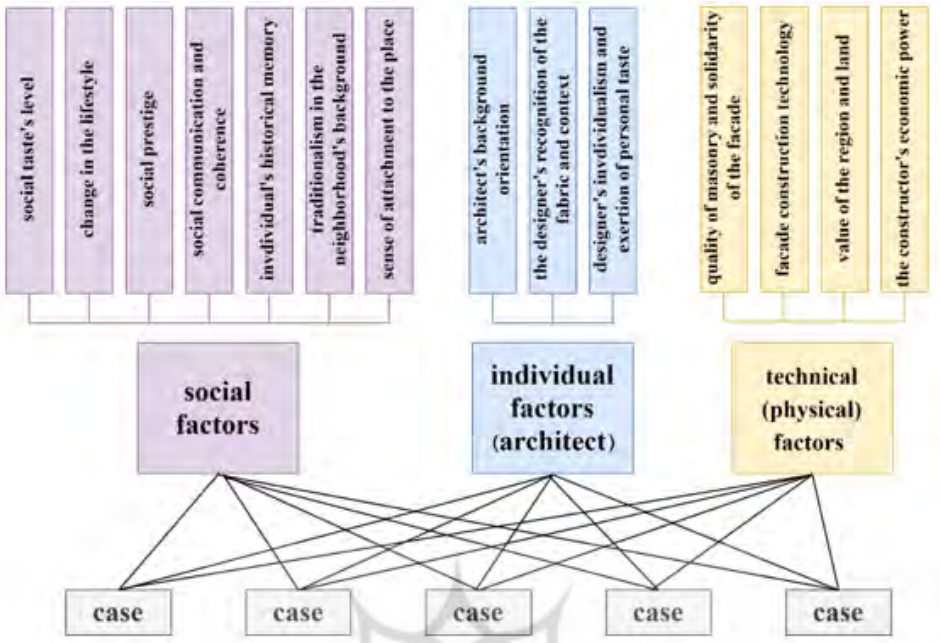


Fig.4: Indicators extracted from the interviews by the use of qualitative research method for weights' assignment in Expert Choice Software

the importance coefficients, weights of the scales and indices, and the subsequent pairwise comparisons of the groups and their specific subgroups. The experts' perspectives have been used for determining the scales and indices' importance coefficients. The matrix composed of the corresponding scales was provided to the experts to obtain the final weights. After constructing the Expert Choice application model and inserting the indices' pairwise comparisons, the weights of the leading indices and their priorities were determined by the dual essential indices, namely environmental and human indices. The consistency rate of the pairwise comparisons was computed as equal to 0.09, and since it is below 0.10, the comparisons are considered acceptable. According to the results, the initial comparison was based on the experts' ideas about the three individual, technical and social factors. Amongst these indices, individual factors with a more significant effect (0.620) were ranked first, followed by technical factors with a lower effect (0.285). Considering these results, the technical factors have the lowest effects on the multiplicity of the residential buildings' façade design. The factors related to the human domain (architect and society) have had more significant effects than the contextual factors related to the construction domain. In the next stage, each of the indices and their subsets should be analyzed to specify which parameters significantly affect the amount of pluralism or uniformity in the residential buildings' façade design. (Fig 5)

In the next stage, each of the three indices should be analyzed along with its sub-indicators. As it is seen in the Figure 6, amongst the subsets of the index related to individual factors, the designers' recognition of the fabric and context can be with its importance coefficient of 0.540 as a significant baring factor enabling the reduction of the diversity in the façade's designs. Considering the issue, the vernacular or native architects and the architects' climatic-cultural studies based on the intended grounds are significant and influential for presenting optimal strategies. According to Delphi's panel of experts, the would negatively affect the diversity rate of the structures existing in the region's context with its importance coefficient of 0.297.

As for the influential indices (technical factors) and based on the experts' notions that can be seen in Figure 7, it is clear that the value of the region and land with an importance coefficient of (0.461) is one of the important reasons for giving rise to the creation of pluralism in the designing of the residential building's facades. So, it can be concluded that diversity differs in various neighborhoods. The more the value of the region and the land increases, the more it can be expected that the multiple facades' designs' numerosity would increase. Amongst the subsets of this index, the economic power of the constructor ranked second with an importance coefficient of 0.262 can be pointed out.

In the end, considering the indicators in the subsets of the social indices and the results of the experts' questionnaires,

Fig.5: Pairwise comparisons of the three indices influencing the amount of pluralism or multiplicity in the residential buildings' façade design from the perspective of the Delphi panel of the experts

Fig.6: Pairwise comparisons of the individual factors' subsets from the perspective of Delphi's panel of experts

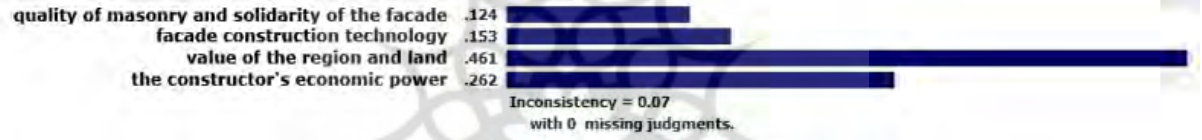


Fig.7: pairwise comparison of the technical (contextual) factors' subset from the perspective of Delphi's panel of experts

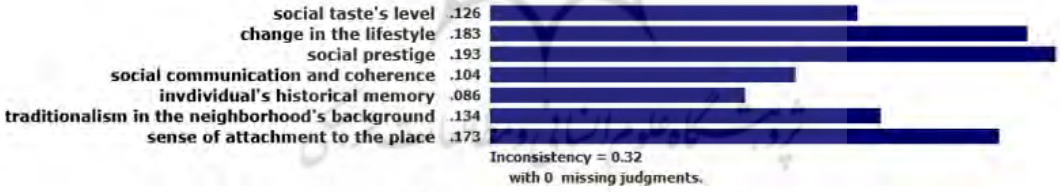


Fig.8: Pairwise comparison of the subsets of the index "social factors" from the perspective of Delphi's panel of experts

social prestige and change in lifestyles, with importance coefficients of 0.193 and 0.183, have the highest effects on the multiplicity and diversity of the various residential buildings' façade designs in the studied neighborhood in Tabriz. In the present article's case study, the other preventing factors or, better said, the factors enabling the homogenization of the façade's designs that fall in the following priority ranks are factors like the extent of sensing attachment to the neighborhood with an importance coefficient of 0.173 and the neighborhood residents' amount of traditionalism with an importance coefficient of 0.134. Considering the authors' field observations, since the neighborhood structure (at the city level) has general weaknesses in these factors, there is witnessed a subtle negative effect in the form of the loss of uniformity in the façade designs of the buildings in the neighborhood (Fig 8).

CONCLUSION

The authors use a mixed research method to elaborate on the factors influencing the diversity of the region's urban residential buildings' façade designs. In the first stage, and based on the qualitative research method (semi-structured interviews) and considering the trends of the related studies and analyses, the interview texts' coding was initiated. At first and in the open coding stage, 179 codes were identified; then,

the repetitive codes with the same concepts were blended to form specific topics in the next step. The identified issues were reduced into 20 conceptual clusters (axial codes) within the various sets of conditions (causal conditions, intervening conditions, and background conditions) and interactions. This section indicated that most of the interviewed individuals find emotional recognition and linkage of the individuals through the use of the past generations' memories and the neighborhood's historical form and shape as two promising solutions. Of course, in the author's mind, these solutions seem a little illogical considering the population growth and increase in the demands for the new houses in the intended context hence the increase in the construction and changes in the city's visage. The other factors that seem to be more widely applicable in this cross-section of time are "the necessity of amending the urban and regional regulations and criteria" and, also, "increase in the awareness of the area's designers and addresses" and, accordingly, "reduction in the designers' imposition of their own personal tastes" that can prevent the emergence of the visual abnormalities on the façade to a large extent. In the second part of the study, the quantitative research method and factors' pairwise comparisons matrix were utilized. The second part of the research has been conducted based on an applied-developmental study method. Based on the experts' notions, initial comparisons have been made between the three indices extracted from the semi-structured interviews with field experts (individual, technical and social factors). Amongst these indices, individual elements were ranked first with a more significant importance coefficient (0.620), followed by technical aspects with an importance coefficient of 0.285. Amongst the subsets of the individual factors, the indicator "designers' recognition of the texture and background" can be, with its importance coefficient of 0.540, a significant factor preventing and reducing the diversity of the façade's designs. In between, considering Delphi's panel of experts, "designers' individualism" with an importance coefficient of 0.297 would affect the pluralism in the residential buildings' façade designs existing in the context and texture of a region. As for the technical set of the influencing indices and based on the experts' ideas, it can be asserted that the value of the area and lands, with an importance coefficient of 0.461, is one of the most important reasons contributing to the diversity and pluralism in the residential buildings' façade designs. Amongst the indicators of this set, the constructors' economic power ranked second with an importance coefficient of 0.262 can be pointed out. In the end, considering the subset of the social index and the results of the experts' questionnaires, factors "social prestige" and "change in the lifestyles," respectively, with importance coefficients of 0.193 and 0.183, have been found with the most significant effect on the pluralism and diversity of the various residential buildings' façade designs in the studied region of Tabriz. The other preventive factors or, better said, the homogenizing factors enabling the uniformity of the façade's designs in the present article's case study and falling in the following ranks of priority are "the extent of sensing attachment to the neighborhood," with an importance coefficient of 0.173, and "the amount of the neighborhood residents' traditionalism with an importance coefficient of 0.134. Considering the authors' field observations, the structure of the neighborhood and the structures beyond it (at the city level) are generally weak, and this weakness exerts a strong effect in the form of losing the formal uniformity of the neighborhood in terms of the façade designing. Finally, it is suggested that by amending urban and regional rules and increasing the awareness of the designer as well as the users of the identity features of the designed facades, and finally by using the principles of design and adhering to various historical styles and The reduction of the designer's taste can be taken from the typical lack of identity in facade design. At the end of the article and comparing the results of the current study with the background of the research, it is clear that some factors, including social factors, were mentioned in other research. However, the position of individual factors compared to social factors was not mentioned in previous research. It seems that individual factors such as the architect's personality and familiarity with the region's context have a significant impact on the pluralism of facade design. Also, economic values and land price are essential factors in determining the pluralism of facade architecture design, which has not been mentioned in past research. However, lifestyle change or social pride have already been mentioned.

AUTHOR CONTRIBUTIONS

The authors contributed to all parts of the research.

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CONFLICT OF INTERESt

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues, including redundancy, have been completely witnessed by the authors.

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