Int. J. Hum. Capital Urban Manage., 8(1): 69-82, Winter 2023

International Journal of Human Capital in Urban Management
(IJHCUM)

Homepage: http://www.ijhcum.net/

ORIGINAL RESEARCH PAPER

Evaluation of psychological factors affecting the decision of citizens to purchase renovated buildings with emphasis on maintaining urban environment

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ARTICLE INFO

Article History:
Received 06 September 2022
Revised 12 November 2022
Accepted 25 December 2022

Keywords:
Architecture
Psychological
Purchase decision
Renovated building
Urban planning

ABSTRACT

BACKGROUND AND OBJECTIVES: During the past decades, architects have faced serious challenges in renovating buildings. Renovated buildings require activities that, besides energy savings and less damages to the environment, could have psychologically positive effects on customers. Renovation plays an important role in the development of the city of Tehran so that it can bring environmental, economic and social benefits and preserve the originality of the urban environment of this metropolis. Therefore, the purpose of this study was Evaluation of psychological factors affecting the decision of citizens to purchase renovated buildings with emphasis on maintaining urban environment.

METHODS: The present study used a mixed approach to achieve a general model to investigate the effects of such factors on customers' decision to buy renovated buildings. To validate the model, the qualitative approach was based on the Grounded Theory, and the quantitative approach used Structural Equation Modeling. In the qualitative analysis to identify the influential factors, the interview data were analyzed with ATLAS.Ti8 software version 8.0 by using the Grounded Theory coding method according to Strauss and Corbin's approach. Finally, the effects of psychological factors on the consumer decision to buy renovated buildings were identified.

FINDINGS: Perception index with two components of personality (factor loading 0.60) and experience (factor loading 0.69), learning index with two components of capacity change and behavior change with factor loading 0.56, attitude index with two components of self-esteem (0. 70) and excitement (0.76) and in the motivation index of the external motivation component (0.58) were confirmed in the final model. The indicators of needs and desires (0.31), change of status (0.42), identity (0. 32) and intrinsic motivation (0.49) were rejected and removed from the final model.

CONCLUSION: The findings showed that in order to maintain the authenticity of the urban environment as well as the satisfaction of citizens, the managers of architectural companies and senior officials of urban planning can use the investigated methods to make better decisions and encourage citizens to buy renovated buildings.

DOI: 10.22034/IJHCUM.2023.01.06

NUMBER OF REFERENCES	NUMBER OF FIGURES	NUMBER OF TABLES
42	4	6

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Note: Discussion period for this manuscript open until April 1, 2023 on IJHCUM website at the "Show Article.

INTRODUCTION

An observation of architectural spaces provides broad-spectrum aesthetic experiences, spanning from a sense of convenience and excitement to arbitrating the age and style of the building (Chatterjee and Vartanian, 2014; Coburn *et al.* 2017). Such feelings emerge when visiting buildings for buying, because individuals minds and bodies are overwhelms by architecture and cause changing emotions and behavior. Understanding such powerful influences, possible factors are identified by architecture firms in order to use in the renovation of buildings (Fathali and Kheyri, 2014). Residential buildings, expressly apartments, are continually renovated worldwide, and techniques to achieve, are becoming progressively imperative. Building renovation is broadly established and by possibility of reusing resources which is provided, causing enjoying and sustaining living space (Choi and Choi, 2022). Today, with the complex and exponential growth of science, technology, values, and criteria worldwide, most successful organizations across the world have shifted organizational goals, methods, and structure toward attracting customers. (Fathali and Kheyri, 2014). Such rules and guidelines are also applied to the architecture firms that attempt to renovate building units. Indeed, firms need to consider psychological factors to inspire customers to purchase renovated buildings and, hence, improve company's market share. Today, customers' desires, needs, and expectations are irrefutably changing; hence, it is pivotal to explore the effects of psychological factors on customers and, more broadly speaking, determine the needs of customers, and then find the means to realize such factors and requirements (Mansoori and Yavari, 2003). In general, people devote considerable time to the built environment(s). Moreover, the human visual brain shows a varying sensitivity to the psychological dimensions of the interior architecture space, including coherence, attractiveness, and similarity (Coburn *et al.* 2020). The evaluation and perception of environmental spaces and architecture are leading concerns in environmental psychology as such many environments, from landscapes to the interior of rooms, have been studied. However, old buildings have been substantially overlooked (Cheuk Fan, 2020), and renovated buildings are rarely investigated. Moreover, in recent years, the ascending trend in the price of houses in Iran has become a leading social problem for customers. Hence, renovation, repair, and reconstruction of buildings have been broadly accepted during the past years. Building renovation allows the architects to create a new building with a minimum budget at the shortest duration possible with no destruction of the building structure. It is currently most appealing for architects, architecture firms, and especially for customers (citizens), owing to its economic efficiency. Architecture firms attempt to investigate the psychological effects on the design of these buildings as a means to proceed and realize marketing objectives. However, the extent to which psychological factors can affect the customer's decision to purchase a renovated building needs to be further illustrated. This research would help the architectural psychology to efficaciously conduct architectural projects of buildings across the process of renovating and selling these structures. The model proposed in this research is an interdisciplinary model consisting of marketing, psychology, architecture, and consumer behavior. This model was designed to be perceived efficient within all aforementioned disciplines. Accordingly, this study mainly aimed to develop a model to investigate the effects of psychological (architectural) factors on the decision to purchase renovated buildings. Over the past decades, architects have faced serious challenges in the renovation of buildings. Firms have pursued activities that, besides energy savings and less damages to the environment, could psychologically have positive effects on customers. These activities inspire the customers to purchase and provide them with a sense of peace steamed from a renovated building environment. unprecedentedly, and serving as a guide to architectural research, environmental psychology, marketing, and consumer behavior, this study proposes some solutions for managers of architectural firms to renovate buildings more insightfully. These solutions are supposed to be helpful as a mixed approach for all the disciplines mentioned above. Using a literature review, this research unprecedentedly investigated the effect of psychological factors on the customer's intention to purchase renovated buildings. Given the lack of similar studies in Iran, the present study is assumed to illustrate a new horizon for future research on this topic. This research showed the link between architecture, psychology and marketing as an interdisciplinary research and can provide architects

with deep insight in the field of buildings renovation. Therefore, the purpose of this study was Evaluation of psychological factors affecting the decision of citizens to purchase renovated buildings with emphasis on maintaining urban environment.

Theoretical foundations

Architectural psychology is an interdisciplinary subject merging psychology and architecture. It focuses on an architectural design by using Gestalt psychology, cognitive psychology, and other relevant psychology principles. During the past 33 years, researchers from China have gained fruitful achievements in architectural psychology. In China, the frontiers of the field are "architectural creation" and "environmental psychology", while the popular research topics include "residential environment", "spatial environment", "environmental psychology", "architectural theory" and "architectural psychology" (Zhu *et al.,* 2017). In this regard, psychological factors are as follows:

Perception

Perception is a complicated process through which one become aware of and perceive sensory information. Humans must receive and analyze data to interact with the surrounding physical environment. During perception, human beings pick the necessary information from the environment (Sharghi *et al*., 2017; Knox and Marston, 2003). The experience and perception of architecture are hardly quantifiable. Mental factors are constantly going beyond objective and measurable aspects. Similar to an object, architecture is calculable and quantifiable, and can be expressed with numbers and figures. However, human beings, who are the target for architecture and serve as "carriers of subjectivity", are different (Groter, 2013).

Motivation

Broadly defined, motivation refers to a psychological force driving the complicated processes of purposive thoughts and behaviors. These processes are based on individuals' internal psychological pressures and external environmental/ contextual forces, collectively acting to specify the direction, intensity, and continuity of a specific behavior, while pursuing a given goal (Kanfer, 2009; Kanfer *et al.* 2017). They refer to processes such as needs, cognition, emotions, and external events, which empower and direct behavior (Marshall Reeve, 2007).

Learning

Learning is a function enabling individuals to respectively understand, strengthen, and modify knowledge, behaviors, capabilities, and new or existing alternatives. Learning might result in a potential alteration of the data composition, depth of knowledge, and attitude or behavior toward the type and extent of experiences (Gross, 2012). The ability to learn is possessed by humans and animals (Karban, 2015).

Attitude

An attitude refers to beliefs and emotions that allow a person to evaluate others, objects, and groups positively or negatively. Attitudes give a summary evaluation of objects and predict or guide future measures or behaviors (Ganji, 2019). Allport, G. W. (1954) defines attitude as "a mental and neural state of readiness (Allport, 1954), organized through experience, exerting a directive or dynamic influence upon an individual's response to all objects and situations with which it is related" (Sear. 1991). Attitudes play a fundamental role in many aspects of social psychology. However, researchers have recognized that attitudes vary in susceptibility to change and influence on behavior and cognitive processes (Luttrell and Sawicki, 2020).

Purchase intention

Purchase intention is "the total of cognitive, affective, and behavioral attitudes toward adoption, purchase, and use of the product, services, ideas, or certain behaviors "and also refers to the consumer's intention to purchase a product (Roodani and Rahman Seresht, 2010). Purchase intention is "the total of cognitive, affective, and behavioral attitudes toward adoption, purchase, and use of the product, services, ideas, or certain behaviors "and also refers to the consumer's intention to purchase a product.

Renovation

Renovation is achieved when an urban space, a complex, or a building has suitable and present-day productivity, but a relative physical-spatial decay, has been diminished its efficiency and effectiveness. The

renovation consists of a set of adopted measures, which, besides protecting the building, the complex, or the old urban space, contemporize the relevant spatial organization and bestow the structure a possibility to achieve its optimal efficiency (Habibi and Maghsoudi, 2020). Renovation is a process in which the existing structures need to be upgraded to improve performance by either altering the scope of the structure, providing additional facilities, or improving existing ones (Anwar and Najam, 2017).

Literature review

Inspired by architectural marketing, Rahimi Jafari (2021) studied the effect of marketing on architecture, focusing on the role of consumers and architects to achieve a mutual agreement in the improvement of architecture and building renovation. Environmental psychology focuses on the interconnections between individuals and environment, the relevant theories and schools, and the qualitative effect of the built environment on human behavior and psyche. In the study, Kumar *et al.* 2020 indicated that psychological factors had a strong implication in the purchase decision. Understanding the mental triggers behind the purchase decision process is imperative which is why consumer psychology is related to marketing strategies. Malter *et al.* (2020) studied impulse buying from several perspectives: (1) rational processes, (2) emotional resources, (3) the cognitive currents arising from the theory of social judgment, (4) persuasive communication, and (5) the effects of advertising on consumer behavior. Yuen *et al.* (2020) studied the psychological factors of panic buying concerning the health crisis, where deal with individuals' perceptions of the threats of the health crisis and the social psychological factors (Neisiani *et al.,* 2016). Hellpach (1924) was the first scholar who introduced "environmental psychology" in the first half of the 20th century. As reported by Ricci (2018) thesis, numerous studies indicate that a good architectural design has noticeable psychological and physiological advantages, which go beyond a sense of aestheticism. According to Zhu *et al.* (2017), architectural psychology is an interdisciplinary subject, consisting of psychology and architecture which focuses on an architectural design by using Gestalt psychology, cognitive psychology, and other relevant psychological principles. Researchers from China have gained fruitful achievements in the field of architectural psychology during the past 33 years. In his research on "architectural psychology", Dimapur (2016) argues that "a majority of findings from psychologists into engineering and architectural space, design, and planning, further explain the inner psyche of people that is required for a healthy life". In his research entailed "a psychological-spatial approach to architectural design and research", Lawrence emphasized on redefining and diversifying the study of people and physical environment. Such a reorientation is beyond overemphasizing the physical environment and the physiological or subjective evaluation of existing buildings (Lawrence, 1982). Given that municipalities play an active role in social progress and they are important for sustainable development of societies, managers have a very serious and decisive responsibility in this regard (Hosseini *et al.* 2020). To achieve these goals, the present study was conducted in 2022 in Tehran with the aim of maintaining the originality of the urban environment and helping architects in their design by considering human psychological factors in the renovation of buildings.

MATERIALS AND METHODS

The present study is a practical, qualitative-quantitative investigation conducted based on an inductive and comparative paradigm which was carried out by employing a descriptive survey method. The statistical population consisted of managers and experts of architecture firms involved in design and architecture in Tehran. To design the model to examine the impacts of psychological (architectural) factors on the decision to purchase renovated buildings, the Grounded Theory (GT) method was used to choose the dimensions and components identified in the qualitative section. at the same time, the Structural Equation Modeling (SEM)and by the help of Lisrel software was used to find out the interaction and interconnections between the dimensions. To validate the mode, 22 managers and experts of architecture firms in Tehran were selected using the purposive and convenient sampling methods. In this study, to test and fit the design of the model investigating the effects of psychological (architectural) factors on the decision to purchase renovated buildings, the participants were the personnel of architecture companies and contractors involved in the renovation of buildings in Tehran. The sample size was determined to be 18

architecture design firms, proportional to the number of personnel working. Participants were sampled through the stratified-random sampling method. The research community was confined to a known number of participants. Cochran's formula was used for sampling, based on which 348 participants were selected.

Validity and reliability of data collection tools

In general, the accuracy of the obtained data cannot be ensured when there is no data available on the validity of the measurement tool. Such an evaluation aims to explore whether or not the content of the tool could measure the predefined goal(s) (Hajizadeh and Asghari, 2011). Accordingly, the opinions of experts in a specialized field are used to evaluate content validity. This study used the experts and professors' opinions to ensure the validity of the tool used for measuring the research variables. In this questionnaire, the suitability of each item, defined for the related variable, was determined in three scales, namely "necessary", "useful but not necessary" and "unnecessary. Then, the Lawshe Content Validity Ratio (CVR) of each question was calculated using Eq. 1. (Scally, 2013).

$$CVR = \frac{\left(ne - \frac{N}{2}\right)}{N/2} \quad (1)$$

where, CVR is the Content Validity Ratio (CVR) of each item, N denotes the total number of experts or reviewers (n = 22), and "ne" represents the number of positive comments from all these 22 experts about the item of interest. The obtained coefficients were compared with the Lawshe CVR table, and the content validity of the tool was measured. The Lavshe coefficient for these 22 experts was acceptable (0.40). Table 1 presents the minimum acceptable values of CVR based on the number of scoring experts.

Data analysis method

Collected data was analyzed along with interviews and library studies for further processing. The analysis covered summarization, categorization, GT-based coding, and the definition of research concepts and categories in ATLAS Ti8 software. The GT-based theorizing was based on the well-established systematic approach developed by Strauss and Corbin. This section discusses theorizing, theoretical sampling, note-taking, data coding (e.g. open coding, axial coding, and selective coding), and theory building and presentation. then investigates the theory validation and the process of evaluating GT-based theorizing. When the model was designed based on the GT method, relationships between the categories and components were obtained using SEM. The questionnaire was developed according to the proposed model and submitted to the experts to obtain the primary data. The gathered data were then analyzed in SPSS, and the software outputs were used as inputs in Lisrel to specify the effect rate of each item.

Open coding

Open coding is an analytical process by which concepts are identified, and factors characteristics and dimensions in the data are discovered (Strauss and Corbin, 1990; Lee, 2001). The researcher organizes categories according to data collected by interviews, observations, events, and notes (Creswell, 2005). During the interviews and literature review on the psychological factors affecting the decision to purchase a renovated building, the components extracted from interviews are coded. Indeed, the open codes are classified in ATLAS.TI 8 into main categories according to Table 2.

Causal conditions

In the GT-based open coding, causal conditions are situations that influence the axial phenomenon

Table 1. The minimum acceptable CVR value based on the number of scoring specialists. (Hajizadeh and Asghari, 2011)

The minimum acceptable CVR value based on the number of scoring specialists					
Number of specialists	CVR value	Number of specialists	CVR value	Number of specialists	CVR value
5	99%	11	59%	22*	40%*
6	99%	12	56%	25	37%
7	99%	13	54%	30	33%
8	75%	14	51%	35	31%
9	78%	15	49%	40	29%
10	62%	20	42%		

Table 2. Open coding

Conditions	Categories	Open coding
Causal conditions	ideals	Traditional and modern thoughts, customer taste, employer taste, moods
	The state of the economy	Record, unemployment, people's income
Background conditions	feelings	Satisfaction, attachment, beliefs and values
	Personality traits	Social interactions, individual characteristics, behavior
Intervening conditions	Resource limitations	Financial and spiritual
	an epidemic	Public disease and its effect on mental health
Strategies	perception	Needs and desires, personality, experience
	motivation	External and Internal
	learning	Change in status, capacity and behavior
	attitude	Identity, self-esteem, excitement

and build or expand the desired phenomenon. Conventional and modern thoughts, customer preference, employer preference, and moods were extracted following the interviews were reviewed (Table 2), as specified as an abstract category of ideals. The human lives are intertwined with customs, principles, and rules. Humans use all mentioned under specific considerations and particular circumstances. However, the marked cultures and styles are sustained even when such thoughts and considerations are fixed or altered. This is why some people yet pursue and like the old lifestyles. In this regard, modern ideas are created along with conventional ones.

In other words, customers tend to experience a new lifestyle. Modern thinking is pondered in the individual area and is obtained over time as a result of variations in the lifestyle. All these thoughts or a combination of these thoughts build a customer's preference. Besides, the employer's preference also affects the implementation of construction projects. In this category, all elements were coded as ideals. Individuals' records, unemployment, and income were categorized as economic status, as these elements were reflected in interviewees to influence the customers' intention to purchase.

Background conditions

A relative satisfaction with the quality of life builds a space for social life for achieving more security. Accordingly, individuals will be provided with peace and can fix tensions during daily interactive relationships with others with the slightest confrontation (Mohammadi *et al.* 2016). Satisfaction with the renovated building and space, enriched with security and peace, bounding to the building and the last place of residence, the beliefs, and values that serve as a basis for the feelings of individuals about place of living are classified as open codes in the category of emotions. Social interaction builds a relationship between two or more individuals, while causing to react to each other, and the occurred reaction is familiar to both sides. Accordingly, this definition does not cover meaningless relationships. Social interaction and communication of individuals entail defining proper events and activities, making individuals play a role in the space and have membership in social groups and networks (Daneshpour, 2007). Inherently, humans need social interactions. Here, social interactions mean a meaningful and conscious face-to-face relationship between two or more people. Such interactions influence the decision to buy buildings. Individual characteristics influence customers' purchase behavior and how they treat when facing buildings.

Intervening conditions

The restricted resources for the purchase of renovated buildings and the epidemic conditions governing the society were identified as intervening elements in the interviews.

Strategies

The actions or interactions resulting from the axial phenomenon (i.e. strategies) are based on actions and reactions to control, manage, and deal with interest. In general, plans are purposeful and developed for a particular reason. There are always some intervening conditions promoting or restricting plans (Strauss and Corbin, 1990).

Table 3: Core coding in categories and concepts related to the core category

Conditions	Categories	Open coding	
Axial category	Psychological (architectural) factors on the decision to purchase renovated buildings	Renovation stages of the building	Demolition, construction, interior design
		Purchase decision stages	Need recognition, information search, option evaluation, purchase decision, post-purchase decision

Table 4: Consequences

Conditions	Categories	Open coding
consequences	Customer satisfaction	Customer needs assessment, customer recognition, design according to customer taste, customer loyalty, value creation for customers, understanding customer behavior
	Increase sales and marketing	Improving the building renovation market, increasing purchasing power, competitive advantage, market prosperity
	Healthy environment	Reduce construction, save energy

Axial category

An axial category is the same conceptual tag pondered for the developed framework or design. In Table 3, the central category around the main axis of the topic is placed then the codes assigned are specified.

RESULTS AND DISCUSSION

This section discusses the results and outcomes expected from the extracted factors that influence the marketing process performed by architecture firms. For extracting these outcomes, the interviews were classified into three categories during open coding phase using rigorous analyses. Such effects were categorized while agreeing with the main components to allow architects to understand the results of this research properly. When a building is scheduled to be renovated for selling, knowing the customer's strategies to decide to buy such buildings can significantly promote the renovation and sale of these buildings. Given a rise in the buying cost of new buildings, the housing renovation market will become gradually prosperous and will see more players compete with each other. Thus, many criteria will be developed to choose and buy these buildings. The customers' approach in facing a renovated building allows architects to implement their design in line with these components and their needs. It further allows architects to pick materials and colors more precisely, aiming to significantly affect the customers' minds and make them satisfied. Besides the market flourishing and financial advantages, the effects of industrialization and the transformation of a developing society into a developed one have also come with some problems. This is because individuals prefer to live in places where there are multiple positive and fortunate sources of inspiration. In simple words, customers explore a place in which are able to relax with no trouble, have no distressing issues during everyday life, have access to sufficient light, etc. all of which affect the person's intention to purchase. Taking these factors into consideration brings value to customers. In general, customer would get astonished to understand (and include) such items in the design of a building. Given the identified psychological approaches, such a need assessment in the service market can revolt the architecture firms. In this regard, psychological architecture in the building renovation serves as a competitive advantage for architecture firms

Consequences

With an increase in public awareness and following the progress of sciences, environmental issues have become integral to society. A downward trend in construction and saving energy and minerals are among the leading ecological outcomes of building renovation.the consequences are shown in Table 4.

Axial coding

Axial coding aims to link categories extracted in the open coding stage. This is typically achieved using a paradigmatic model and helps theorists enter the theorizing process straightforwardly (Fig.1):

Selective encoding

Selective coding refers to selecting a core category, systematically relating it to other categories, validating those relationships, and filling in categories requiring further refinement and development. To this end, the strategic and influential categories were divided into four groups after the interviews and analyses were carried out. This model aims to investigate the effects of psychological (architectural) factors on customers' intention to purchase renovated buildings. This model was designed based on the extracted information and the obtained results Fig. 2.

Quantitative findings

A questionnaire was developed according to the extracted variables and submitted to the customers of architecture firms. The data were collected for model validation using the confirmatory factor analysis in Lisrel. The results revealed significant relationships between written factors and apparent variables. In simple words, since the significance levels for all components are >1.96, the relationships between the variables are confirmed. Numerous methods are available to estimate the overall Goodness-Of-Fit (GOF) of the determined model. Generally, several criteria were used to measure the model; however, three to five criteria are sufficient for model validation. Hence, various measures were used in this study to evaluate the GOF of the model. The Table 5. presents the frequency of each of these criteria is.

Lisrel software measures a value of "t" (Fig. 4.) for each parameter estimated in the model. This test specifies the parameters that can be removed from the model. In simple words, at a Cl of 95%, the relationships for which the "t" value is >1.96 are validated. The overall structural model is illustrated in Fig. 3. Likewise, the coefficients of the research's main variables are depicted. Similarly, Table 6 presents the SEM results and the confirmation or rejection of the research hypotheses concerning the relationships between the research variables.

According to Table 6, needs and desires, variation in mood, identity, and internal motivation are rejected and excluded from the model. In other words, needs and desires (with a factor load

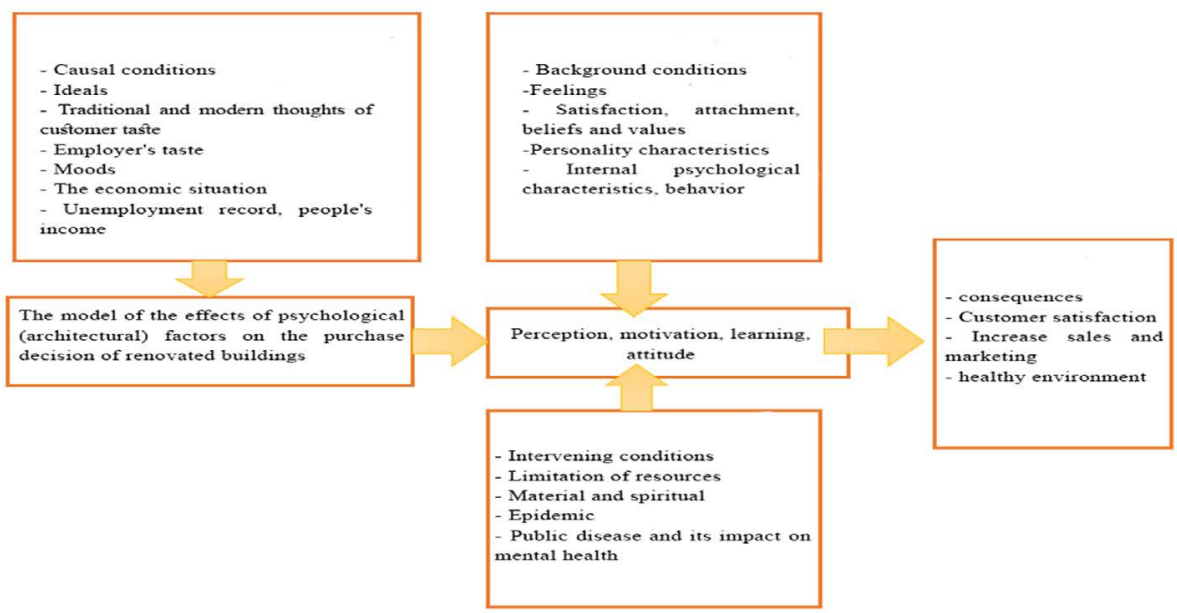

Fig. 1: The primary model of psychological (architectural) factors on the purchase decision of renovated buildings

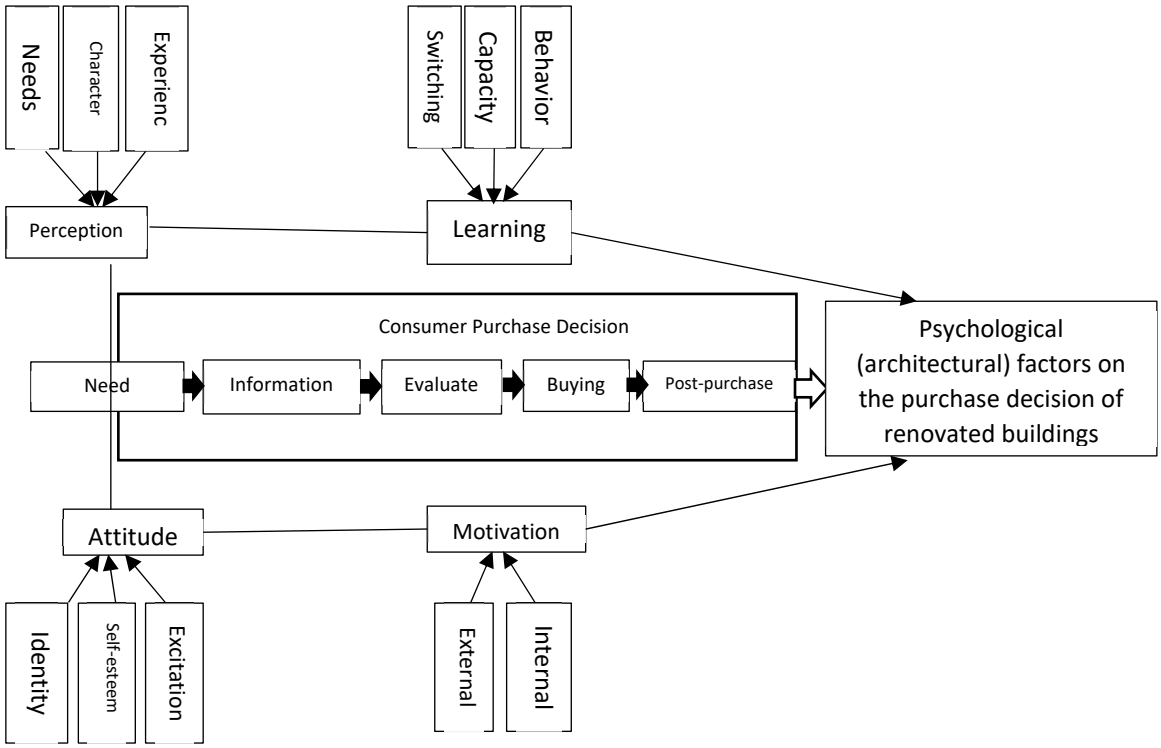

Fig. 2**:** The final model of psychological (architectural) factors on the purchase decision of renovated buildings

Table 5. Fitness index

Indicator	CFI	NNFI	NFI	GFI	AGFI	X^2 /df
Acceptance threshold	0.9<	0.9<	0.9<	0.9<	0.9<	3>
the amount of	0.92	0.91	0.85	0.93	0.89	1.801

of 0.31), variation in the person's mood, social and cultural status (with a factor load of 0.42), the identity of individuals (with a factor load of 0.32), and individuals' internal motivation (with a factor load of 0.49) have no effect on customers' intention to buy renovated buildings; hence, these factors were excluded from the model. The results of the output of the final model of this study are stated the architect, serving as a designer, needs to initially identify the human needs and collective behavior. Moreover, customer's perceptions can vary when encountering a renovated building for buying. In other words, such a perception is caused by each individual's needs and desires, personality, and life experience. Furthermore, personality is a key variable addressed by psychologists in their studies. The decision to buy renovated buildings is influenced by people's personality. Buying behavior is the result of each person's personality, which varies among people. This part of the research is consistent with Fathali and Kheyri (2014). individuals' overall experiences, either built in the previous living space or caused by a pleasing or disagreeable event, can be recall memories since visiting the renovated building.)According to the researches Sharghi, Motuf and Asadi (2017), Knox and Marston (2003), Kumar *et al.* (2020), Malter *et al.* (2020), Yuen et al. (2020), Abbas *et al.* (2018). Behavior change occurs within the environment due to a variation in the capacity or the state of the living space and refers to the effects that have involved the aspects of psychological architecture.

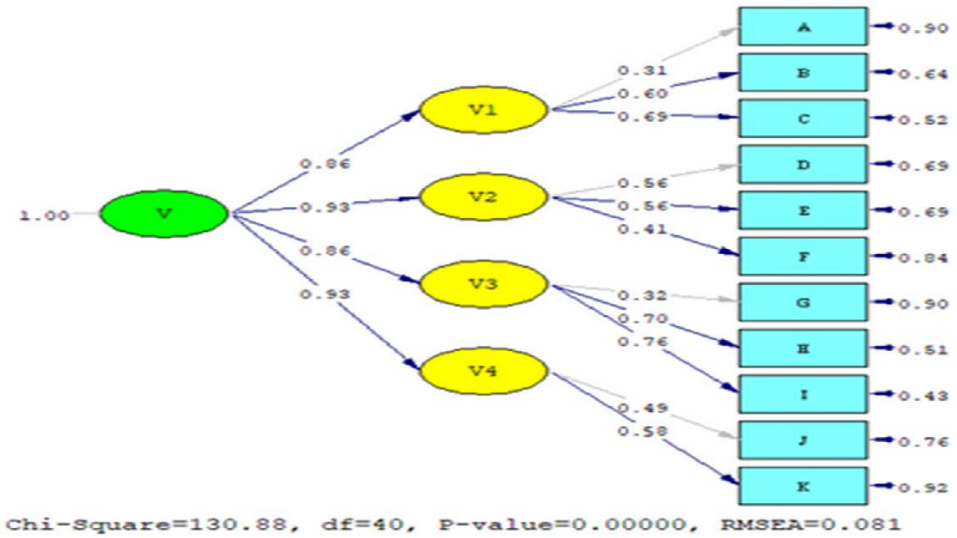

Fig. 3: Standardized model of confirmatory factor analysis of Lisrel software

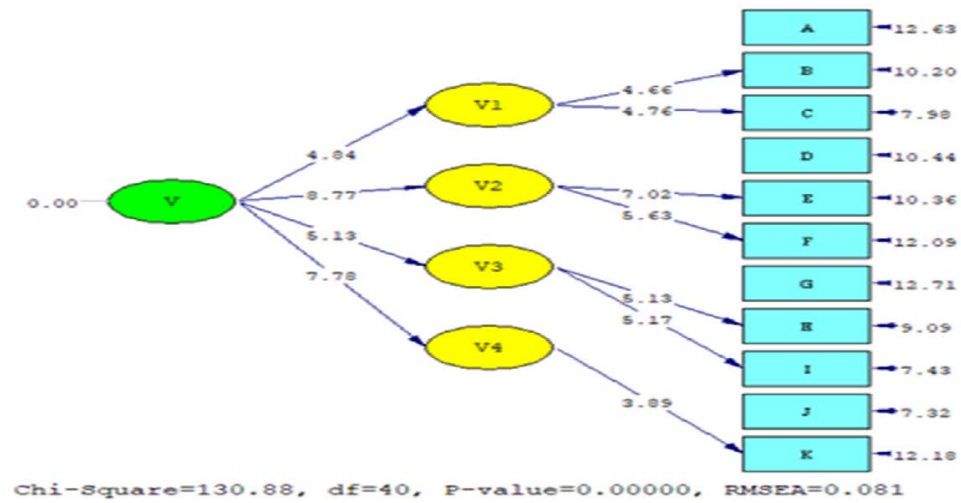

Fig. 4: Path diagram t-values

Table 6: Relationships between research variables

Structures	The observers	t-value	Confirmatory factor loading	Reject/Confirm
Perception	Needs and Desires	-	0.31	Rejection
	Character	4.66	0.60	Confirm
	Experience	4.76	0.69	Confirm
learning	Switching	-	0.42	Reject
	Capacity change	7.02	0.56	Confirm
	Behavior change	5.63	0.56	Confirm n
Attitude	Identity	-	0.32	Reject
	Self-esteem	5.13	0.70	Confirm
	Excitement	5.17	0.76	Confirm ion
Motivation	Internal	-	0.49	Reject
	External	3.89	0.58	Confirm

The architects must ponder these factors in the customer's daily life, as well as in the design and renovation of buildings. (According to the researches Baron *et al.* (2014). Some examples of these factors include using calming colors, natural materials, appropriate lighting, and others. Typically, the individuals are exposed to unavoidable data, thus usually interpreting them in line with their attitudes. When a recently renovated building concluded, attitudes can be developed by persons in line with the renovated building. On the other hand, a pre-developed perspective has multiple beneficial applications for a class of stimuli, such as identity and self-esteem, which could affect a person's attitudes in purchasing decisions. Excitements are not unreasonable as they appear. This part of the research is consistent with Baron *et al.* (2014), Bonner *et al.* (2011). Indeed, excitement arising from the correlation between the brain and the environment. They unconsciously necessitate evaluating the environment and acting based on the assessment made. A couple of factors such as the interior design would inspire people's decision while purchasing a building. the present study agrees with the studies conducted by Kumar *et al.* (2020), Malter *et al.* (2020), Yuen *et al.* (2020), Abbas *et al.* (2018), and Lawrence (1982).

CONCLUSION

Since renovation has many environmental, economic and social achievements, and architects have faced serious challenges in the renovation of buildings during the past decades, the findings of this research showed that in order to maintain the originality of the urban environment as well as satisfaction Citizens, managers of architecture companies and senior officials of urban planning can make the right decisions by using the methods reviewed to encourage citizens to buy renovated buildings. Customer needs assessment in the building renovation allows for understanding customer needs, and leads to a design tailored to the customer's preference. Further, considering psychological factors in this area provides customer loyalty and value creation for the customer, resulting from understanding customers' behavior. In other words, the inclusion of psychological factors acts as a competitive advantage for architectural design firms, thereby improving the building renovation market and enhancing the success of these firms. The final components of this research show the general stages of the consumer's purchase intention, which covers all aspects of the research topic in the purchase of renovated buildings. This is a general model and can be used and analyzed in the most areas of urban architecture. Such steps are introduced to purchase decisions, including need assessment, information search, and evaluation of items, purchase decision, and post-purchase decision. Such a process is also followed in the purchase of renovated buildings. Accordingly, the customer first feels need to buy a building. Then, necessary information is searched by using different offline or online channels. When the data required is obtained, the customer evaluates the available options and decides to buy based on the investigations. Generally, architects require comprehensive data from customers in order to design the needs that are matched with the personality characteristics and individual differences of each person. Thereby, the features of the environment can be designed based on the needs of customers. developing a standard model of the available architectural styles that includes the customers' preferences, while considering the operating budget and the materials used for renovation, is also influential. Using natural materials (e.g. wood and stone) and getting inspired by nature to achieve peace and link life to nature could allow architecture firms to enter a new phase of psychological architecture activities. Efficient marketing by these firms providing added value for the building (e.g. smart home systems, internal lighting and aesthetic aspects , eye-catching materials, and home green space) can trigger customers to buy renovated buildings, concerning the psychological architecture factors. Customers' decision to buy can be affected by providing explanations in simple, non-technical language and using software to model building data. In order to strengthen the components in this field, there is a need for synergy with coordination between legislators and municipalities regarding the support of renovation of buildings and their interaction with architecture companies and finally advertisements to encourage and motivate people to implement it. These measures will include customer satisfaction and greater profitability,

as well as social and civic responsibility, which includes preserving the environment, using renewable resources, reducing greenhouse gas emissions, and maintaining the authenticity of the urban environment. These achievements facilitate the scientific progress of researchers in this field so that they can reach newer knowledge in this field by relying on interdisciplinary knowledge. It should be noted that due to the pandemic conditions, this research had limited access to the companies due to the working distance of some managers and the geographical dispersion of architectural companies, the researcher faced access challenges. It is suggested that researchers in future studies should study more specific and similar geographical areas according to the region and income level. Also, it is recommended to focus on architectural marketing factors in future studies in such a way that people instead of selling own houses and buy renovated buildings, they themselves, with the help of an architectural company, will renovate the houses they are living in to reduce the risks of selling and buying a new house.

AUTHOR CONTRIBUTIONS

H.Rahimi Jafari performed research literature, interviewed the experts, the manuscript text and manuscript edition. A. Faez controlled the process of interviewing experts and reviewed research literature. Y.vakil alroaya analyzed and interpreted the data and selected interviewees. M. D. Hosamane controlled the project process and reviewed the research literature.

ACKNOWLEDGEMENT

The authors wish to thank all the managers and experts of Architectural companies and construction project contractors for their cooperation, dedication and support. Also, the authors would like to thank the editor and the two anonymous reviewers for their constructive comments on improving an early version of this paper

CONFLICT OF INTEREST

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

ABBREVIATIONS (NOMENCLATURE

SEM	Structural Equation Modeling
GT	Grounded Theory
CVR	Content Validity Ratio
GOF	Goodness-Of-Fit

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HOW TO CITE THIS ARTICLE

Rahimi Jafari, H.; Faez, A.; Vakil Alroaia, Y.; Hosamane, M.D., (2023). Evaluation of psychological factors affecting the decision of citizens to purchase renovated buildings with emphasis on maintaining urban environment. Int. J. Hum. Capital Urban Manage., 8(1): 69-82.

DOI: 10.22034/IJHCUM.2023.01.06

url: https://www.ijhcum.net/article_700035.html