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## Factors Influencing the Perception of the Selling Price of Luxury Apartments

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### Abstract

The study aims to identify and measure factors affecting the perception of the selling price of luxury apartments in Hanoi. We conducted a questionnaire consisting of 29 observation variables with a 5-point Likert scale. Independent variables were measured from 1 “without effect” to 5 “strongly”. Based on the desk review and results of interviews, a total of 500 questionnaires were sent to research participants for collection; 458 of them met standard and were subject to be analyzed. This study employs Cronbach’s Alpha test, and regression model. The results of Exploratory Factor Analysis (EFA) and Multiple Regression Analysis (MRA) identify five main determinants influencing the perception of the selling price of luxury apartments in Hanoi, including Physical characteristics of a luxury apartment (PC); Location and position of an apartment (LP); Surrounding Area (SA); Quality of service provided by managers; (QS) and Demographics factor (DF). Based on the findings, some recommendations have been proposed to help the firm leaders design appropriate personnel policies for creating better price satisfaction for customers in the future. On this basis, the authors propose a number of recommendations to improve the quality of luxury apartments, thereby contributing to the development of the market for luxury apartments in Hanoi.

**Keywords :** Selling Price, Selling Price Perception, Luxury Apartments, Real Estate, Hanoi, Vietnam

**JEL Classification Code:** G12, G13, G14, L80, L85

### 1. Introduction

The real estate market plays an important role in the economy of all countries in the world. Not only does it ensure the construction of the necessary infrastructure for working and living condition, this market also has a strong impact on the development of the economy. The selling price of luxury apartment segment (LAS) is an indication of economic growth, rapid urbanization and LAS is becoming preference of high-income earners segment with high quality of life.

The demand for housing in big cities is increasing and diverse due to many reasons. Firstly, the population is growing faster and the trend of migration from suburban areas to big cities like Hanoi and Ho Chi Minh City are increasing. Secondly, the younger generation now prefers separating from their parents. The demographic division, the need to move out when getting married, and the trend of moving to the center, lead to high demand for housing while the city land bank is increasingly tight. Third, expatriates, businesses and foreign organizations are returning home for working, doing business and living in Hanoi and Ho Chi Minh City. At the same time, many new urban areas and many industrial zones along the inner city need a large amount of concentrated labor. Moreover, the demand for land for housing and public services are increasingly urgent.

Housing is not only a place for people to live, but affects their morale, quality of life and economic development also. Urban areas with adequate conditions and amenities will directly or indirectly help people develop and improve their quality of life. Those who strive to own and prioritize housing quality have many opportunities to access high quality services such as education and health.

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Most high-end apartments have integrated material and spiritual elements, meeting the diverse needs of high-income households. The buildings are arranged with many different functions, combining the purpose of living and doing business, etc. However, in reality, not all luxury apartments promise that potential for investment. There are also a number of high-end apartment projects, but after a few years in operation, they have revealed their low quality and decrease in value, causing confusion for buyers. Besides, most high-end apartment projects in Hanoi are at quite high prices, etc.

According to the above reasons, studying the factors affecting the selling price of luxury apartments in Hanoi is a practical and necessary approach.

## 2. Literature Review

Studies in the world related to research topics: the location of real estate is the main factor affecting property prices (Vukina & Wossink, 2000). Sergio, Jorge, and Bernardo (2002) used the Hedonic model, built 20 observation variables and research models. The research results show that air quality has an influence on the value of apartments, the closer the apartment is to the water treatment plant, the less valuable the apartment is.

Özdilek, Canonne, and Besner (2009) suggest that three groups of factors affecting real estate prices are: (i) physical variables, (ii) ambient variables, and (iii) location variables.

Real-estate prices and real-estate credit are correlated. When real-estate prices go up, real-estate credit goes up. In contrast, if real-estate credit increases, real-estate prices would not increase at the same rate (Gerlach & Wensheng, 2005). Fanning (2005) stated that the best and optimal use of real-estate is using it for one of possible purposes, which are physically, financially and legally feasible.

Surrounding environment, social and physical factors all affect apartment prices (Kim, 2007). The authors pointed out a number of attributes such as: apartments that are near big roads or noisy and polluted places have reduced price, while the beauty and high socio-economic status of the surrounding environment increase apartment prices.

Selim (2008) conducted a study in Turkey, using the Hedonic regression model showing that house size, number of rooms, type of house, location characteristics and type of house are factors that affect house price.

Many authors have mentioned the surrounding factors affecting the selling price of apartments. Yusuf & Resosudarmo (2009) argue that air quality has an influence on the choice of households in Indonesia, thereby affecting the price of their apartments. The author also pointed out that attributes such as CO, SO<sub>2</sub> pollution and lead pollution have a negative correlation. The author concludes, (i) good air quality has a positive effect on the price of apartments,

buyers are willing to pay a higher price for apartments with good air quality; (ii) the selling price of the apartment is inversely proportional to the surrounding environment such as water pollution and noise. Wang and Li (2006) stated that buyers are willing to pay more for the apartment if the apartment's environment has a low crime rate and good security. Ghosh, Guttery, and Sirmans, (1997) suggest that apartment investors should consider security factors when developing projects and constructing apartments. Greenberg and Crossney (2006) asserted that the negative direction of the surrounding environment such as crime, low security and poor transportation reduced the value of apartments, thereby negatively affecting the price of apartments. Meanwhile, the positive direction of the surrounding environment such as good neighbors, good schools, good shopping areas will increase the quality of the surrounding environment, thereby positively affecting the price of the apartment.

The characteristics of the apartment that affect the perception of the selling price of the apartment are analyzed and measured. Hinkelman and Swidler (2008) confirm that Geographic location, shape and size of the apartment is related to depreciation calculation, thereby affecting the selling price of the apartment. Solomon, Bamossy, Akegaard, and Hogg (2006) suggest that consumer purchasing decisions are often based on an assessment of product quality or its brand. Research results by Qiuxue and James (2013) are quite similar to previous studies on the impact of real-estate characteristics (area, using time, etc) on real-estate prices. In addition, the author asserts that characteristics of luxury apartments are offered for sale in a completely different way from normal apartments are. These features include: area (a luxury apartment is about 2.5 times larger than a normal apartment), the height, width and length of the apartment, the number of bedrooms and bathrooms, equipment installed in the apartment, flooring types. On the other hand, the author also said that characteristics such as parking and the distance from the apartment to the city center, also affect the perception of the selling price of luxury apartments.

In addition, there have been studies related to this research topic, such as Seetharaman, Saravanan, Patwa, and Bey (2017) and Baek, Sim, and Lee (2019). Jeon (2018) studied the impact of economic policy uncertainty (EPU) of four Asian countries such as Korea, Japan, Hong Kong and China on housing market returns in Korea, and document the relationship between the (EPU) index of those four countries and the housing market including macroeconomic indicators in Korea. The EPU index of those four countries has a significantly negative effect on the housing purchase price index and housing lease price index in Korea.

In addition to international studies presented above, there are some other relevant studies in Vietnam, such as that of Nguyen, Bui, and Nguyen (2019) that showed that, (i) the

real-estate market positively impacts Vietnam's economic growth, most noticeably in the second quarter lag and the fourth quarter lag, and then its trend impacts inversely, and (ii) the real-estate market and economic growth in Vietnam have fluctuated over time with many risks that are affected by the past shocks of these factors. Nguyen (2018) said that financial and non-financial factors have influence on customers' choice of buying low- or middle-priced houses. Bui (2013) uses position-quality theory to evaluate real-estate prices. The authors conclude that the price of real-estate in general and that of luxury apartments in particular are affected by two groups of factors: (i) factors reflecting housing quality, precinct area, number of floors and (ii) factors that reflect the location of the residence and distance to the city center. The study results also showed that the influence of factors on the price of real estate in general and that of luxury apartments in particular in descending order is as follows: Area of precinct, distance to city center; number of floors and housing location. Nguyen (2014) concludes, the factors that influence the decision to buy a luxury apartment are (i) the quality of apartment construction and apartment management service and (ii) customer support policies including preferential policies for customers and financial support of banks. These factors have a positive correlation to consumers' ability to afford.

The above studies focus on five factors that affect the perception of luxury apartments selling price in Hanoi, which are: Physical characteristics of a luxury apartment (PC); Location and position of an apartment (LP); Surrounding area (SA); Quality of service provided by managers (QS) and Demographics factor (DF). In the above studies, a number of studies are limited in research methods and research samples, etc. Thus, it can be affirmed that there has not been any comprehensive study about the influence of factors on the price of high-class apartments in Hanoi, Vietnam. This research inherits from previous studies and is developed with new component attributes of factors; it carries out research design, selects appropriate research methods to analyze, and evaluates and measures the impact of factors on the price of high-class apartments in Hanoi. This study uses the survey method of price, so it is possible to view the selling price of luxury apartments as the perception of the selling price of the apartment.

### 3. Theoretical Background

#### 3.1. Theory of Planned Behavior

The theory of proposed or planned behavior (TPB) of Ajzen (1991) is an extension of the theory of rational behavior (TRB) introduced and completed by Ajzen and Fishbein (1975) in 1980. This theory has a central element that is the intention of the individual to perform a certain act.

The intention of behavior is considered as the first element of behavior. The stronger the intention, the greater is the ability to perform the behavior. This will show how much people will try, to what extent or are still only in an attempt to perform a specific behavior. Intended behavioral theory has been adopted and widely used in studies with intentional as well as behavioral predictions.

*Application of the theory to the study.* The author wishes to retest a part of the theoretical model in the market of luxury apartments in Hanoi. Based on this theory, the author will add new factors, and the component properties of the factors affecting the perception of the price of luxury apartments. From there, it will measure the factors affecting the perception of the selling price of luxury apartments in Hanoi.

#### 3.2. Wealth Effect Theory

Markowitz (1952), Kapopoulous and Siokis (2005) and others use wealth effect theory to analyze and apply it to real-estate and stock market. According to this theory, consumption is a function of income and total assets. Both income and total assets have a positive effect on spending. Total assets include stocks, bonds, real estate, etc. Because real estate is considered a consumer goods and an investment, so many consumers choose. According to Kapopoulous and Siokis (2005), the relationship between the stock market and real estate market shows the effect of assets due to the influence of investment portfolio adjustment. The authors argue that many companies increase their reinvestment in real estate, thereby increasing housing demand, and in turn, increasing demand for real estate. Finally, rising demand raises prices in the real estate market.

*Application of the theory to the study.* This theory is related to the Demographic factor affecting the selling price of apartments.

#### 3.3. The Position-Quality Theory

The position-theory quality (Hoang & Wakely, 2000) states that, when looking for a place to live, urban people always consider the choice between travel costs and housing costs; change in urban residential areas, can be conceived as including a simultaneous shift along two dimensions: housing position and housing quality.

*Application of the theory to the study.* This theory is related to the factors of the location of the apartment and the position of the apartment; the quality of services provided by management board affects the selling price of the apartment.

### 4. Research Methodology

The research process is conducted through two steps, including preliminary and final research.

**Step 1:** We use both qualitative and quantitative research methodology for preliminary research.

**Step 2:** Official research is performed through running Cronbach's Alpha, EFA and regression model.

#### 4.1. The Preliminary Research

##### 4.1.1. Qualitative Approach

We interviewed three experts working as real-estate researchers and manager, and seven experts working as real-estate investors and traders in Hanoi; the experts are experienced in selling high-end apartments. The contents of the interviews are based on the draft scale includes five factors and 38 attributes (indicators). The results showed that experts identified that five factors and attributes (indicators) are appropriate, and do not add any more factors. Thus, this study has the draft scale includes five factors and 38 attributes (indicators), as below (see Table 1):

**Table 1:** Research variables

Code	Variables	Sources
<b>Physical characteristics of a luxury apartment (PC)</b>		
PC1	Textured area	Özdilek et al. (2009); Wang & Li (2006); Zeng (2013)
PC2	Physical lifespan	
PC3	The number of apartments on a floor	
PC4	The size of kitchen, dining room and living room	
PC5	The number and size of bedroom	
PC6	The number and size of bathroom	
PC7	Layout and decoration	
PC8	Architectural materials	
PC9	Methods of payment	
PC10	Legal nature	
<b>Surrounding area (SA)</b>		
SA1	Garden in precinct	Cropper et. al (1988); Sheppard & Cheshire (1995); Zeng (2013)
SA2	Surrounded by wall	
SA3	Air quality	
SA4	Noise	
SA5	Width of streets	
SA6	Green area	
SA7	Rainwater drainage system	
SA8	Lighting system (on streets)	
SA9	Pedestrian precinct	

<b>Location and position of an apartment (LP)</b>		
LP1	Distance to school and kindergarten	Wang & Li (2006); Kuminoff et al. (2008); Yusuf & Resosudarmo (2009); Zeng (2013)
LP2	Distance to hospital and clinic	
LP3	Distance to shopping mall	
LP4	Distance to library, sport area and welfare area	
LP5	Located inside the city (urban)	
LP6	Distance to workplace	
<b>Quality of service provided by managers (QS)</b>		
QS1	Providing services as commitment	Kotler (2005); Zeng (2013)
QS2	Ability to meet and solve buyers' issues	
QS3	Create perception of price for customers	
QS4	Polite attitude of staff	
QS5	Respect the right of customers	
QS6	Convenient operating hours	
QS7	Casual and polite dress	
<b>Demographics factor (DF)</b>		
DF1	Gender	Zeng (2013)
DF2	Age, social position	
DF3	Academic level	
DF4	Occupation	
DF5	Income	
DF6	The number of members	

##### 4.1.2. Quantitative Approach

After having the draft scale table with five factors and 38 attributes, we designed a draft questionnaire. We then tested 130 subjects working at the field of real-estate in Hanoi, Vietnam. However, only 115 questionnaires were satisfactory and included in the analysis. Through convenient sampling methods to establish the model and official scales. Here are the following results:

In the Physical characteristics of a luxury apartment factor has the attribute "PC10" has Corrected Item - Total Correlation < 0.3; so it is disqualified.

In the Location and position of an apartment has the attribute "LP5" has Corrected Item - Total Correlation < 0.3; so it is disqualified.

In the Surrounding area has the attributes “SA1, SA2, SA9” have Corrected Item - Total Correlation < 0.3; so they are disqualified.

In the Quality of service provided by managers has the attributes “QS3, QS7” have Corrected Item - Total Correlation < 0.3; so they are disqualified.

In the Demographics factor has the attributes “NK1, NK4” have Corrected Item - Total Correlation < 0.3; so they are disqualified.

After that, we replayed the factors with the remaining attributes, the results show that Cronbach’s Alpha > 0.6 and Corrected Item - Total Correlation > 0.3, therefore, it meets the demand.

We use SPSS 22 for analysis to determine the reliability through Cronbach’s Alpha. The final result is five factors and 29 attributes that gain reliability. Thus, the official model and scale of this study include five factors and 29 attributes.

## 4.2. The Final Research

### 4.2.1. Hypotheses

**H1:** Physical characteristics of a luxury apartment has a positive influence on the perception of the selling price of luxury apartments

**H2:** Surrounding area has a positive influence on the perception of the selling price of luxury apartments

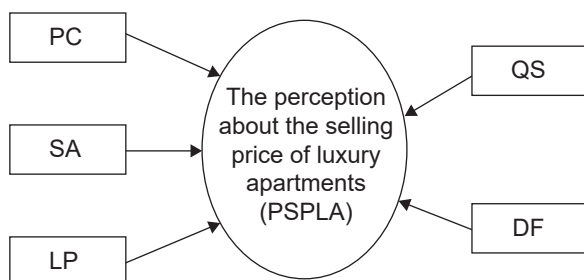
**H3:** Location and position of an apartment has a positive influence on the perception of the selling price of luxury apartments

**H4:** Quality of service provided by managers has a positive influence on the perception of the selling price of luxury apartments

**H5:** Demographics factor has a positive influence on the perception of the selling price of luxury apartments

### 4.2.2. Building a Scale

We have designed a questionnaire consisting of 29 variables with a 5-point Likert scale from 1 “without effect” to 5 “Strongly”. Dependent variable: “the perception of the selling price of luxury apartments” includes 3 attributes.



**Figure 1:** Research model

### 4.2.3. Research Model

We put forward research model in Figure 1.

### 4.2.4. Sampling Method and Sample Size

To achieve the objective, we used a random sample. The reason for choosing this method is because the respondents are easy to weigh; they are willing to answer the research questionnaire. Moreover, this method is less expensive in terms of time and cost to collect data.

According to Hair, Joseph, Anderson, Tatham, and Black (1998), the research sample must be at least five times the total number of indicators in the scales. The questionnaire of this study includes 29 indicators, therefore, the minimum sample size to achieve are  $5 \times 29 = 145$  observations.

### 4.2.5. Description of Research Sample

We sent 500 questionnaires directly to people working in real-estate in Hanoi; 471 responses were received. After checking the information on the returned questionnaires, there were 458 questionnaires with full information for data entry and analysis; the size of this sample was, thus, consistent with the study by Hair et al. (1998).

## 5. Results

### 5.1. Descriptive Statistics

Information on data collected are shown in Table 2. It shows that among the 458 respondents, 98 of them were 25 years old or younger, accounting for 21.4%; 75 of them were over 36 years old; 175 of them were from 31 to 36 years old, accounting for 38.2%, and 24.0% of the respondents were from 26 to 30 years old. Out of the 458 respondents, 192 had intermediate and college degrees, accounted for 41.9%; and 195 had university degrees, accounted for 42.6%. Holders of MA degrees accounted for 15.5%. Besides, 127 participants had less than two years experience, accounted for 27.7%; those with over three years experience accounted for 20.5%, while the remaining 237 had from two to three years of experience.

### 5.2. Results of Quality Scale Analysis

Using scale analysis can eliminate inconsistent variables and reduce errors in the research model. Therefore, only variables with a total correlation coefficients (Corrected Item – Total Correlation) greater than 0.3 and Cronbach’s Alpha coefficients equal or greater than 0.6 are accepted (Hair, Black, Babin, & Anderson, 2009; Hoang & Chu, 2008). Using Cronbach’s Alpha analysis of determinants has

**Table 2:** Respondent Characteristics

	Frequency	Percent	Cumulative Percent
Age			
Less 25 years old	98	21.4	21.4
From 26 to 30 years old	110	24.0	45.4
From 31 to 36 years old	175	38.2	83.6
Over 36 years old	75	16.4	100
Education level			
Intermediate and College	192	41.9	41.9
University	195	42.6	84.5
Master's (MA)	71	15.5	100
Seniority work			
Less than 2 year	127	27.7	27.7
Over 3 years	94	20.5	48.2
From 2 to 3 years	237	51.8	100.0
<b>Total</b>	<b>458</b>	<b>100.0</b>	

**Table 3:** Results of Determinants Scales in the Model

Determinants	n	Cronbach's Alpha	Corrected Item-Total Correlation
Physical characteristics of a luxury apartment (PC)	9	0.869	0.564
Location and position of an apartment (LP)	5	0.865	0.655
Surrounding area (PC)	6	0.833	0.482
Quality of service provided by managers (QS)	5	0.835	0.601
Demographics factor (DF)	4	0.816	0.586

**Table 4:** KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.897
Bartlett's Test of Sphericity	Approx. Chi-Square	5,601.009
	Df	406
	Sig.	0.000

shown their influence on the perception of the selling price of luxury apartments (five determinants with 29 observed variables) and the result is presented in Table 3.

The result shows that, all Cronbach's Alpha coefficients of population are above 0.6; all Corrected Item – Total Correlation of observed variables are above 0.3. So, all variables of research model are suitable for next analyses (Hair, Anderson, Tatham, & Black, 2006).

### 5.3. Exploratory Factor Analysis (EFA)

EFA were conducted and we used the method of extracting coefficients. The results of Component Analysis and Varimax yields 29 attributes for the independent variables (see Table 4).

The results of factor analysis in Table 3 show that  $0.5 < KMO = 0.897 < 1$ . Bartlett's testimony shows  $sig. = 0.000 < 0.05$ . It means variables in the whole are interrelated. After implementing the rotation matrix, five determinants with factor load factor are greater than 0.5; Eigenvalues are greater than 1; the variance explained is 58.346%, which demonstrates that research data analyzing factor discovery is appropriate. Through the quality assurance of the scale and the test of the EFA model, we have identified five determinants influencing the perception of the selling price of luxury apartments.

### 5.4. Regression Model Analysis

Based on adjusted model after the exploratory factor analysis, we have a multiple regression model as follows:

$$PSPLA = \alpha + \beta_1 PC + \beta_2 LP + \beta_3 SA + \beta_4 QS + \beta_5 DF$$

Results of Table 5, 6, 7 show:

**Table 5:** Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.943 <sup>a</sup>	.890	.889	.11992

a. Predictors (Constant): QS, LP, SA, PC, DF

b. Dependent Variable: PSPLA

**Table 6:** Anova<sup>a</sup>

Model	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	52.495	5	10.499	730.087	.000 <sup>b</sup>
Residual	6.500	452	.014		
Total	58.995	457			

a. Predictors (Constant): QS, LP, SA, PC, DF

b. Dependent Variable: PSPLA

**Table 7: Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std.	Beta			Tolerance	VIF
(Constant)	.843	.057		14.726	.000		
LP	.156	.008	.342	20.641	.000	.890	1.124
SA	.198	.014	.357	14.630	.000	.410	2.436
PC	.175	.009	.334	18.627	.000	.757	1.322
DF	.113	.011	.207	10.609	.000	.638	1.566
QS	.174	.025	.207	7.151	.000	.292	3.426

a. Dependent Variable: PSPLA

*Multicollinearity testing.* All variance inflation factors (VIF) of three independent variables are under 2.0; of these, two independent variables are under 4.0; but still allowed, so multicollinearity of model is low (Hair et al, 2009; Hoang & Chu, 2008). Therefore, this regression model does not have any violation of the CLRM basic assumption.

*ANOVA testing result.* Level of significant (Sig.) = 0.000 implies that multiple regression model is suitable with data. Coefficient of R<sup>2</sup> (R Square) = 0.890, which means 89.0% of the total variation in the perception of the selling price of luxury apartments will be explained by the regression model. Research model result indicates that all independent variables; namely Physical characteristics of a luxury apartment (PC); Location and position of an apartment (LP); Surrounding area (SA); Quality of service provided by managers (QS) and Demographics factor (DF) are significant (because Sig. < 0.05) to the perception v the selling price of luxury apartments. Determinants have influences on the perception of the selling price of luxury apartments are presented in the following standardized regression model:

$$PSPLA = 0.342 \times LP + 0.357 \times SA + 0.334 \times PC + 0.207 \times DF + 0.207 \times QS$$

Thus, five hypotheses (H1, H2, H3, H4 and H5) are accepted.

## 6. Discussion

### 6.1. Physical Characteristics (PC)

The physical characteristics of luxury apartments positively affect the perception of the selling price of the apartment. The quality of a building's exterior finishing and interior art decoration always brings a luxurious feeling to the living space. Quality of detailed planning and of high-class design will make living space in an apartment comfort and convenient. Functional rooms such as the spiritual area,

kitchen, bathroom, drying area, common room, light and ventilation doors and facilities and equipment attached to the building and internal logic design will greatly enhance the user value. However, many investors have not applied modern construction technologies, the quality of fire apartments and equipment attached to the construction is not really suitable for luxury apartments.

### 6.2. Surrounding Area (SA)

This factor has the largest influence on the perception of the selling price of the apartment in Hanoi. In some luxury apartment projects, when residents move in, they reveal many inadequacies that cause uncomfortable psychology and affect their daily life quality such as: Sharing the backward and over-existing water supply and drainage system, so it is not possible to discharge sewage as well as water when it is heavy raining which causes floods and environmental pollution; lack of clean water or unqualified water; there are very few public works around the project area; infrastructure and roads are still limited, etc.

Many investors have invested in artificial landscapes and entertainment area to meet the living quality of residents, but they are surrounded by several shortcomings right from the beginning of the project. However, many luxury apartment projects have invested in a variety of trees, which have created a sense of tranquility and been close to nature. This contributes to improving the positive feeling of buyers' decision to buy a luxury apartment.

### 6.3. Location and Position (LP)

The location and position of an apartment are the second most influential factors in the research model to the perception of the selling price of the apartment. The location of the apartment with a view overlooking the landscape outside of the charming landscape, greatly impacts on the satisfaction and love of the accommodation. The position

of the apartment also adds invisible values, making it easy for customers to decide to buy that apartment. Apartment position is also reflected in the architecture of construction, construction quality and the price of that apartment. However, many investors when implementing these luxury apartments project have not paid enough attention to some elements of an apartment such as ventilation, natural light, air circulation and spiritual values.

#### **6.4. Quality of Service (QS)**

The quality of service provided by the management board as well as of professional units must always satisfy and comfort their residents and customers. Beside some good quality luxury apartments projects, there are still a number of projects that are built majestically and worth hundreds of billion, but the service quality is not commensurate. Residents have repeatedly reported this amateurism and weaknesses of the building management unit to building management board and service providers.

#### **6.5. Demographic Factors (DF)**

This factor has a positive effect on the perception of the selling price of the apartment. The component attributes of factors are customer age, customer income, education level and number of family members. People tend to choose products that reflect their role and position in society. Buyers' decisions are also influenced by personal characteristics such as their age, occupation, economic circumstances, lifestyle, personality and notions. This factor plays a very important role in choosing which apartment segment to buy. Customers will evaluate benefits that that apartment segment brings, customers will feel satisfied and proud of the accommodation they choose and profits that customers can gain when reselling, etc. However, the inventory and dull condition of luxury apartments is due to the fact that the investor has insufficient demographic information, housing status and income level of the target customer segment.

### **7. Recommendations**

#### **7.1. For the Physical Characteristics of Luxury Apartments**

The government should encourage investors to develop housing in general and luxury housing segment in particular through the tax policy: reduce taxes for investors to apply modern constructing technologies to reduce construction time, reduce waste, sound and heat insulation, reduce power consumption, etc. In addition, the quality of fire prevention and extinguisher equipment and facilities of the apartment should be modern and durable; investors should use

high-class imported materials with high quality of exterior and interior finish. Besides, investors also need to implement many smart home technologies for buildings and apartments.

#### **7.2. Regarding the location and position of an apartment**

When planning and designing high-end apartment projects, investors need to pay attention to the location of each apartment, so that fresh wind and natural light can reach, to ensure the air circulation through the doors, windows or logia. These factors contribute to the highest quality improvement for each apartment. In addition, investors need to pay attention to other factors that make the building's position advantageous in terms of spiritual values, aesthetic values and quality of life.

#### **7.3. For Surrounding Area Factors**

The government should take the lead in mobilizing social resources to invest in public infrastructure, traffic and public works before granting licenses to enterprises to research a project. The quality of luxury apartments is highly dependent on the leadership of the government, expressed through general planning, detailed planning to achieve the goals of social security and defense vision in dozen years later. Planning must be highly feasible in terms of source and financial mechanism to quickly implement to avoid wasting land resources and opportunities for other socio-economic development. In addition, investors also need to pay attention right from the process of implementing water supply system and clean water supply for luxury apartments.

#### **7.4. For Quality of Service Provided by the Manager**

Construction companies need to ensure the quality of construction as promised to investors. Investor must constantly check the project progress to ensure the quality of apartment construction as presented to customers, to minimize risks for customers. Agencies and investors need to pay special attention to the quality of human resources for the Building Management Board and professional service providers. Residents at luxury apartments who expect the quality of human resources is similar to that at 4- or 5-star hotels. In addition, it is necessary to separate the two apartment management activities and provide living space for the households; agencies and investors also need to review and improve the authorization mechanism for the Management Board. Currently, in some LAS, the management board manages 2% of the project maintenance fee, which is the cause of the security disorder in locality where the apartment project in general and luxury apartments in particular.



## 7.5. For Demographic Factors

Investors need to collect sufficient information to conduct a broad demographic survey, housing status and source of income of the target customer segment. There is a basis for planning and making investment and business strategies of the LAS segment close to the market's consumption (avoiding sluggish inventories which can cause economic losses to investors and gloomy city environment).

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