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DETERMINING AND MEASURING FACTORS INFLUENCING HOUSING AFFORDABILITY IN BANDUNG WITH CASE STUDY AT SINGGASANA PRADANA

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Abstract. The house is one of basic human needs for living besides food and clothing. But as the population grows in Indonesia and the limited land available, house prices from year to year tend to increase. Rising house prices will have an impact on one's housing affordability. In this study, the author aims to explore factors influence housing affordability and measure the effect of each factor. There are six main factors tested that affect housing affordability, including; the growth of sharing economy, environment, price, purchase intention, location and facilities. This research was conducted quantitatively. The data used in this study are primary data obtained from conditional surveys distributed by the author. The method used in this study is ordinal logistic regression. The findings of this study is that the predictor variable that has the most impact is the growth of sharing economy. The calculation result shows that a person had to increase his or her housing affordability level by 1,704 times because of the growth of sharing economy. In conclusion, one's housing affordability is influenced by personal choices and then followed by external factors offered by housing developers or property developers.

Keywords: *Housing Affordability, Measuring and Determining Factors, Houses, Bandung City*

INTRODUCTION

House is one of the most important needs of a human being besides food and clothings. Unlike buying food and clothings, buying a house needs to be well calculated and planned because of its high cost. As time flows the demand in housing properties are increasing yet on another hand the availability of land is limited that causes the price to increase. Especially in Indonesia with the fourth largest country with a population of over 260 million people and still growing. This condition makes house prices increase and people are unable to buy a house. Factor that may affect is the affordability of the society itself. The inflation of property shows a bigger number than the inflation of the country. Based on the Cambridge dictionary affordability is the state of being cheap enough for people to be able to buy.

By writer's observation, in Bandung, urban people tend to live in cluster areas. In this research writer concentrates to do research that discusses the affordability of people to buy a family townhouse either to be lived in or as an investment for future needs in housing.

LITERATURE REVIEW

Housing is a concept of various dimensions. Different people have defined it differently depending on the focus of the analysis. Housing is defined as a noun and has a definition of which, a human dwelling building, in particular one consisting of a ground floor and one or more upper floors by Oxford Dictionary (1987). But, the United Nation defined that housing is not only a place, but also as a means of creating neighbourhoods, emphasises the roles that housing must perform (United Nation, 1978). The dictionary of Webster as one of the definitions for the meaning of "housing" includes the following: housing means housing for people. Business dictionary defines housing as a building or

building structure that meets the requirements of laws and regulations and where individuals may live with their families.

In most family budgets, shelter is a major cost. The price a household may or willing to pay for housing not only determines the value of the dwelling, but also the option of community or neighborhood. In addition, the cost of housing affects disposable income, access to employment, health status, and general social inclusion (Carter and Polevychok 2004).

Housing is directly linked to levels of income. This is demonstrated by the fact that the wealthier an individual is, the more likely he or she would own a house of greater and better quality and vice versa. As such, it is common for a wealthy landlord to stay in a spacious mansion while a poor person lives in a shelter of poor quality made of low-quality materials with smaller space and few spaces, as the house is closely related to its affordability. Stated by Ahmad Zaki (1997), housing affordability tests a house's quality according to the rate that consumers will invest on housing. The amount of housing investment or lease available depends on m some variables, the main ones being household spending habits, rising housing costs, housing options and requirements, funding sources and forms and household savings. The affordability aspect should also be considered in providing quality housing.

METHODOLOGY

This research is designed to measure the affordability of people in purchasing a house and factors that affect the affordability itself. This research focuses on the affordability of people in a new townhouse concept that is launched by Singgasana Pradana in Bandung city. The study found that quantitative research was concerned with the quantification and evaluation of variables in order to obtain information. In this research, the writer uses primary data that is obtained from questionnaires constructed by the writer. In this research, the writer has collected 427 respondents. The reason is because the writer wants the most minimum error with possible achievement with a confidence level of 95%; this sample will only reach 5% of error based on the journal written by Glenn D. Israel. because the population in Bandung is exceeding 100.000 people. Based on the data at *Badan Pusat Statistik* (BPS), the population in Bandung reached 2.5 million in 2018. The sampling technique will be done by non-probability sampling technique. To analyze the data, writers use four methods of analysis: factor analysis, descriptive analysis, correlation analysis, and regression analysis.

FINDINGS AND ARGUMENT

This research focuses on four generations. Respondents under 21 years old are classified as Generation Z (post millennial), respondents age 21-36 years old are classified as Millennial, respondents age 36-51 years old as generation X and respondents over 51 years old as Baby Boomers. The result is as shown on the chart above, with the domination of respondents from Millennial generation (51%, 218 respondents), followed by Generation Z (23%, 100 respondents), then Generation X (16%, 69 respondents), and last Baby Boomers (9%, 40 respondents). This data defines that the Millennial and Generation Z are the generation that dominates the result of this research.

$$\text{logit}[(P \leq 1)] = 34.997 - (0.533 x_1 + 0.462 x_2 + 0.419 x_3 + 0.513 x_4 + 0.357 x_5 + 0.478 x_6)$$

$$\text{logit}[(P \leq 2)] = 41.760 - (0.533 x_1 + 0.462 x_2 + 0.419 x_3 + 0.513 x_4 + 0.357 x_5 + 0.478 x_6)$$

$$\text{logit}[(P \leq 3)] = 46.974 - (0.533 x_1 + 0.462 x_2 + 0.419 x_3 + 0.513 x_4 + 0.357 x_5 + 0.478 x_6)$$

$$\text{logit}[(P \leq 4)] = 51.398 - (0.533 x_1 + 0.462 x_2 + 0.419 x_3 + 0.513 x_4 + 0.357 x_5 + 0.478 x_6)$$

Description: x_1 = Growth of Sharing Economy; x_2 = Environment; x_3 = Price; x_4 = Purchase Intention; x_5 = Location; x_6 = Facilities; 1 = Low Affordability Level; 2 = Medium Low Affordability Level; 3 = Medium High Affordability Level; 4 = High Affordability Level

Odds ratio calculation is used only for independent variables that are significant in the model. Based on the output, the odds ratio for growth of the sharing economy variable is $e^{0.533} = 1,704$. Therefore

there is an increasing tendency for someone to afford a house by 1,704 times if someone has a greater score in this variable. Odds ratio for the environment variable is $e0,462 = 1,587$. Therefore there is an increasing tendency for some to afford a house by 1,587 times in every increasing level of importance of factors in the environment variable. Odds ratio for price variable is $e0,419 = 1,520$. Therefore there is an increasing tendency for someone to afford a house by 1,520 each time someone more agrees for one level in considering this variable. Odds ratio for purchase intention is $e0,513 = 1,670$. Therefore there is an increasing tendency for someone to afford a house by 1,670 times every one level greater score someone gets in the purchase intention variable. Odds ratio for location is $e0,357 = 1,429$. Therefore there is an increasing tendency for someone to afford a house by 1,429 times if someone increases his or her agreement for factors that affect location variables. Odds ratio for facilities is $e0,478 = 1,613$. Therefore there is an increasing tendency for someone to afford a house by 1,613 times if someone increase his or her score in facilities variable

CONCLUSIONS

RQ1: How is the demand and supply work in housing in Indonesia?

The demand in housing tends to increase each year while the availability of land is decreasing due to the growth of population.

RQ2: What is the relationship between income and house price?

People with higher income tend to choose a higher assumption of house price.

RQ3: What are the other factors that affect affordability to buy a house?

Other factors influencing housing affordability are growth of sharing economy, environment, price, purchase intention, location, and facilities.

From the result, writer concludes that the supply and demand of housing in Indonesia is influenced by KPR rates. When interest rates are low, there is a general willingness to take on more debt. They will be able to fund a home purchase as the amount of interest they are expected to pay is not burdensome. If more buyers flood the market, housing demand increases and causes the price to be higher which in the future the level of housing affordability will also increase.

In this research writer also finds out that income has a significant role to influence housing affordability. The result shows people with higher income tend to choose a higher assumption of price on the case section. Besides the finding of higher income, the older age group tends to make higher income and show a high level of housing affordability while the Millennials have moderate levels of housing affordability because their income is still between Rp5.000.000 until Rp25.000.000.

The findings from this study may affect stakeholders in the housing industry and reveal several practical implications that may be useful for future study. First, this study would help to explain the condition of the future consumer preference and their housing affordability issues. This study suggest that housing estates and banking institutions cooperate in providing low rates interest for KPR to those who have lower affordability levels. Secondly, writer may suggest to the government to start creating a new habit of sharing a living space. The result from this study shows that the more people wanted to live by his/ herself, the more he or she must afford. This findings is supported by the calculation made by the writer that the variable has the biggest multiplier. Third, the managerial and commercial implication writer may suggest to the developer to improve their facilities and promote their product. The affordability rates of Bandung citizens is quite high, proven by the study that shows most of the answer from the case study is dominated with higher price. In addition, the survey is conducted during Covid-19 pandemic, where economic conditions are slowing down, but there is still a tendency to pay a higher price that means people can still afford it if they are well reached by the housing developer. This condition can open an opportunity to housing estates to sell more. Housing developers may perform digital or social media promotions. Housing developers are also suggested to make a digital platform where consumers in this pandemic may explore a virtual tour of the house and cluster. Fourth, writer may suggest the local government start introducing “Rumah Susun” in Bandung city. This suggestion is influenced by the growth of sharing economy factor and determination for lower income citizens.

Theoretically, the results of this study can be used as reference material for future research development. In addition, this research can be used as

a basis for stakeholders in this industry to solve housing affordability problems by analyzing and exploring more factors. In summary, there are many factors influencing housing affordability and the factor may change in any time and condition. In Bandung city itself the factor may be influenced by the growth of population, technologies, consumer behavior and many more.

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